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# A National Study of Job Satisfaction Factors among Faculty in Physician Assistant Education

Wallace D. Boeve

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A NATIONAL STUDY OF JOB SATISFACTION FACTORS  
AMONG FACULTY IN PHYSICIAN ASSISTANT EDUCATION

by

Wallace D. Boeve

Dissertation

Submitted to the Department of Leadership and Counseling

Eastern Michigan University

in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

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February 19, 2007

Ypsilanti, Michigan

## Dedication

For the dedication they have shown to the profession and to their students, this dissertation research is dedicated to physician assistants who have been instrumental in continuing the quality PA education that many PA educators now enjoy.

## Acknowledgements

I would like to acknowledge the support of many who believed I could finish what I started. The support and hours spent by my dissertation chair, Dr. Elizabeth Broughton, were very much appreciated. She reviewed and saw things through this process that I did not always see. The careful editing by my editor, Amber Eby, was an extreme benefit, and I appreciated her contributions all along the dissertation process. The significant support by the Grand Valley State University Statistical Consulting Center helped to make the statistics from this research fun and understandable. Finally, the never failing love and encouragement of my wife, Kelli, should award her an honorable doctorate. Without her Godly presence and encouragement in my life, this dissertation and my doctoral degree would not have come to completion.

## Abstract

The purpose of this study was to examine the job satisfaction factors for physician assistant (PA) faculty. Job satisfaction factors were divided into two categories: intrinsic factors about the respondents (work itself and opportunities for advancement) and extrinsic factors about the institutional faculty support (salary, supervisory support, and coworker relations). The theoretical approach used in this study to examine job satisfaction among PA faculty was Herzberg's (1966) two-factor theory of motivation. Additionally to enhance Herzberg's theory regarding intrinsic and extrinsic factors, Smith, Kendall, and Hulin's (1969) facet-specific job satisfaction theory (i.e., Job Description Index (JDI)) was utilized.

A Web-based survey instrument was distributed by email communication to all PA faculty members who were affiliated with the Physician Assistant Education Association. This study evaluated physician assistant faculty's attitudes and perceptions regarding job satisfaction. After expert panel review of the Web-based survey instrument, the total population of PA program faculty members (N = 1142) was asked to complete the survey. Five hundred eighteen faculty members responded, a 45% response rate.

Frequencies, percentages, and appropriate summary statistics were computed for the personal and professional characteristics. Cronbach's alpha was computed to measure the internal consistency of the five JDI factors and the overall job satisfaction scale. The mean and standard deviation for each factor was documented. Spearman's correlation was computed for the JDI factors' relationship to overall satisfaction. Multiple regression analysis was used to determine the predictors of overall satisfaction.

Overall, PA faculty members were more satisfied than dissatisfied with their jobs. First, Web-based surveys are a relatively new methodology, and this study utilized this

technique for collecting the data. Second, physician assistant faculty members are satisfied with four of the five JDI satisfaction factors. Third, PA faculty members are least satisfied with their academic salaries. Fourth, years of PA education experience was a significant predictor for overall job satisfaction and requires administrators to be aware of their PA faculty's needs. Finally, this study did support Herzberg's (1966) theory and Smith, Hulin, and Kendall's (1969) theoretical framework.

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## Chapter 1: Introduction

### *Introduction to the Study*

Physician assistant (PA) education is an expanding professional discipline (Smolen, 2001). With 135 PA programs across the United States and ongoing interest in starting PA programs in other countries, the demand for PA faculty in higher education is increasing (Physician Assistant Education Association [PAEA], 2006b). This increasing demand for PA education “has fueled a tremendous growth in educational programs” (American Academy of Physician Assistants, 2002, p. 5). From 1995 to 2004, the number of PA programs expanded from 56 programs to 134 programs. Also, according to the American Academy of Physician Assistants (AAPA), the expansion of PA education is projected to nearly double over the 10-year period 2002 to 2012. The PA profession is the third-fastest-growing profession in the United States (U.S. Dept. of Labor, 2004). Recently, *CNN and Money Magazine* (2006) rated the PA profession as number five overall for “Best Job in America.” The same article also highlighted college professors as number two overall for Best Job in America, which PAEA president pointed out as a very “favorable position in one of the best possible professions” (PAEA, 2006a, p. 1).

The PA profession began in 1965 after the first PA program was established at Duke University. Under the department’s leadership, Eugene Stead, MD, spearheaded an effort to develop a midlevel practitioner to meet the looming healthcare shortage in the United States. Dr. Stead and other medical leaders utilized the medical experiences of military corpsmen and provided further medical training to establish PA programs in the United States (Duke University Medical Center, 2004). The first class of PAs graduated from Duke University in 1967 with a total of three graduates. In 2006, with over 55,000 eligible physician assistants in

the U.S., there continued to be a significant shortage of healthcare providers to address healthcare issues in this country (AAPA, 2002). The competent education of more physician assistants is paramount to address this shortage (National Commission on Certification of Physicians Assistants, 2005). As Kohlhepp, Rohrs, and Robinson (2005) pointed out in their guest editorial in the *Journal of the American Academy of Physician Assistants*,

The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA), the National Commission on Certification for Physician Assistants (NCCPA), AAPA, and PAEA definition of competencies is just the first step in a much farther reaching effort to refine the way the profession instills, hones, maintains, and assesses the competencies of its practitioners. (p. 18)

Physician assistant educational programs are at the forefront of competency development.

With the rapid growth of PA programs from 56 in 1995 to 134 programs in 2004, issues of job satisfaction among PA faculty remain a major concern (Smolen, 2001). Along with this expansive growth, PA programs are suffering from a shortage of qualified PA faculty (Glicken & Blessings, 1998). This growth is compounded by the disparity between full-time clinical salaries, which are \$20,000 more than full-time academic salaries (Herrick, 2003).

In addition to the rapid professional growth and the salary differential, the national PA leaders believe that turnover among PA faculty may also be related to increasing faculty shortages (Simon, 2004). The Association of PA Programs (APAP, 2004) (known as Physician Assistant Education Association [PAEA] as of January 2006) believes one aspect of PA turnover may be the difficulties and/or lack of satisfaction that PAs may experience when moving from clinical medicine to academic positions. Most PA faculty are experienced

clinical practitioners without any previous academic teaching experience (Min, 2003). The PAEA attempts to address the rigors of academia by providing faculty development training at the association's semiannual meetings. However, the PAEA has not conducted research evaluations of these training programs.

Recently, the PAEA president established a position paper to research PA faculty turnover (APAP, 2004). This paper was in response to an annual study of PA education programs conducted by Simon (2004). During the academic year 2003–2004, Simon administered two questionnaires to 133 accredited PA programs across the United States. He found that 108 PA program personnel had departed their academic positions. This was the highest number of departures in the 17 years of collecting this information. In 1987, there were only 13 PA program personnel departures. Unfortunately, his study does not explain the factors related to job satisfaction among PA educators. Specific research on the factors relating to PA faculty departure has only begun to be done. Linda Reed (2006), a physician assistant educator from Texas, recently published a special literature review article in *The Journal of Physician Assistant Education*. She stressed the importance of studying faculty job satisfaction in PA education. As Reed pointed out,

The ability to retain experienced, dedicated, and engaged faculty members is vital to any program in higher education. The increased risk associated with professional practitioners is that faculty members may choose to leave academe and return to clinical practice if the conditions surrounding their faculty positions do not meet their expectations for personal satisfaction with their educational roles. (p. 34)

With the increasing demand for more PA faculty, research is warranted to examine job satisfaction among PA faculty members.

### *Theoretical Framework*

Job satisfaction is anchored in multiple theoretical frameworks regarding organizational and motivational psychology (Green, 2000). Green concluded that there were several historical frameworks (Adams, 1963; Glisson & Durick, 1988; Herzberg, 1966; Maslow, 1954; Quarstein, McAfee, & Glassman, 1992; Vroom, 1964) and can be thought of as content theorists, process theorists, and situational theorists. Content theorists (e.g., Herzberg, 1966; Maslow, 1954) stated that need fulfillment leads to overall job satisfaction (Locke, 1976). Next, process theorists (e.g., Vroom, 1964; Adams, 1963) explained job satisfaction as the interaction between expectancies, values, and needs (Gruneberg, 1979). Finally, situational theorists (e.g., Glisson & Durick, 1988; Quarstein, McAfee, & Glassman, 1992) believed that job satisfaction is the interaction of the individual, job, and organizational variables (Hoy & Miskel, 1996). This is only a brief introduction in order to help establish the theoretical framework for this study; however, a more robust explanation of these differing theoretical frameworks will be explained in the literature review in Chapter 2.

Besides these three historical frameworks, different types of measurement-evaluation theories have also explained job satisfaction (i.e., single-item, general, or facet-specific) (Smith, Kendall, & Hulin, 1969; Weiss, Davis, England, & Lofquist, 1967). In the measurement evaluation theories, the Job Description Index (JDI) developed by Smith et al. and the Minnesota Satisfaction Questionnaire (MSQ) developed by Weiss et al. are “two widely used, nationally recognized, reliable and valid instruments that measure facet-specific levels of job satisfaction” (Green, 2000, p. 23).

In addition, theoretical approaches regarding job satisfaction abound in the business enterprise, higher education, and clinical faculty. In higher education, a variety of these theoretical approaches have been used to explore job satisfaction (Cohoon, Schwalb, & Chen, 2002; Davis, 2001; Dee, 2002; Ehrenberg, Kasper, & Rees, 1990; Grace & Khalsa, 2003; Green, 2000; Miller, Jackson, & Pope, 2001; North Carolina State, 2001; Nienhuis, 1994; Ramsay, 2003; Scarpinato, 2001; South Texas Community College, 2002; Trei, 2001; Truman, 1999; VanderPutten & Wimsatt, 1999; Zhou, 2003). Additionally, research has been conducted with clinical faculty in higher education (Davis, 1991; Harris, 1980; Holland, 1992; Koller, 1992; Overman, 2001).

The theoretical approach used in this study to examine job satisfaction among PA faculty is Herzberg's (1966) two-factor theory of motivation. Additionally, to enhance Herzberg's theory regarding intrinsic and extrinsic factors, Smith et al.'s (1969) facet-specific job satisfaction theory was utilized.

Herzberg's (1966) classic study of accountants and engineers was critical in developing his two-factor theory of motivation. In his book *Work and the Nature of Man*, he proposed hygiene factors (factors extrinsic to the job) and motivational factors (factors intrinsic to the job) as important factors that affected overall employee motivation and job satisfaction. Extrinsic factors were labeled *dissatisfaction issues surrounding the job* and included supervision, company policy and administration, working conditions, interpersonal relations with peers, interpersonal relations with superiors, interpersonal relations with subordinates, status, job security, salary, and personal life. The intrinsic factors were identified as six needs or *satisfaction issues*. These six needs that motivate people to work are physiology, safety, belongingness, autonomy, self-understanding, and creativity. Herzberg

further defined these six needs as achievement, recognition for achievement, the work itself, responsibility, advancement, and possibility for growth. Herzberg's research defined an individual's total needs and level of satisfaction within the realm of work, and his intrinsic and extrinsic factors focused "attention upon the work itself as a principle source of job satisfaction" (Green, 2000, p. 8).

However, Smith et al. (1969) defined their construct of job satisfaction "as the feelings a worker has about his job" (p. 100). More specifically, as described by Kinicki, McKee-Ryan, Schriesheim, and Carson (2002), Smith et al. conceptualized satisfaction around two sub domains:

1. An evaluative-general-long-term domain, which is concerned with assessing how an individual's current job compares with other jobs over his or her lifetime, and
2. A descriptive-specific-short-term domain, which focuses on assessing satisfaction within the day-to-day operations of an individual's current job. (p. 14)

Smith et al.'s book *The Measurement of Satisfaction in Work and Retirement*, attempted to clarify many of the overlapping terms that were used by the multiple job satisfaction researchers and define what ultimately were classified as job satisfaction factors. Working with Kendall and Hulin and following an extensive study that began at Cornell University in 1959, Smith's work was not a single study but an exploration of job satisfaction research. Out of that meticulous detail and their original framework, Smith et al. developed protocols for studying job satisfaction factors in what has become referred to by the name of the survey instrument, the Job Description Index (JDI).

Many of the higher education and clinical education studies conducted have included multiple job satisfaction factors for faculty members. Additionally, many researchers have



examined job satisfaction among many professional groups, utilizing the job satisfaction factors that were established by Herzberg (1966) and Smith et al. (1969). For purposes of this study, the researcher combined Herzberg's and Smith et al.'s frameworks to represent the best theoretical approach to job satisfaction among PA faculty. After entry into an organization like a university, a faculty member evaluates intrinsic and extrinsic factors within and around the university (Herzberg). During this interaction process, the faculty member's experiences and feelings affect the faculty member's level of satisfaction within the institution (Smith et al.). The researcher used these satisfaction frameworks in order to establish a foundation for understanding PA faculty job satisfaction. These two frameworks guided the researcher in measuring five factors for PA faculty job satisfaction.

Educational leaders as well as researchers have identified multiple elements that have demonstrated strong correlations between an individual's job satisfaction and its relationship to a person's employment. Unfortunately, there have not been any studies that have examined the level of job satisfaction among physician assistant faculty members. Using Smith et al.'s (1969) model and combining it with the theoretical work of Herzberg (1966), job satisfaction factors can be divided into intrinsic (work itself and advancement opportunities) and extrinsic factors (salary, supervisor support, and coworker relations). In summary, these intrinsic and extrinsic factors fall within the five categories of the Job Description Index that was developed by Smith et al., and this study attempted to identify the importance of these five factors to PA faculty. There have been no studies examining any of these factors or how they may affect the overall job satisfaction of physician assistant faculty. Links between these factors and physician assistant faculty were examined to assist the PA profession.

### *Purpose of the Study*

The purpose of this study was to examine job satisfaction factors for physician assistant faculty. Job satisfaction factors were divided into two categories: intrinsic factors about the respondents (work itself and advancement opportunities) and extrinsic factors about the institutional faculty support (salary, supervisor support, and coworker relations). Additionally, personal and professional demographics (such as age, race, gender, educational position, title, etc.) were collected for descriptive purposes and for identifying any other possible relationships between these demographics and overall job satisfaction. This study explored the level of job satisfaction, the relationships of the intrinsic and extrinsic factors to overall satisfaction, and the significance of the job satisfaction factors and personal/professional demographics in predicting overall job satisfaction.

### *Significance of the Study*

Physician assistant educational programs and program administrators are faced with many challenges because of a high turnover of faculty (Herrick, 2003). Faculty members of physician assistant programs are a major element in physician assistant education (Smolen, 2001). If a high turnover trend continues, the turnover plus the growth in the profession may contribute to a shortage of physician assistant faculty. The findings contribute to the little research conducted related to PA faculty members' overall job satisfaction and factors that might contribute to the level of job satisfaction. The research has provided tools to higher education leaders for assuring what job satisfaction factors are important to PA faculty members. This study will help leaders understand PA faculty job satisfaction.

### *Rationale of the Study*

Physician Assistant faculty members have unique job responsibilities that require them to work to develop as educators. As a result of the need to understand development as educators, it may be beneficial to identify job satisfaction factors that promote a positive work environment.

The findings of this study should lead to a better understanding of internal and external job satisfaction factors for physician assistant faculty members. Ultimately, the end result should be an improved awareness by educational leaders in order to support PA faculty to be successful in the growing market of PA education.

### *Research Questions*

Using a quantitative approach, the researchers explored the following research questions:

1. Are there differences between the JDI factors of work itself, advancement opportunities, salary, supervisor support, and coworker relations in relation to overall physician assistant faculty's job satisfaction?
2. Are there differences between the intrinsic job satisfaction factors (work itself and advancement opportunities) and extrinsic job satisfaction factors (salary, supervisor support, and coworker relations) in relation to overall physician assistant faculty's job satisfaction?
3. What personal and professional characteristics (gender, race/ethnicity, highest degree earned, number of years in PA education, tenure status, current position, academic rank, and faculty salary), intrinsic satisfaction factors (work itself and advancement opportunities), and extrinsic satisfaction factors (salary, supervisor

support, and coworker relations) predict overall satisfaction among physician assistant faculty?

### *Definitions*

The following terms will be referred to in this study and are defined as follows:

1. According to Ballweg, Stolberg, and Sullivan (2003), a “Physician Assistant is a person qualified by education, training, experience, and personal character to provide medical services under the direction and supervision of a licensed physician” (p. 503).
2. Clinical faculty are faculty members who serve in higher educational clinical programs (i.e., Physical Therapy, Occupational Therapy, Medical Schools, Nursing, Physician Assistant, etc.).
3. General Job Satisfaction is an overall indicator and is measured by the following facets of the Job Description Index (JDI):
  - a. Intrinsic Factors include the work itself and advancement opportunities
  - b. Extrinsic Factors include the level of compensation/pay (salary), supervisor support, and coworker relations (Smith et al., 1969).
4. The five JDI categories, further defined, include:
  - a. Work itself includes scope of practice, total hours worked, and level of training.
  - b. Advancement Opportunities include promotions and tenure decisions.
  - c. Salary includes compensation and fringe benefits.
  - d. Supervisor Support includes level of supervision as well as the relationship with the supervisor.

- e. Coworker Relations includes communication levels.
5. Personal and professional demographics are year of birth, gender, race/ethnicity, socioeconomic classification, citizenship, highest level degree earned, professional degree, number of years in PA education, tenure status, current academic rank, full-time or part-time status, current position, departmental affiliation, location of PA program, current faculty salary, number of years of clinical experience, and professional plans for the next five years.

#### *Overview of the Remainder of the Study*

The remainder of this study is organized into four chapters. The second chapter is a review of the literature related to the study. The major sections of the literature review include a brief introduction of job satisfaction theories, along with a look at common job satisfaction factors within business, higher education, clinical education, and physician assistant education. Chapter 3 outlines the methodology followed in this study. Measures taken to assure the reliability and validity of the survey instrument are described in this chapter. In chapter 4, results of the data analysis are presented. Included are the results of the multiple regressions in order to answer the research questions. Chapter 5 discusses the major findings of the study and the implications of these findings. This dissertation will conclude with study limitations and suggestions for future research.

## Chapter 2: Literature Review

### *Introduction*

The purpose of this study was to examine the job satisfaction factors for physician assistant faculty. A review of the literature was conducted to identify relevant studies and support the rationale for this project. Identifying the universal meaning or definition of job satisfaction is an impossible attempt (Green, 2000). Many researchers have defined job satisfaction, but the definitions vary. According to Green, “Even though the definitions vary, a commonality among them seems to be that job satisfaction is a job-related emotional reaction” (p. 6). A job-related emotional reaction can be a sign of an employee’s emotional wellness, can be affected by an employee’s behavioral influences, and can be an indicator of overall organizational operations; therefore, it is important to clarify the various levels of job satisfaction and the factors that it comprises (Green; Spector, 1997). As Safran, Miller, and Beckman (2006) stated, “The links between workplace quality – particularly the presence of a positive, collaborative culture – and staffing outcomes (including burnout, turnover, and staff satisfaction) have been more widely studied than other organizational outcomes” (p. 11).

Job satisfaction is anchored in multiple theoretical frameworks regarding organizational and motivational psychology (Green, 2000). Green conducted a thorough and historical evaluation of these frameworks regarding job satisfaction. Job satisfaction frameworks that are identified in the literature follow the constructs of content theorists, process theorists, situational theorists, and measurement-evaluation theorists. A very brief explanation of each theory is presented in order to assist the reader in developing a basic understanding of job satisfaction. Following the section on job satisfaction theorists, a brief

literature review has been divided into four groups: (a) a review of employee job satisfaction factors in the business world, (b) a review of faculty job satisfaction factors in higher education, (c) a review of faculty job satisfaction factors among clinical faculty, and (d) a brief summary of the literature about PA faculty and the surrounding concern for the job satisfaction factors for physician assistant faculty.

### *Job Satisfaction Theorists*

Content theorists (e.g., Maslow, 1954; Herzberg 1966) state that need fulfillment leads to overall job satisfaction (Locke, 1976). According to Locke, these theorists suggest that “real satisfaction with the job could only be provided by allowing individuals enough responsibility and discretion to enable them to grow mentally” (p. 1299). If given this opportunity to grow, then job satisfaction is a pleasurable or positive emotional state within one’s job experiences. These experiences of job satisfaction exist when an individual’s needs are met (Green, 2000; Maslow). An individual’s needs can be fulfilled by the job and its environment (Maslow) or the work itself (Herzberg). According to Maslow, the optimal job environment has a corresponding hierarchical need that is met. This hierarchy means that once basic individual needs are met by the job, then more sophisticated needs will need to be met. Herzberg labeled the need hierarchy as a two-factor theory of motivating job attitudes.

Herzberg’s (1966) classic study of accountants and engineers was critical in developing his two-factor theory of motivation. In his book *Work and the Nature of Man*, he proposed hygiene factors (factors extrinsic to the job) and motivational factors (factors intrinsic to the job) as important factors that affected overall employee motivation and job satisfaction. Extrinsic factors were labeled as dissatisfaction issues surrounding the job and included supervision, company policy and administration, working conditions, interpersonal

relations with peers, interpersonal relations with superiors, interpersonal relations with subordinates, status, job security, salary, and personal life. The intrinsic factors were identified as six needs or satisfaction issues. These six needs that motivate people to work are physiology, safety, belongingness, autonomy, self-understanding, and creativity. Herzberg further defined these six needs as achievement, recognition for achievement, the work itself, responsibility, advancement, and possibility for growth. Herzberg's and Maslow's (1954) theories were important in the evaluation of job satisfaction. As Green (2000) concluded, "Before the emergence of the motivator-hygiene theory, only single scales had been used to measure job satisfaction" (p. 8).

Process theorists (e.g., Vroom, 1964; Adams, 1963) explained job satisfaction through the interaction of expectancies, values, and needs (Gruneberg, 1979). For example, as Gruneberg summarized, "Some individuals have a greater need for achievement than others and where a job gives no opportunity for achievement, such individuals are likely to be more frustrated than those whose need is less" (p. 19). However, Vroom explained that people are not only driven on the basis of needs or achievements, but they also make choices about what they will or will not do on the basis of needs or achievements. Adams described what employees will do (inputs they contribute) in a ratio compared with the outcomes they receive from their jobs. Overall, if employees perceive the outcome/input ratio is unequal to that of coworkers, and employees are unable to restore equity, then job dissatisfaction may be created.

Situational theorists (e.g., Glisson & Durick, 1988; Quarstein et al., 1992) believe that job satisfaction results from the interaction of individuals, job, and organizational variables (Hoy & Miskel, 1996). Hoy and Miskel describe these three variables as follows:



1. Characteristics of the employee [or individual] (i.e., age, gender, education, motivation, ability, age, predisposition to be happy);
2. Characteristics of the job tasks (i.e., autonomy, pay and other benefits, routinization, significance, challenge, variety); and
3. Characteristics of the work organization (i.e., centralization, professionalism, supervision, feedback, culture). (p. 254)

Glisson and Durick attempted to use these three characteristics as predictors of both job satisfaction and organizational commitment. No previous studies had ever explored these three categories for predicting both satisfaction and commitment. Job characteristics were the most highly predictive determinant for job satisfaction. However, Quarstein et al. further described job characteristics as situational characteristics (employee evaluations before accepting a job) and situational occurrences (employee evaluations after accepting a job). To summarize their point, Quarstein et al. stated that “overall job satisfaction can be better predicted from a knowledge of both situational characteristics and situational occurrences than from either factor alone” (p. 869).

Job satisfaction can also be assessed using different types of measurement evaluation theories (i.e., single-item, general, or facet-specific) (Smith et al., 1969; Spector, 1997; Weiss et al., 1967). As Green (2000) pointed out,

Unlike productivity, absenteeism, and turnover, job satisfaction is present only inside an individual’s mind and cannot be measured directly. Methods for indirectly measuring job satisfaction include observing employees, interviewing them, and asking them to complete a questionnaire. Many organizations and researchers favor

questionnaires because personal observations and interviews are very time consuming. (p. 10)

The Job Description Index (JDI) developed by Smith et al., the Job Satisfaction Survey (JSS) developed by Spector, and the Minnesota Satisfaction Questionnaire (MSQ) developed by Weiss et al. are three examples of facet-specific questionnaires within measurement-evaluation theories, but the JDI and MSQ are the two most “widely used, nationally recognized, reliable and valid instruments that measure facet-specific levels of job satisfaction” (Green, p. 23). Where Spector’s JSS yields an overall satisfaction score and nine facet-specific scores, Weiss et al.’s MSQ generates scores for 20 facets.

However, Smith, Kendall, and Hulin (1969) defined their measurement-evaluation theory of job satisfaction around five facets that described “the feelings a worker has about his job” (p. 100). More specifically, as described by Kinicki et al. (2002), Smith et al. conceptualized satisfaction around two sub-domains:

1. An evaluative-general-long-term domain, which is concerned with assessing how an individual’s current job compares with other jobs over his or her lifetime, and
2. A descriptive-specific-short-term domain, which focuses on assessing satisfaction within the day-to-day operations of an individual’s current job. (p. 14)

Smith et al.’s book *The Measurement of Satisfaction in Work and Retirement*, attempted to clarify many of the overlapping terms that were used by the multiple job satisfaction researchers and define what ultimately classified as job satisfaction factors. Working with Kendall and Hulin and following an extensive study that began at Cornell University in 1959, Smith’s work was not a single study but a meticulous exploration of the job satisfaction research. Out of that meticulous detail and their original framework, Smith et al. developed

protocols for studying job satisfaction factors in what has become referred to by the name of the survey instrument, the Job Description Index (JDI). The JDI measures job satisfaction on the following five categories: work itself, advancement opportunities, pay (salary), supervisor support, and coworker relations. Respondents to the JDI questionnaire indicate a *Yes*, *No*, or ? to a series of statements regarding the description of their current job within these five categories (Smith et al., 1969). Responses are scored +1 for a *Yes* a -1 for a *No*, and 0 for a ? or undecided (Smith et al.). In their review and meta-analysis of the JDI, Kinicki et al. highlighted that with a forced response of *Yes* or *No*, “the results with respect to the construct validity of the JDI are generally positive, the large amounts of method and error variance in the JDI [responses] are troublesome indeed” (p. 26).

Aside from the multiple theoretical frameworks surrounding job satisfaction (i.e., content theorists, process theorists, situational theorists, and different measurement-evaluation theorists), the specific factors that may be linked to job satisfaction have been researched and can have significant impacts on business employees, higher education employees, and clinical education employees.

#### *Business World Employees and Job Satisfaction*

According to Green (2000), “Originally, job satisfaction was studied as a predictor of behaviors such as performance, absenteeism, and turnover. More recently the interest has shifted toward identifying factors that influence or predict job satisfaction. Personal and work-related characteristics can influence job satisfaction” (p. 11). From the theoretical frameworks, the following literature review will attempt to identify certain job satisfaction factors that may be seen as predictors of behaviors, as well as may be the results of specific influences. Researchers have evaluated the problem of employee job satisfaction and have

identified possible factors that may affect employee's perceptions of an organization (Hellman, 1997; King-Lawrence, 2003; Salvaggio, 2003). The literature has confirmed the important factors, as well as the impact of these factors that theorists highlighted, and they will be described in more detail in this review. Local and global markets also have vested interests in job satisfaction factors for attracting and retaining valuable employees because of the costs involved with unplanned departures (Harkins, 1998b; Liu, 2003; Mendonsa, 1998). From consultant companies to major corporations, business leaders have attempted to identify ways to keep key employees satisfied with their jobs (Harkins, 1998a; Taylor & Cosenza, 1997; West, 1996; Winkler & Janger, 1998). Leaders are faced with many difficulties, but as the literature demonstrated, losing key employees creates additional challenges for a business.

In addition to the researchers and corporations mentioned above, employers have also attempted to focus on employees' job satisfaction. This job satisfaction is a relationship between the survival of an organization and the continual intellectual drain resulting from employee departure (Garber, 2003; Middlebrook, 1999; Murphy, 2003). Select skills that employees bring to their positions within the organization, as well as the knowledge employees acquire over time, are all lost when employees quit. In fact, sometimes key employees and company leaders leave a revolving door of knowledge and skills (Reed, 2001). Harkins (1998a) estimated that turnover can cost as much as three to five times the annual salary of the employees involved, and he stressed the importance for leaders of addressing this cost for companies. Employee withdrawal leads business leaders to examine ways to cut costs in tighter labor markets because turnover is a significant profit killer in organizations (Hacker, 2003; Joinson, 2000). As mentioned, some job satisfaction factors

that may lead to turnover have been identified. A brief review of these positive and negative job satisfaction factors is important for many organizations to understand the problems and costs incurred by employee departure.

Job satisfaction is a factor that has been shown to be linked to intentions to leave. King-Lawrence (2003) found that the higher the level of job satisfaction was, the lower the level of intent to leave for sales representatives of major pharmaceutical organizations. In another study on job satisfaction, Hellman (1997) used a meta-analysis method to analyze job satisfaction and intention to leave within U.S. organizations. Similar to King-Lawrence, Hellman found an inverse relationship between job satisfaction and leaving an organization. If the level of job satisfaction was high, then the intent to leave an organization was low.

The level of supervision involvement in the day-to-day operations within an organization is also an important factor in overall job satisfaction. A predictive study of nurses in a skilled long-term-care facility evaluated climate (Chambers, 1989). Chambers administered a survey to 640 nurses at 84 different facilities. According to Chambers, important group characteristics among licensed nurses and their positions were climate interventions. These interventions were used to maintain a positive climate or environment for employees to feel satisfied within that organization.

Other employee job satisfaction factors and ways to retain employees have been evaluated in the research. In relation to the work itself, as well as to the relationship with other coworkers, team-building exercises and employee training have dramatically decreased employee departure. Researchers have found that employees prefer these exercises for overall job satisfaction (Murphy, 2003; West, 1996). Internal marketing (strategic planning) has also been evaluated as a means of identifying the best possible people to do the best

possible job. Taylor and Cosenza (1997) identified good channels of communication and a strong plan as important variables to increase job satisfaction. Other researchers have found a stepwise approach to marketing. For example, Harkins (1998a) has acknowledged strategies for retaining employees in a four-step approach: assess, measure, evaluate, and plan. Whether assessing, measuring, evaluating, or planning, it is important for business leaders to look at the overall environment and job satisfaction, the work itself, and the compensation for that work. Job satisfaction factors and environment may include better salary packages, improved benefit packages, more flexible work schedules, more on-the-job recognition and training, allowing work to be done at home, established daycare facilities, or other personal perks (Middlebrook, 1999). Organizational researchers have evaluated and attempted to find ways to lock in personnel talent by increasing overall job satisfaction.

Finally, business leaders have also tried to answer questions about job satisfaction of employees by relating socio-demographic factors and perceptions to turnover. These factors have included age, professional characteristics (origin and career path), institutional characteristics (enrollment and type), gender, and race (Reed, 2001). In Reed's study of 176 college presidents of public, four-year institutions and 394 college presidents of private, four-year institutions, she attempted to confirm the anecdotal discussion about high presidency turnover. Remarkably, Reed was able to demonstrate a stability of college presidents at public, four-year institutions among different genders, ages, and races. Employees' perceptions are also important to the retention of key employees. In a similar study of 1,913 salaried employees from a Fortune 500 organization, perceptions of personal growth opportunities (e.g., opportunities for advancement) and lower levels of stress increased an employee's job satisfaction (Garber, 2003).

Business leaders have examined the relationship of many elements (e.g., financial implications, supervisor involvement, relationship to coworkers, the work itself, compensation, and opportunities for advancement) to job satisfaction (Healy, Lehman, & McDaniel, 1995). Employee job satisfaction is not only a problem in business organizations; higher education and the healthcare industry have also researched employee job satisfaction (Chambers, 1989; Hastings, 1995; Matthai, 1989; Sojka, 2003).

#### *Higher Education Faculty and Job Satisfaction*

Higher education is not immune to the problem of low job satisfaction; in fact, educational leaders have increased the number of research studies that try to identify factors that affect job satisfaction (Davis, 2001; Grace & Khalsa, 2003; North Carolina State, 2001; Scarpinato, 2001; Trei, 2001; Truman, 1999). Among educational leaders, provosts have created task force committees to overcome deficiencies in the job satisfaction of faculty (Davis). Even leaders who are not employed in higher education have expressed concern about high faculty dissatisfaction. In fact, a college in Massachusetts recently received a \$60,000 grant from a community leader to address the school's 22% faculty attrition rate (Grace & Khalsa).

In addition to educational leaders and community leaders, other offices and stakeholders within higher education have concern about the financial impacts that job satisfaction and faculty departures have on the institution. Recently, an office of equal opportunity within a university developed focus groups to try to address job satisfaction for the recruitment and retention of qualified faculty (North Carolina State, 2001). The focus groups spent time discussing and evaluating the departure of key faculty members. These groups also found ways to retain these faculty members and limit the cost to the university.

This university is not the only one with concerns for retention of key faculty members. Because of recent budgetary crises in government support for higher education, the University of Arizona sent \$13.9 million dollars back to the state to satisfy a mandated budget cut (Scarpinato, 2001). This budget cut in Arizona left fears among university leaders that without financial resources, faculty job satisfaction and retention would be compromised. At Stanford University, Trei (2001) attributed costs for turnover to be \$68 million annually.

Retention and turnover have monetary cost, and they also create constant change and uneasiness within an organization. In 1999, Truman University reported that 200 faculty members had left the university over the previous five years. The impact at Truman and other universities is the difficulty for students in developing relationships with faculty members inside and outside the classroom. The lack of faculty continuity can deteriorate student morale (Truman). In an attempt to address issues of morale, continuity, and financial costs to universities, government agencies are giving grants for research to understand job satisfaction issues that may lead to retention issues (Alberta Government, 2001).

Research conducted in higher education has tried to identify specific variables and a relationship of these variables to faculty job satisfaction (Dee, 2002; South Texas Community College, 2002; VanderPutten & Wimsatt, 1999). These variables may range from organizational support and personal support to overall compensation packages. Dee examined a cross-section of faculty at an urban community college and found a strong negative relationship between organizational support for innovation and faculty job satisfaction, but the analysis did not find autonomy of work and communication with colleagues to be significant. If support from the university was low, then faculty members'



dissatisfaction was high. At another community college, a group of faculty members evaluated the number of years of service and consideration of leaving the college (South Texas Community College). This study did not reveal any relationship, but other studies of higher education faculty members in this literature review have found other variables to be related to job satisfaction factors and intentions to leave or stay.

In a cross-national study of faculty from 16 different countries, six variables were rated as significant factors for faculty job satisfaction: institutional affiliation, level of job strain, income, cooperative climate, locus of control, and geographic location (VanderPutten & Wimsatt, 1999). VanderPutten and Wimsatt also observed factors that did not predict faculty job satisfaction: instruction as a primary role, courses taught, institutional facilities, and quality of retirement benefits. At the University of Colorado at Boulder, the faculty members most cited reasons for dissatisfaction were resource issues, such as noncompetitive salaries, lack of research support, lack of supportive colleagues, and employment opportunities for spouses (Davis, 2001). Researchers who conducted a faculty survey at a Massachusetts higher education institution identified professional development and salary packages as the most important job satisfaction factors (Grace & Khalsa, 2003). University support and employment options are variables that faculty members rate as highly valuable in consideration of job satisfaction factors in faculty positions at an institution.

Another important variable within faculty job satisfaction is the role of department chairs (i.e., supervision) (Miller et al., 2001; Nienhuis, 1994). Miller et al. surveyed department chairs at a community college in the southeastern United States. The top three methods used by chairs for faculty job satisfaction were on-campus faculty development, mentoring programs, and workload flexibility; development was the most used, but

mentoring was the most effective (Miller et al.). However, Miller et al. also listed the top three perceived challenges to job satisfaction as financial resources, faculty workload, and technology impact. Over 2,000 faculty members at a research institution were surveyed concerning the chair's involvement (Nienhuis). Over 73% of faculty listed appreciation for his/her work and the support from the chair as important factors in overall job satisfaction and the decision to leave or stay with the institution (Nienhuis).

Compensation packages are also a variable that may affect faculty job satisfaction and thus affect intentions of departure, as well as be a significant factor in retention rates. When compensation levels are higher, job satisfaction and retention rates for assistant and associate professors are also higher, and the magnitude of this effect grows larger as one moves from institutions with graduate programs to four-year undergraduate institutions to two-year institutions (Ehrenberg et al., 1990). Examining data collected by the American Association of University Professors, Ehrenberg and colleagues reported that if salaries were above the mean for similar institutions, retention rates of assistant professors were higher during the 20-year period 1970 through 1990.

Faculty dissatisfaction and turnover are also seen across disciplines (Cohoon et al., 2002; Ramsay, 2003; Zhou, 2003). A study of 210 large computer science departments across the United States revealed that 41% of the faculty had serious dissatisfaction and departure (intent to leave) considerations (Cohoon et al.). Cohoon et al. explained this high consideration in relation to the availability of high-tech and higher paying jobs close to the institution. Faculty dissatisfaction and turnover was lowest among computer science departments with above average support in the following areas: substantial commercial support, location of program in a high-tech setting, support for research, and a high level of

apathy regarding insufficient faculty and poor student quality (Cohoon et al.). In the realm of higher education, as in the business sphere, faculty job satisfaction is an important factor in intent to stay (Ramsay).

From a sample of 807 community college chairpersons out of a population of 9,866 chairs, a study was performed to evaluate facet-specific and general levels of job satisfaction (Green, 2000). Using the Minnesota Satisfaction Questionnaire (Weiss et al., 1967), which was developed prior to the more specific five-point Job Description Index (Smith et al., 1969) and has both a short form (20 variables) and long form (100 variables), Green used the short form and found in her study that greater job satisfaction included social service, creativity, and achievement. She found that lower job satisfaction included advancement, compensation, and company policies and practices.

A recent dissertation attempted to establish path models for faculty turnover and job satisfaction (Zhou, 2003). As Zhou stated, “The path models visualize the direct and indirect effects of demographic characteristics, institutional characteristics, work experience, and satisfaction variables on intention to leave” (p. 2). Zhou identified satisfaction with job security and compensation to be important prediction factors for both tenured and non-tenured faculty’s departures. However, out of ten academic disciplines (Agriculture, Business, Education, Engineering, Fine Arts, Health Sciences, Humanities, Natural Sciences, Social Sciences, & Vocational Programs), no variation on faculty satisfaction and turnover across disciplines was demonstrated. Therefore, this study demonstrated that Zhou’s path models for job satisfaction are highly generalizable (applicable) for identifying job satisfaction across different disciplines. However, additional research on faculty in health-

related programs (clinical faculty) reveals direct and indirect influences on a faculty member's job satisfaction.

### *Clinical Faculty and Job Satisfaction*

Research on clinical faculty has also attempted to analyze the issues of job satisfaction. Research studies from the past three decades have evaluated clinical faculty in nursing, physical therapy, medical school, dental school, and other health-related teaching professions. Within each clinical profession area, the tenure process, faculty evaluation, department chair involvement, and other variables have been examined for any effects on job satisfaction (Davis, 1991; Harris, 1980; Holland, 1992; Koller, 1992; Overman, 2001). Harris (1980) analyzed the tenure process (i.e., work itself). She found that only 10% of M.D. faculty strongly agreed that tenure was an aid in retaining high-quality faculty. In another medical school, Koller demonstrated the need for a standardization of faculty evaluation and performance measures for tenure in order to aid in retention decisions. Koller demonstrated that within those evaluation measures, department chairs were a primary source of information and job satisfaction. Medical school faculty members are not the only clinical faculty members who have been evaluated on job satisfaction issues.

Other clinical profession faculty members also have evaluation methods, and researchers have tried to identify ways to predict job satisfaction factors' relationship to retention and turnover. Physical therapy faculty demonstrated that retention and turnover issues are influenced by six predictor variables. In 1991, Davis surveyed 525 physical therapy faculty members with 348 responses from 92 undergraduate preparatory programs in the United States. Using the models of job satisfaction from Herzberg (1966), Price and Mueller (1981), and Watson (1985), Davis developed a hybrid model with the six predictors

previously mentioned. His model accounted for 49% of the reasons for faculty dissatisfaction and turnover. His six predictors were quality of job alternatives, utility of job alternatives, quantity of job alternatives, critical events, fulfillment of employment, and job satisfaction (Davis, 1991).

As stated above, literature on turnover and retention issues is commonly based upon overall job satisfaction. According to an assessment of a random sample of 125 nurse educators in Louisiana, the top three reasons for nursing faculty's staying or leaving an organization were the level of organizational commitment, job satisfaction, and intention to leave (Holland, 1992). Nursing faculty and physical therapy faculty are not the only clinical faculty members who have examined job satisfaction issues.

Overman (2001) adapted Wood's (1976) survey instrument to study job satisfaction among clinical dental faculty members. In order to better understand Overman's clinical dental faculty research, an explanation of Wood's study is needed. In 1976, Wood studied the overall job satisfaction among community college staff in order to develop an instrument that administrators could use to evaluate job satisfaction at their institutions. He randomly selected 340 full-time instructors from 17 institutions. Wood's findings from his study were as follows:

A review of the procedures used in the development of the instrument, the results of factor analyses, reliability coefficients for internal consistency and test-retest, and recommendations from a panel led to the conclusion that the validity, reliability, and level of refinement of the instrument were adequate for the collection of the research data. (Wood, p. 58)

His original intent and purpose for his research was to encourage modification of the original instrument, as needed, by administrators and researchers like Overman.

Therefore, Wood's (1976) survey was recently modified by Overman (2001) to study the job satisfaction of clinical dental faculty on the basis of very well-documented research findings on the validity of Wood's survey tool. Overman surveyed 2,100 dental faculty from U.S. dental programs. She had a 51% response rate and identified 63% of dental faculty overall job satisfaction explained by intrinsic and extrinsic factors. After evaluating 1,200 clinical dental faculty members, Overman differentiated between intrinsic and extrinsic satisfaction. The greatest satisfaction among dental faculty was in the work itself and with interpersonal relations. The greatest dissatisfaction among dental faculty was with salaries and administrative policies. Overman also revealed that clinical dental faculty had a lower intent to leave and higher job satisfaction from an organization when provided with opportunities for research, opportunities to advance, and an ideal geographic location. Overman's survey instrument from her job satisfaction research was appropriately adjusted and adapted from Wood's research. Both Wood and Overman used the theoretical framework of Herzberg (1966) and evaluated over 10 different factors related to job satisfaction.

Whether in business, in higher education, or in a clinical faculty position, similarities and differences exist in an employee's job satisfaction in an organization. Intrinsic and extrinsic job satisfaction factors in all settings may affect the retention and turnover of employees. This literature review has attempted to develop a clear foundation for analyzing job satisfaction among physician assistant faculty members, who have not had any analysis regarding job satisfaction.

### *Physician Assistant Faculty and Job Satisfaction*

Physician assistant education is an expanding professional discipline (Smolen, 2001). With 135 PA programs across the United States and ongoing interest in starting PA programs in other countries, the demand for PA faculty in higher education is increasing (PAEA, 2006b). The demand for and requirements of faculty are even more intensified with the movement of more programs to the granting of a master's degree (90 out of 134) (Simon, 2005). As the national academy for physician assistants points out, this demand for PA education "has fueled a tremendous growth in educational programs" (AAPA, 2002, p. 5). From 1995 to 2004, the number of PA programs expanded from 56 programs to 134 programs. The expansion of PA education is projected to nearly double over the 10-year period, 2002 to 2012 (AAPA). The PA profession is the third fastest growing profession in the United States (U.S. Dept. of Labor, 2004). Because early on in the PA profession many medical leaders projected this rapid growth, PA educators organized into a national organization (PAEA) to manage and maintain a database on PA programs.

The demographics of PA education have been examined annually through the Physician Assistant Education Association since 1984. In the association's annual survey, conducted by Albert Simon, valuable data is collected. The most recent survey, which surveyed programs during the 2004–2005 academic year, was published in October 2005 (Simon, 2005). Simon reported that of the nation's 134 PA programs, only 113 responded to the annual survey. From these 113 programs, 824 faculty members were listed (61% were female, 87.4% were White, 60.5% of the non-White personnel (46/76) were women, and the mean age in years was 40.2). Non-White PA faculty members included Black/African American (30/76), Latino/Hispanic/Mexican American (23/76), Asian (11/76), Asian

Subpopulation (3/76), Native Hawaiian/Other Pacific Islander (4/76), American Indian/Alaskan (3/76), and Other (2/76). More than half (52%) of these faculty members remain clinically active (52%), working an average of 9.7 hours per week in a clinic. The mean academic salary for non-PAs was \$62,173 with an average of 73.3 months in their positions. For PAs, the mean salary was \$68,648 with an average of 56.2 months in their positions. Clinical coordinators had the least amount of time in their position at 53 months. Only 26.7% of PA faculty members are in tenure-track positions; 4.3% are actually tenured. The highest degree held by most PA faculty is the master's degree at 67.3%, only 14.5% earned a doctorate and 16.8% had a bachelor's degree.

With the rapid growth of PA programs from 56 in 1995 to 134 programs in 2004, as well as the current demographics of the PA professorate, issues of job satisfaction among PA faculty is a major concern (Smolen, 2001). Along with this expansive growth, PA programs are suffering from a shortage of qualified PA faculty (Glicken & Blessings, 1998). Additionally, PA education, "like all of higher education, should anticipate retirements, but the extent and timing has not been precisely determined" (Overman, 2001, p. 33). The growth and shortage are also compounded by the disparity between full-time clinical salaries that are \$20,000 more than full-time academic salaries (Herrick, 2003).

The PAEA (formerly the APAP, 2004) believes one aspect of PA turnover is the difficulties and/or lack of job satisfaction that PAs experience when moving from clinical medicine to academic positions. Most PA faculty members are experienced clinical practitioners without any previous academic teaching experience (Min, 2003). Physician assistant educators are different in terms of the preparation for an academic career. Clinical PA faculty members have primarily a medically related degree. For example, a PA



educational background devotes time to preparing a competent PA for clinical practice, not for the faculty role (teaching, research, student advisement, administration, or service) (PAEA, 2006a). The PAEA attempts to address the rigors of academia by providing faculty-development training at the association's semiannual meetings. However, the PAEA has not conducted an evaluation of these training programs.

According to Overman (2001), “[t]enure track positions have been the dominant mode of faculty appointment in higher education” (p. 33). Scholars who have studied higher education faculty attitudes have seen a decrease in job security and satisfaction for non-tenure track positions (Bowen & Schuster, 1986; Finkelstein, Seal, & Schuster 1998; Luu, 1985). According to Anderson (1998), over 50% of faculty members in higher education hold tenure. Compared to other faculty in higher education, only 4.3% of PA faculty members in the academic year 2004–2005 held tenure (Simon, 2005). The tenure status of faculty is an important issue to be evaluated when looking at the future needs of PA faculty. As Overman also highlighted, “Non-tenure tracks could impair the ability of schools to meet research goals” (p. 36).

Recently, the president of PAEA established a position paper that addressed the need for the APAP to begin researching faculty job satisfaction and turnover (APAP, 2004). This position paper was in response to the 20<sup>th</sup> Annual Report on Physician Assistant Educational Programs (Simon, 2004). Simon administered two questionnaires to 133 accredited PA programs across the United States. The first questionnaire consisted of general program information, program personnel information, and applicant/student information. The second questionnaire requested information on graduates. Between mailings and a new online tool, a program response rate of 86.5% (n = 115) was obtained and represented over 400 PA faculty.

In regard to personnel, the researcher asked for type, frequency, and characteristics of personnel terminating and those employed to fill the positions. During the academic year 2003–2004, he found that 108 PA program personnel departed their academic positions. This number was the highest in the 17 years of collecting this information. In 1987, there were only 13 PA program personnel departures. Unfortunately, this study did not explain the factors related to job satisfaction among PA faculty. Research about the specific factors for PA faculty job satisfaction has not been done. As Overman (2001) noted in her research on dental faculty, “Disciplinary variations help foster differences in faculty patterns of work, extent of authority, association ties, and faculty sense of professional identity” (p. 24).

With the increasing demand for more PA discipline-specific faculty and the competition for much needed health care providers, this research was warranted to examine job satisfaction among PA faculty members. As Reed (2006) pointed out, “Faculty members who enter academe from the ranks of practicing health professionals [like PAs], unlike those in some other disciplines, always have the option of leaving education and returning to professional practice in their individual disciplines” (p. 30). Reed performed an extensive literature review in academic medicine in order to “provide insight into the critical factors contributing to job satisfaction in PA programs” (p. 30) and urged that further research be done to identify job satisfaction factors by using a suitable instrument involving all U.S. PA programs. By examining extrinsic as well as intrinsic satisfaction factors and their relationship to PA faculty satisfaction and career plans, research on PA faculty may give a viewpoint into the unique organizational discipline of PA education. This study will help determine what factors are related to faculty satisfaction in PA education, which may lead to important models for program improvement (Reed).

## *Summary*

This literature review was divided into five areas: a brief overview of job satisfaction theorists, a review of employee job satisfaction factors in the business world, a review of faculty job satisfaction factors in higher education, a review of faculty job satisfaction factors among clinical faculty, and a brief summary of the literature surrounding the concern and the need for an understanding of PA faculty job satisfaction factors. Educational and business leaders and researchers have identified multiple elements that have demonstrated strong correlations between an individual's job satisfaction and whether he/she continues at the current place of employment. The job satisfaction factors can be divided as intrinsic and extrinsic on the basis of Herzberg's (1966) and Smith et al.'s (1969) theoretical framework.

This literature review has shown the following intrinsic factors to be important in affecting employee and faculty job satisfaction (Davis, 1991; King-Lawrence, 2003; Hellman, 1997): good channels of communication (Taylor & Cosenza, 1997), job recognition (Harkins, 1998a), professional characteristics (Reed, 2001), personal growth opportunities along with lower stress levels (Garber, 2003), organizational support (Dee, 2002), and faculty evaluation and performance (Koller, 1992).

Additionally, this literature review has shown the following extrinsic factors to be important in affecting employee and faculty job satisfaction: team building and employee training along with professional development (Grace & Khalsa, 2003; Murphy, 2003; West, 1996), salary and benefits or compensation packages (Ehrenberg, Kasper, & Rees, 1990; Harkins, 1998b), flexible workload & schedules (Middlebrook, 1999), geographic location (VanderPutten & Wimsatt, 1999), support for research and advancement opportunities (Davis, 2001; Overman, 2001), role of department chair (Miller, Jackson, & Pope, 2001;

Nienhuis, 1994), tenure track (Harris, 1980; Luu, 1985), and different disciplines (Green, 2000; Ramsay, 2003; Zhou, 2003).

Within intrinsic and extrinsic factors, oversupply or shortages of faculty have a great potential to influence higher education. Therefore, it is important to deal sensitively when developing a strategy to increase or decrease the number of qualified faculty. These strategies must consider all groups, as “the professoriate is increasingly diverse in gender and ethnic and racial minorities and new hires” (Overman, 2001, p. 56). The research found that many of the higher education and clinical education studies that were conducted have included multiple job satisfaction factors for faculty members. Additionally, many researchers have examined job satisfaction among many professional groups, utilizing the job satisfaction factors that were established by Herzberg (1966) and Smith et al. (1969). For purposes of this study, the researcher combined Herzberg’s and Smith et al.’s frameworks to represent the approach to job satisfaction among PA faculty. After entry into an organization like a university, a faculty member evaluates intrinsic and extrinsic factors within and around the university (Herzberg). During this interaction process, the faculty member’s experiences and feelings affect the faculty member’s level of satisfaction within the institution (Smith et al.). The researcher used these satisfaction frameworks in order to lay a foundation for understanding PA faculty job satisfaction. These two frameworks guided the researcher in examining PA faculty job satisfaction.

Educational leaders as well as researchers have identified multiple elements that have demonstrated strong correlations between an individual’s job satisfaction and its relationship to a person’s employment. Unfortunately, there have not been any studies that have examined the level of job satisfaction among physician assistant faculty members. Job

satisfaction factors can be divided into intrinsic (work itself and advancement opportunities) and extrinsic factors (salary, supervisor support, and coworker relations) on the basis of Smith et al.'s (1969) model in combination with the theoretical work of Herzberg (1966). In summary, these intrinsic and extrinsic factors fall within the five categories of the Job Description Index that was developed by Smith et al., and this study attempted to identify the importance of these five factors to PA faculty. There have been no studies examining any of these factors or how they may affect the overall job satisfaction of physician assistant faculty. Identifying links between these factors and physician assistant faculty were examined in order to assist the PA profession.

Chapter 2 summarized the literature on job satisfaction. Chapter 3 provides the methodology of data collection, chapter 4 provides the results. Chapter 5 provides the final discussion of the results compared with the previous literature.

## Chapter 3: Methods

### *Introduction*

Herzberg (1966) and Smith et al. (1969) have provided the framework for this study. The purpose of this study was to examine job satisfaction factors for physician assistant faculty. A survey methodology was utilized in order to gather quantitative data. This study used a Web-based data collection method. The Web-based survey for this study evaluated physician assistant faculty's attitudes and perceptions at one point in time. Through Web technology and appropriate instrumentation, this study sought to address the following research questions:

1. Are there differences between the JDI factors of work itself, advancement opportunities, salary, supervisor support, and coworker relations in relation to overall physician assistant faculty's job satisfaction?
2. Are there differences between the intrinsic job satisfaction factors (work itself and advancement opportunities) and extrinsic job satisfaction factors (salary, supervisor support, and coworker relations) in relation to overall physician assistant faculty's job satisfaction?
3. What personal and professional characteristics (gender, race/ethnicity, highest degree earned, number of years in PA education, tenure status, current position, academic rank, and faculty salary), intrinsic satisfaction factors (work itself and advancement opportunities), and extrinsic satisfaction factors (salary, supervisor support, and coworker relations) predict overall satisfaction among physician assistant faculty?

This chapter describes the methodology used. Included in this chapter are sections that address definition of relevant variables, population and sample, instrumentation, data collection, data analysis, limitations and delimitations, and summary.

### *Relevant Variables*

The dependent variable in this study was overall job satisfaction. Overall job satisfaction was first determined by taking the average of the seven questions from the survey section entitled *Overall Satisfaction*. However, after Cronbach's alpha was calculated for that variable, six of the seven questions had a low alpha when compared to the last question. The last item stated, "Considering all aspects of your job as a PA educator, please indicate your overall level of job satisfaction." The other six questions had specific job characteristics and were not considered fair measurements of overall job satisfaction. Therefore, the researcher utilized the one question ("considering all aspects of your job") as the dependent variable. Though the use of a Likert scale, respondents were asked to rate the overall job satisfaction (*1 = very dissatisfied to 5 = very satisfied*). Using this 5-point scale, the average score for overall job satisfaction was calculated.

The independent variables in this study were the five JDI job satisfaction factors. The JDI job satisfaction factors were intrinsic factors (work itself and advancement opportunities) and extrinsic factors (salary, supervisor support, and coworker relations). Through the use of a Likert scale, respondents were asked to rate a series of questions about each factor (*1 = very dissatisfied to 5 = very satisfied*). For each of the five JDI factors, the following is the number of questions/items within that factor: work itself (13 items), advancement opportunities (10 items), salary (7 items), supervisor support (12 items), and coworker

relations (7 items). These factors were averaged on the 5-point scale and evaluated individually and compared to overall satisfaction. The factors were then categorized by intrinsic and extrinsic with an average score calculated on the 5-point scale and compared to overall satisfaction.

Other variables examined were personal and professional demographic information. The demographics included age, gender, race/ethnicity, socioeconomic classification, citizenship, highest-level degree earned, professional degree, number of years in PA education, tenure status, current academic rank, full-time or part-time status, current position, departmental affiliation, location of PA program, current faculty salary, and number of years of clinical experience. All of these variables were reported in the demographics section, but on the basis of literature-identified personal and professional variables (gender, race/ethnicity, highest degree earned, number of years in PA education, tenure status, current position, academic rank, and faculty salary), these variables were evaluated in order to establish if any of these variables had a predictor influence on overall job satisfaction for PA faculty.

### *Population and Sample*

The population for this study was defined as the Physician Assistant Education Association (PAEA) program's faculty members who are employed at Accreditation Review Commission on Physician Assistant (ARC-PA) accredited academic programs. All PA faculty members who are PAEA members were surveyed. This includes program chairs, clinical coordinators, academic coordinators, and regular faculty members. However, for inclusion in the final analysis, only faculty members who were certified and licensed as physician assistants were considered. The rationale for limiting the final analysis to licensed



PA faculty was to create a homogeneous group, especially because many professionals with varying backgrounds (medical doctors, social workers, nurses, etc.) are also educators in PA programs (PAEA, 2006b). According to the PAEA's directory database (the only database that represents all PA programs in the United States), the total number of PA program faculty members of physician assistant programs was 1159, and all were surveyed (PAEA, 2006b).

Statistical power and validity is increased with a large population size (Cook & Campbell, 1979). According to Dillman (2000), the actual sample, or population size, is quite nonintuitive, but larger sample or population sizes will decrease sampling error and increase confidence. Acceptable response rates range between 30% and 60% and are acceptable to most researchers for analysis purposes because researchers realize it can be difficult to ascertain high response rates (Dillman; Malaney, 2002; Rogness, personal communication, 2005). Steps were taken in this study to achieve as high a response rate as possible and will be described later. However, Dillman cautioned to "keep intrusions into people's lives at a minimum" (p. 155). Again, any steps taken during the survey process is "aimed at finding an appropriate balance" (Dillman, p. 155).

Prior to collecting any data, the researcher obtained the approval of the Physician Assistant Education Association's Research Institute and, then, the Human Subjects Review Boards at Eastern Michigan University and Grand Valley State University. The approvals can be found in Appendix A, B, and C, respectively.

### *Instrumentation*

After a careful review of the JDI (Smith et al., 1969) and Herzberg's (1966) factors, a survey instrument was adapted on the basis of previous researchers (Davis, 1991; Holland, 1992; Overman, 2001) (see Appendix D). With her permission, Overman's survey

instrument from her job satisfaction research was appropriately adjusted and adapted specifically for this study (see Appendix E). Previously, this instrument was adjusted by Overman from Wood's (1976) research. Overman adapted Wood's survey instrument to study the job satisfaction among clinical dental faculty members. Both Wood and Overman used the theoretical framework of Herzberg and evaluated over 10 different factors related to job satisfaction. For purposes of this study and following the facet-specific model of Smith et al., the number of factors was determined to be five factors.

The researcher developed a Web-based survey instrument to measure five job satisfaction factors based on Smith et al.'s (1969) JDI survey instrument and Herzberg's (1966) intrinsic and extrinsic factors (see Appendix F). On the basis of the multiple job satisfaction frameworks that are available, as well as the multitude of variables that can be evaluated, the researcher has chosen to limit this study to the five factors within the JDI. Smith et al.'s (1969) research has served in the development of a usable and practical instrument for measuring the five job satisfaction factors developed in the JDI. Adapted from Overman's (2001) modified survey instrument and Wood's (1976) original survey instrument, the questionnaire for this study consisted of general demographic information and personal characteristics, as well as questions addressing intrinsic job satisfaction factors (work itself and advancement opportunities) and extrinsic job satisfaction factors (salary, supervisor support, and coworker relations).

The modification that Overman (2001) performed on her survey instrument requires further explanation regarding its origin and validity from Wood's (1976) original instrument. The reliability and validity of Wood's questionnaire has been shown to be satisfactory after a review by a panel of experts. The reliability coefficients for internal consistency for Wood's

survey ranged from 0.85 to 0.95, including a Cronbach's alpha reliability coefficient between 0.76 and 0.97 in analysis of the intrinsic and extrinsic job satisfaction factors (Overman). In order to reestablish internal validity from the original reliability, Overman also took three measures for her modified survey instrument. First, she had a panel of dental educators examine the instrument to assure content validity. Second, she performed a pilot study on a group of clinical faculty to ensure that the questions were clear and unambiguous. Finally, the data analysis plan included calculations for internal consistency and reliability, with alpha coefficients ranging from 0.60 to 0.88.

For purposes of modifying Overman's (2001) instrument and developing a survey instrument for PA educators, the researcher utilized a two-step process. First, a panel (or pilot) of seven PA educators examined the instrument to assure construct validity and improve question format, question definitions, and scales (Salant & Dillman, 1994). As Dillman (2000) highlighted, "One or two people have been able to provide all of the help that seemed necessary [for piloting]. The number and types of people vary by study" (p. 141). This panel was a focused group of PA educators who were contacted to review the questions in order to assure that the survey was properly interpreted. By asking experts in the field, the researcher established face value and content validity. The first step served as a pilot study, which assured that the questions were clear and unambiguous. As Salant and Dillman (1994) noted, "The purpose of a focus group is to stimulate people's thinking and elicit ideas about a specific topic ... and provide a head start on knowing which questions to ask in a survey" (pp. 29-30). Alreck and Settle (1995) also commented, "Focus groups have become an increasingly popular method of inquiry" (p. 393). The responses for each question in this panel review were closely observed to ensure the test measured what it was supposed to be

measuring. A careful analysis was important in order to improve questions and format, which ensures survey validity by analyzing the dependent (levels of satisfaction) and independent variables (job satisfaction factors).

The second step of analyzing the survey instrument was conducted following the data collection. This step analyzed the survey for internal consistency and reliability using a Cronbach's alpha coefficient ( $\alpha = \frac{N-r}{1+(N-1)r}$ ). Here N is the number of items and r is the average interitem correlation among the items (Nichols, 1999). Gross-Portney and Watkins (2000) stated,

This statistic can be used with items that are dichotomous or that have multiple choices. Conceptually, Cronbach's coefficient alpha is the average of all possible split-half reliabilities for the scale. This statistic evaluates the items in a scale to determine if they are measuring the same construct or if they are redundant, suggesting which items could be discarded to improve the homogeneity of the scale. (p. 72)

The more homogeneous the items in the scale are, the higher the Cronbach's alpha will be. Gross-Portney and Watkins also stated, "A good scale is one that assesses the different aspects of the same attribute; that is, the items are homogenous" (p. 575). Therefore, according to Gross-Portney and Watkins, "A value that approaches 0.90 is high, and the scale can be considered reliable" (p. 577). If questions are to be identified as unreliable, the Cronbach's alpha requires a large sample or population size for measuring each item, which is why for this study the Cronbach's alpha was determined after all the data was collected. As Devellis (1991) explained, "A scale's alpha is influenced by two characteristics: the extent of covariation [homogeneity] among the items and the number of items in the scale" (p. 86).

Once unreliable questions were identified, they were not included in the final data analysis for statistical significance. In the case of a proportion of variance, the definition of a reliability coefficient, like Cronbach's, is that the sacrifice of fewer items will be offset statistically by the increased homogeneity of the items remaining (Nichols, 1999). The goal is to end up with the most parsimonious scale without appreciable loss of Cronbach's alpha (Rogness, personal communication, 2005).

The survey was carefully ordered and sequenced. Beginning with consistency of format for the Likert scales (*1 = very dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied, 5 = very satisfied*), the PA faculty member rated the five different factors of job satisfaction to develop an overall job satisfaction. This is different from the *Yes/No* format of the original JDI (Smith et al., 1969). For purposes of this research and development of a succinct survey instrument, the JDI measures job satisfaction on the following five categories: work itself, salary, supervisory support, coworker relations, and advancement opportunities. According to Herzberg's (1966) model, work itself and advancement opportunities relate to Herzberg's intrinsic factors, whereas salary, supervisory support, and coworker relations relate to Herzberg's extrinsic factors. The job satisfaction factors (work itself, advancement opportunities, salary, supervisory support, and coworker relations) were the independent variables, the level of job satisfaction was the dependent variable. Finally, the survey ended with questions about personal and professional demographics, which included age, number of years in PA education, tenure status, gender, current rank, ethnicity, citizenship, and type of department and institution of the PA program.

As noted, the survey instrument used a Likert scale (1 through 5) to measure job satisfaction factors. Likert scales have increased power and simplicity with the principle

advantages of flexibility, economy, and ease of composition (i.e., easy to create and use for the collection of a lot of information) (Alreck & Settle, 1995). Also by allowing a *neutral* response, the researcher attempted to increase response patterns for all questions and not force a response if a participant did not have a view on a particular issue (Blessings, 2005). For this study, the Likert simplicity was carefully developed by the researcher to avoid redundancy and assure items were easily understood. The researcher thoroughly reviewed the questionnaire. Through careful organization of the survey, appropriate question groupings, and clear and understandable instructions, a visual appeal was utilized (Alreck & Settle; Blessings). At the development stage, the survey questions were carefully structured to answer the overall research goals and purpose of the study.

The rationale for using a survey was to allow the researcher to eliminate interviewing bias and thus ensure the internal validity of the study (Salant & Dillman, 1994).

Furthermore, with a well-developed survey, this data-gathering tool can be accurate and very useful (Salant & Dillman). Salant and Dillman stated that surveys also allow for complete anonymity of the study subjects. In this circumstance, the survey design has advantages because of the rapid turnaround in data collection and the ability to quickly identify attributes of the population. Finally, “the greatest strength of surveys is that they require the least amount of resources” (Salant & Dillman, p. 35).

This study used a Web-based survey method. Web-based survey experts have identified several advantages of using a Web-based survey over other methods (Blessings, 2005; Upcraft & Wortman, 2000). A few of these advantages are the following: (a) data are immediately available and collected in a user-friendly manner, (b) results can be loaded directly and managed more efficiently, (c) high-quality graphics are easily visible to

participants and reduce time in data analysis, and (d) respondents can be *skipped to* appropriate items (or moved to a different section) and still maintain anonymity of participation. A couple of disadvantages to Web-based surveys are the potential lack of computer access and computer literacy for the population being studied. Another disadvantage is the potential inaccuracy with self-reporting surveys. To assist with this limitation, Dillman (2000) stressed the importance of consistent legibility, specific readability, and appropriate understandability for Web-based surveys. Upcraft and Wortman identified another potential disadvantage. It is the potential lack of appropriate computer software and equipment among the survey population. However, Dillman (2000) noted that certain populations, such as university professors, have increased web access and computer training. These disadvantages were noted, and the researcher found no difficulties working with the Web-based survey for physician assistant faculty members.

#### *Data Collection*

The survey used had major content areas that included carefully constructed job satisfaction-factor Likert scales, as well as specific demographic questions for collecting general population descriptors. Factual items were measured through the Likert scales. Reliability was assessed on the basis of response patterns within the survey and on the basis of the researcher's overall preparation of the survey for data collection. The amount of random error is limited when this type of assessment is done (Alreck & Settle, 1995).

After the panel of experts' review was complete, it was important to assure reliability in regard to the faculty contact information from the PAEA (mailing addresses, emails, etc.). The researcher finalized the Web access for each faculty member by assigning a log-in number. According to Crawford et al. (2001), establishing a password protection for login to

the survey eliminates the chance of multiple attempts. Once contact information and web access were finalized, the PAEA program faculty members (N = 1159) were mailed a brief flyer to participate in an upcoming Web-based survey. Due to the saliency of this topic to PA faculty, this prenotice flyer aided in demonstrated efficacy for increasing response rates and, it was hoped, decreased the number of non-responses (Cook et al., 2000; Crawford et al.; Dillman, 2000; Rogness, personal communication, 2005).

Two weeks after the pre-notice flyer and after completion of the Web-based survey on a secured Website, PA faculty were emailed (or mailed if the participant had no email address or email was undeliverable) a log-in number and were invited by an individualized email through the PAEA database to participate in the Web survey. No personal identifiers were asked nor recorded within the survey, in order to maintain participant anonymity. People may be more willing and open to respond honestly and candidly if they can complete the survey in absolute anonymity (Alreck & Settle, 1995). Completion of the survey was confirmation of the faculty member's willingness or consent to participate.

To address the potential weakness of a low response rate for the Web-based survey, a three-step follow-up sequence was followed to obtain a higher response rate (Dillman, 2000; Sills & Song, 2002). About two weeks after the prenotice flyer, a hyperlink to the survey Website was emailed to PA faculty members. A follow-up email was sent a week after the original emailing to only those who had not responded on the basis of assigned login codes. A second follow-up email was sent two weeks after the original posting, again to only those who had not responded. Finally, at the end of the third week following the original emailing, any remaining unresponding PA faculty members were given one last chance to respond. This last email notification advised the PA faculty members that the Website would be



closing, as a month of time had passed since the original email. Some PAEA members did not have a listed email address, or their email message came back as *undeliverable* (n = 135). These 135 PAEA faculty members were mailed a letter to participate that was sent at the end of week 1. Only one follow-up letter to participate was sent at the end of week 2 to those who had not responded. This follow-up letter also included information on the closing date for the Website. After a total of one month had passed since the original email and mail request, the data points collected from the survey tool were analyzed with appropriate statistical measures.

### *Data Analysis*

Data analysis began with the descriptive data from the respondent PA faculty members surveyed. Cronbach's alpha coefficient analysis was conducted prior to the final analysis. The response rates of the survey were calculated on the basis of the number of faculty members who actually responded. Appropriate measures were taken during the data collection process to address the potential for a low response rate, which is a limitation of any survey study. The researcher reported the demographics and key attributes, using a descriptive analysis of all independent and dependent variables in the study. The analysis examined the survey questions that specifically addressed faculty job satisfaction factors. From the survey responses, the researcher identified trends in the categories of interest (work itself, pay, coworker relations, supervisor support, and opportunity for advancement) and whether any relationship existed with overall faculty job satisfaction.

Standard numerical statistics, such as frequencies, means, and standard deviations, were computed to describe the results. Relationships between categorical variables were explored via cross tables for the satisfaction and importance of the five categories of interest.

Differences between five category means were assessed by the Spearman correlation in relation to overall satisfaction. As one of the most powerful nonparametric procedures, the Mann-Whitney *U* test was conducted to compare the means of the five categories of interest (Portney & Watkins, 2000). Multiple regression analysis was also utilized. According to Pedhazur (1997), “to do a regression analysis, a number of statistics have to be calculated” (p. 97). These statistics include sums, means, sums of squares, deviation sums of squares, deviation cross products, and standard deviations for all scores. The benefits of performing multiple regression are as follows:

1. To calculate the constants of the regression equation
2. To know the proportion of variance accounted for
3. To test the results for statistical significance
4. To determine the relative importance of the different *Xs* in explaining *Y*.

(Pedhuzar, p. 99)

By utilizing multiple regression, the researcher’s aim was to determine the magnitude of the importance of the independent variables (work itself, pay, advancement opportunities, relation with coworkers, and supervisor support) and their relationship to the dependent variable (level of job satisfaction). However, multiple regression analysis must meet three underlying assumptions. The first assumption is that the population follows normal distribution, the second assumption is that residuals are independent of each other, and the final assumption is homoscedasticity (equal and constant variance) (Kachigan, 1991). Finally, multiple regression analysis may require a number of manipulations, but it also serves two major purposes, explanation and prediction. The actual survey tool led to the

specific relationships of the variables collected in order to answer the research questions. In all cases, research questions were tested at the 0.05 level of significance.

#### *Delimitations and Limitations of the Study*

The following are the limitations that the researcher believed to be inherent and potential concerns in this study but that were out of the researcher's control:

1. The population of only physician assistant faculty decreases the generalization of findings. This study cannot be generalized to other areas of higher education faculty.
2. An instrument was designed for this study that was standardized through a careful review by a panel of experts.
3. The survey generated only quantitative data for processing.
4. Individuals in the population may have chosen not to respond to the survey at all or may not have responded to all of the questions, which is inherent in self-reported surveys.

The following are the delimitations that the researcher knowingly established and utilized to define the limits in order to narrow the scope of the research:

1. The focus of this study was on only PA faculty.
2. The adaptation of another survey instrument was used.
3. The final analysis included only PA certified faculty.
4. The survey instrument was accepted for use after feedback from a panel of experts for face validity without extensive validity or reliability testing in order not to distract from the original purpose of this study.

### *Summary*

This chapter presented the methodology employed to address the research questions presented in Chapter 1. Included in this chapter were sections that addressed the relevant variables, instrumentation, population and sample, data collection, data analysis, and limitations and delimitations. Chapter 4 presents the results of the study. Finally, Chapter 5 discusses the summary, conclusions, recommendations, and implications of the study.

## Chapter 4: Results

### *Introduction*

The purpose of this study was to examine job satisfaction factors for physician assistant faculty. A survey methodology was utilized in order to gather quantitative data. This study used a Web-based data collection method. The Web-based survey for this study evaluated physician assistant faculty attitudes and perceptions at one point in time, a cross-sectional methodology. Using Web technology and appropriate instrumentation, this study sought to address the following research questions: (a) Are there differences between the JDI factors of work itself, advancement opportunities, salary, supervisor support, and coworker relations in relation to overall physician assistant faculty's job satisfaction? (b) Are there differences between the intrinsic job satisfaction factors (work itself and advancement opportunities) and extrinsic job satisfaction factors (salary, supervisor support, and coworker relations) in relation to overall physician assistant faculty's job satisfaction? (c) What personal and professional characteristics (gender, race/ethnicity, highest degree earned, number of years in PA education, tenure status, current position, academic rank, and faculty salary), intrinsic satisfaction factors (work itself and advancement opportunities), and extrinsic satisfaction factors (salary, supervisor support, and coworker relations) predict overall satisfaction among physician assistant faculty?

Included in this chapter are data analysis procedures: Cronbach's alpha reliability, descriptive statistics about respondent demographics, levels of overall, intrinsic, and extrinsic satisfaction, Mann-Whitney *U* tests, the Spearman correlation, and the results of the multiple regression analysis related to the three research questions.

### *Data Analysis Procedures*

Data were collected over a month-long period utilizing a Web-based survey. The total PA faculty population (N = 1159) were emailed a Web link with login code for accessing and completing the web-based survey. A 3-step follow-up email sequencing was followed to increase response rate. After a total of one month had passed from the original email and mail request, the data points collected from the survey tool were downloaded and imported into SPSS, version 12.0.1. Utilizing SPSS software, data analysis began with the descriptive data from the respondent PA faculty members surveyed. A report for the Cronbach's alpha coefficient was conducted in order to examine whether any questions needed to be removed prior to the final analysis. Demographics and key attributes were also analyzed in the study. Standard numerical statistics, such as frequencies, means, and standard deviations, were computed to describe the results. Relationships between categorical variables were explored via cross tables for the satisfaction and importance of the five categories of interest. Differences between means were assessed using Mann-Whitney *U* tests. Multiple regression analysis was also utilized. In utilizing multiple regression, the researcher aimed to determine the magnitude for the importance of the independent variables (work itself, pay, advancement opportunities, relation with coworkers, and supervisor support) and their relationship to the dependent variable (level of job satisfaction).

### *Cronbach's Alpha Reliability*

Cronbach's alpha coefficient was performed in order to determine whether any questions needed to be removed prior to the final analysis. Cronbach's alpha coefficient ( $\alpha = \frac{N-r}{1+(N-1)r}$ ) is where *N* is the number of items and *r* is the average interitem correlation among the items (Nichols, 1999). The more homogeneous the items in the scale

are, the higher the Cronbach's alpha will be. Gross-Portney and Watkins (2000) stated, "A good scale is one that assesses the different aspects of the same attribute; that is, the items are homogenous" (p. 575). Therefore, according to Gross-Portney and Watkins, "a value that approaches 0.90 is high, and the scale can be considered reliable" (p. 577). If questions are to be identified as unreliable, the Cronbach's alpha requires a large sample or population size for measuring each item, which is why for this study the Cronbach's alpha was determined after all the data was collected. As Devellis (1991) explained, "A scale's alpha is influenced by two characteristics: the extent of covariation [homogeneity] among the items and the number of items in the scale" (p. 86). Once unreliable questions were identified, they were not included in the final data analysis for statistical significance. In the case of a proportion of variance, the definition of a reliability coefficient, like Cronbach's, is that the sacrifice of some items will be offset statistically by the increased homogeneity of the items remaining (Nichols). The goal is to end up with the most parsimonious scale without appreciable loss of Cronbach's alpha (Rogness, personal communication, 2005).

Cronbach's alpha reliability for this study was performed on each of the subsection groupings of questions (work itself, advancement opportunities, salary, supervisory support, coworker relations, and overall satisfaction). The initial results including all questions in each group revealed two groups (work itself and overall satisfaction) with one question outlier from the remaining questions. The work itself grouping had an alpha of 0.779 prior to any question deletion, then after the deletion of one question the alpha was 0.835 (see Table 1). For overall satisfaction, the alpha was 0.638 prior to any deletion, then 0.868 after deleting one question. The other groupings had strong reliability without any questions removed (see Table 1).

Table 1

*Cronbach's Alpha Coefficients by Grouping Before and After Removing Questions*

Grouping	Alpha score before	Alpha score after
Work itself	0.779	0.835
Advancement opportunities	0.900	—
Salary	0.914	—
Supervisory support	0.964	—
Coworker relations	0.862	—
Overall satisfaction	0.638	0.868

The one question in work itself that weakened the reliability was one regarding personal office facilities for PA faculty. This deletion did not create a significant change, but the researcher believed the deletion of this question offered more uniformity in reliability for the final analysis. The one question in overall satisfaction that was removed was the item specifically asking the participant to consider *all aspects of your job*. This specific question addresses a much broader construct. The remaining questions in this *overall satisfaction* section were about some facets of the PA faculty job. Therefore, during the final analysis, the researcher removed the remaining questions from the *overall satisfaction* section except for the following question: *Considering all aspects of your job as a PA educator, please indicate your overall level of job satisfaction or dissatisfaction.*



### *Respondent Demographics*

Of the total population of 1159 PAEA faculty members who were surveyed, a sample of 523 responded to the survey. Five faculty members responded to only one or two questions in their survey. This survey also was intended only to be sent to the PAEA's database for faculty members, but some staff responded to our initial email, stating they were not faculty. These 17 individuals were advised not to participate in the survey. After removing the five incomplete surveys from the responses ( $n = 518$ ) and the 17 staff members from the total population ( $N = 1142$ ), the calculated response rate was 45.36%. Regarding response rates, a percentage range of 30% to 60% for response rates is acceptable by most researchers for analysis purposes because researchers realize it can be difficult to ascertain high response rates and keep intrusions to a minimum (Dillman, 2000; Malaney, 2002; Rogness, personal communication, 2005). Additionally, in order to adequately evaluate the statistics to the JDI satisfaction factors, the SPSS software programming will only compute averages and correlations for each subscale and each question when the participant completes that entire subscale or each question. Therefore, the population number for each correlation pairing presented in the analysis may be different.

Analyzing the response pattern with the follow-up email sequencing, Figure 1 shows 401 faculty members out of 523 responded the first day (D1) or two after the email for all four emails. The number of PA faculty members responding within the first two days of an email calculates to over 77% of the faculty responding. This response pattern is comparable to similar types of studies using Web-based surveys with follow-up emails (Cook, Heath, & Thompson, 2000; Crawford, Couper, & Lamias, 2001; Dillman, 2000; Rogness, personal communication, 2005; Sills & Song, 2002).

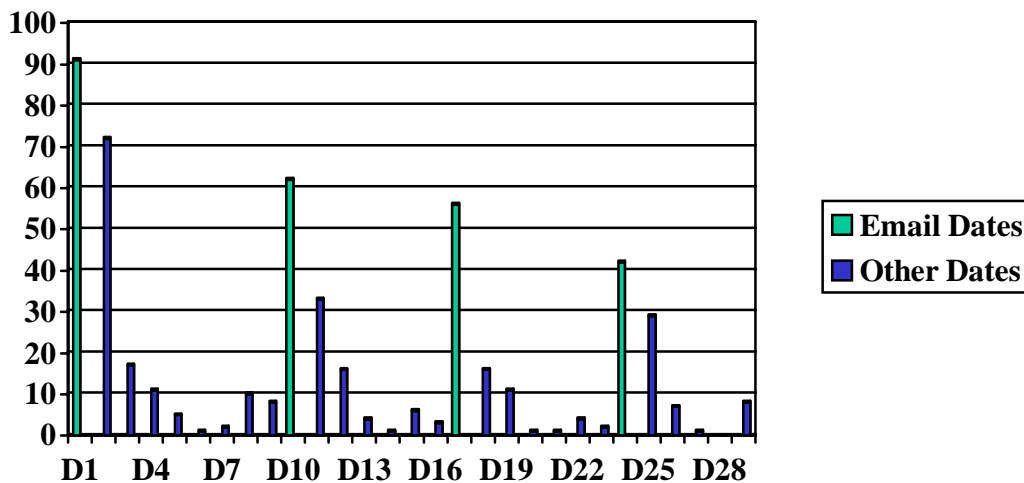


Figure 1. Number of PA faculty responses in relation to days after emailing.

Tables 2 through 6 represent the total population of 518 who responded to the survey, which includes physicians, PAs, registered nurses, nurse practitioners, social workers, and others. In order to answer the research questions, Tables 7 and 8 represent the demographics for PAs only. Table 2 describes personal demographics for the entire physician assistant faculty. Of those who responded to the survey, 52.2% were female (47.8% male), 86.5% were Caucasian (13.5% other), 93% were upper middle or middle class (4.9% upper & 2.2% lower middle), and 94.7% were native to the United States (5.3% United States naturalized), with an average age of 48.4 years.

Table 2

*Personal Demographics*

<u>Variable</u>	<u>Frequency</u>	<u>Percent</u>
<u>Gender</u>		
Female	269	52.2%
Male	246	47.8%
<u>Race/Ethnicity</u>		
American Indian or Alaskan Native	7	1.4%
Asian or Pacific Islander	12	2.3%
African American or Black	28	5.5%
Hispanic	20	3.9%
Caucasian or White	444	86.5%
Other	2	0.4%
<u>Socioeconomic classification</u>		
Upper class	25	4.9%
Upper middle class	266	52.1%
Middle class	209	40.9%
Lower middle class	11	2.2%
Lower class	0	0%
<u>Citizenship status</u>		
United States native	487	94.7%
United States naturalized	27	5.3%
<u>Average age in years</u>	48.4	

*Note: n = 518*

Table 3 depicts the highest degree earned and the professional degree for the PA faculty members. Of those who responded, 63.9% held a master's degree (26.5% held doctorate degrees, and 9.6% held other degrees), and 81.9% held a PA professional degree (9.0% MD or DO, 7.7% Nursing, and 12% another profession).

Table 3

*Highest Degree and Professional Degree*

<u>Variable</u>	<u>Frequency</u>	<u>Percent</u>
<u>Highest degree earned</u>		
Doctorate	136	26.5%
Master's	328	63.9%
Bachelor's	43	8.4%
Associate's	1	0.2%
Certificate	1	0.2%
Other	4	0.8%
<u>Professional degree (allowed to choose more than one)</u>		
Physician Assistant	424	81.9%
Doctor of Allopathic Medicine	39	7.5%
Doctor of Osteopathic Medicine	8	1.5%
Doctor of Philosophy	44	8.5%
Doctor of Education	9	1.7%
Registered Nurse	30	5.8%
Nurse Practitioner	10	1.9%
Social Worker	1	0.2%
Other	61	11.8%

*Note: n = 518*

Table 4 highlights the current ranks and positions that PA faculty members have at their institutions. Of those who responded to the survey, 49.6% were not eligible for tenure (20.6% tenure track, 19.8% clinical track, and 10.1% tenured), 35% were regular faculty (16.8% program directors, 16.4% clinical coordinators, 13.9% academic coordinators, 12.7% other, and 5.1% medical director), and 45.2% were assistant professors (18.1% associate professors, 16.6% instructors, 7.5% clinical appointment, 6.5% other, and 6.1% professor) with an average of 8.49 years of PA education experience and an average of 15.23 years of clinical experience.

Table 4

*Current Position and Rank*

<u>Variable</u>	<u>Frequency</u>	<u>Percent</u>
<u>Clinical versus tenure track</u>		
Clinical track	98	19.8%
Tenure track	102	20.6%
Tenured	50	10.1%
Not eligible for tenure	246	49.6%
<u>Current position</u>		
Program director	86	16.8%
Academic coordinator	71	13.9%
Clinical coordinator	84	16.4%
Medical director	26	5.1%
Regular faculty	179	35.0%
Other	65	12.7%
<u>Current rank</u>		
Professor	31	6.1%
Associate professor	92	18.1%
Assistant professor	229	45.2%
Instructor	84	16.6%
Clinical appointment	38	7.5%
Other	33	6.5%
<u>Average years in PA education</u>	8.49	
<u>Average years of clinical experience</u>	15.23	

*Note: n = 518*

Table 5 illustrates the locations and affiliations of PA programs. Of those who responded, 42.5% were affiliated with Allied Health programs (22.4% Clinical Science and 35% other affiliations), whereas 65.4% were located in a university or college (27.6% osteopathic or allopathic and 7% other).

Table 5

*Physician Assistant Program Affiliation and Location*

<u>Variable</u>	<u>Frequency</u>	<u>Percent</u>
<u>Departmental affiliation</u>		
Basic science	27	5.4%
Behavioral science	6	1.2%
Clinical science	111	22.4%
Administration	61	12.3%
Allied health	211	42.5%
Research	7	1.4%
Other	73	14.7%
<u>PA program location</u>		
Osteopathic or allopathic	143	27.6%
College or university	339	65.4%
Federal medical education	16	3.1%
Missing	20	3.9%

*Note: n = 518*

Finally, Table 6 describes the position and salary requirements for a PA faculty member's job. Of those who responded to the survey, 87.9% were full time, 97.4% identified between 4 and 5 days as full time at their institution, and 50.6% earned between \$61,000 and \$80,000 annually (38.8% more than \$81,000 and 10.7% less than \$60,000).

Table 6

*Position and Salary*

<u>Variable</u>	<u>Frequency</u>	<u>Percent</u>
<u>Institution full time position</u>		
Yes	452	87.9%
No	62	12.1%
<u>Days per week recognized as full time</u>		
1 day	2	0.4%
2 days	1	0.2%
3 days	9	1.9%
4 days	132	27.7%
5 days	332	69.7%
<u>Annual salary (\$)</u>		
<40,000	11	2.2%
41,000-50,000	5	1.0%
51,000-60,000	37	7.5%
61,000-70,000	125	25.3%
71,000-80,000	125	25.3%
81,000-90,000	75	15.2%
>91,000	117	23.6%

As Tables 2 through 6 present, the majority of the faculty members who responded to the survey were native United States citizens, Caucasian, female, full time (5 days per week) as an assistant professor, and had master’s training as a physician assistant. They also worked as regular faculty in an allied health department at a college or university and were not eligible for tenure and from the upper middle class; the majority of respondents had an annual salary between \$61,000 and \$80,000.

Tables 7 and 8 represent the demographics for the study population, PAs only. These tables include only the personal and professional demographics that will be analyzed to

answer the research questions (gender, race/ethnicity, highest degree earned, number of years in PA education, tenure status, current position, academic rank, and faculty salary). Table 7 depicts the personal characteristics being evaluated for PAs only. The gender distribution was 53.7% female and 46.3% were male. Racial/ethnic identification was 86.4% Caucasian (or White) with 13.6% were non-White. The highest degree earned by the PAs was 74.5% with a master's degree, 14.9% with a doctorate degree, and 10.6% with a bachelor's degree or other. PAs had an average of 8.71 years in PA education.

Table 7

*Physician Assistant Personal Demographics*

<u>Variable</u>	<u>Frequency</u>	<u>Percent</u>
<u>Gender</u>		
Female	227	53.7%
Male	196	46.3%
<u>Race/Ethnicity</u>		
American Indian or Alaskan Native	6	1.4%
Asian or Pacific Islander	10	2.4%
African American or Black	23	5.5%
Hispanic	17	4.1%
Caucasian or White	362	86.4%
Other	1	0.2%
<u>Highest degree earned</u>		
Doctorate	63	14.9%
Master	315	74.5%
Bachelor	40	9.5%
Associate	1	0.2%
Certificate	1	0.2%
Other	3	0.7%
Average number of years in PA education	8.71	

*Note: n = 424*



Table 8 highlights some of the professional demographics concerning PAs only. The majority of PA faculty members were described as follows: were not eligible for tenure (49.5%), were regular faculty (34.2%), held the assistant professor rank (46.5%), and had an average annual salary between \$61,000 and \$80,000 (54.7%).

Table 8

*Physician Assistant Professional Demographics*

<u>Variable</u>	<u>Frequency</u>	<u>Percent</u>
<u>Clinical versus tenure track</u>		
Clinical track	83	20.3%
Tenure track	86	21.1%
Tenured	37	9.1%
Not eligible for tenure	202	49.5%
<u>Current position</u>		
Program director	76	18.2%
Academic coordinator	66	15.8%
Clinical coordinator	81	19.4%
Medical director	1	0.2%
Regular faculty	143	34.2%
Other	51	12.2%
<u>Current rank</u>		
Professor	17	4.1%
Associate professor	75	18.1%
Assistant professor	193	46.5%
Instructor	75	18.1%
Clinical appointment	29	7.0%
Other	25	6.0%
<u>Annual salary (\$)</u>		
<40,000	4	1.0%
41,000-50,000	3	0.7%
51,000-60,000	28	6.9%
61,000-70,000	110	27.0%
71,000-80,000	113	27.7%
81,000-90,000	62	15.2%
>91,000	88	21.6%

*Note: n = 424*

### *Research Question Results*

The next part of chapter 4 will address the results of the three research questions. The research questions that this study sought to address were the following: (a) Are there differences between the JDI factors of work itself, advancement opportunities, salary, supervisor support, and coworker relations in relation to overall physician assistant faculty's job satisfaction? (b) Are there differences between the intrinsic job satisfaction factors (work itself and advancement opportunities) and extrinsic job satisfaction factors (salary, supervisor support, and coworker relations) in relation to overall physician assistant faculty's job satisfaction? (c) What personal and professional characteristics (gender, race/ethnicity, highest degree earned, number of years in PA education, tenure status, current position, academic rank, and faculty salary), intrinsic satisfaction factors (work itself and advancement opportunities), and extrinsic satisfaction factors (salary, supervisor support, and coworker relations) predict overall satisfaction among physician assistant faculty? The Spearman correlation was calculated for questions one and two, but a stepwise multiple regression analysis was conducted on question three.

#### *Question One*

Research question one asked whether there were any differences between the JDI factors of work itself, advancement opportunities, salary, supervisor support, and coworker relations in relation to overall physician assistant faculty job satisfaction. The Web-based survey used a Likert scale for addressing these JDI job satisfaction factors (*5 = Very Satisfied, 4 = Satisfied, 3 = Neutral, 2 = Dissatisfied, 1 = Very Dissatisfied*). Table 9 provides a summary of the means and standard deviations for the scores within each of the five factors. Overall, respondents were most satisfied with coworker relations ( $M = 4.03$ ,  $SD$

= 0.63) and least satisfied with salary ( $M = 2.61$ ,  $SD = 0.81$ ). Overall, PA faculty were satisfied (e.g., *Considering all aspects of your job question*) ( $M = 4.15$ ,  $SD = 0.78$ ).

Table 9

*Means and Standard Deviations of Respondents' Level of Satisfaction for each JDI Factor and Overall*

Variable	Mean	SD
Work itself	3.92	0.54
Advancement opportunities	3.46	0.78
Pay/Salary	2.61	0.81
Supervisory support	3.53	1.00
Coworker relations	4.03	0.63
Overall satisfaction	4.15	0.78

*Note: Scale: 5 = very satisfied; 1 = very dissatisfied*

Mann-Whitney  $U$  tests were computed to compare the average scores of the five JDI job satisfaction scales. A  $p$  value of less than 0.05 was required for significance. The results of the  $U$  test analyses are presented in Table 10. The average score for each JDI factor is statistically and significantly different than the score of the other JDI factors.

Table 10

*Mann-Whitney U tests, p values, and Mean Ranks for each JDI Job Satisfaction Factor in Relation to the other JDI Job Satisfaction Factors*

Variables	Mann-Whitney U test ( <i>p</i> value) [Mean rank*]				
	WI	AO	S	SS	CR
Work itself (WI)		51931.500 (0.000) [477, 333]	15217.000 (0.000) [562, 241]	62768.000 (0.000) [442, 358]	70622.000 (0.000) [377, 423]
Advancement opport. (AO)			38192.000 (0.000) [522, 298]	77495.000 (0.041) [395, 429]	48955.000 (0.000) [326, 501]
Salary (S)				39136.500 (0.000) [300, 513]	15101.000 (0.000) [241, 575]
Supervisor support (SS)					59761.500 (0.000) [351, 467]
Coworker relations (CR)					

*Note: \*Mean Ranks are listed as column first, row second*

Correlation coefficients were computed among the five JDI job satisfaction scales. A *p* value of less than 0.05 was required for significance. The results of the correlational analyses presented in Table 11 show that all five correlations were statistically significant. Each factor is able to explain some portion of the overall satisfaction. The Spearman correlations for each factor were 0.601 (work itself), 0.572 (advancement opportunities), 0.386 (salary), 0.409 (supervisor support), and 0.578 (coworker relations). Because of the sample size of the population who responded to the survey, each factor had a statistical significance of less than 0.000.

Table 11

*Spearman Correlations and p values for Each JDI Job Satisfaction in Relation to Overall Satisfaction*

Variables	Spearman correlation ( $r_s$ )	$p$ value
Work Itself	0.601	0.000
Advancement Opportunities	0.572	0.000
Salary	0.386	0.000
Supervisor Support	0.409	0.000
Coworker Relations	0.578	0.000

In general, the results suggest that if PA faculty members are satisfied with a JDI satisfaction factor, they tend to be satisfied overall. In evaluation of the JDI job satisfaction factors (work itself, advancement opportunities, salary, coworker relations, and supervisory support) with overall satisfaction, each factor had a significant positive relationship with overall job satisfaction.

*Question Two*

Research question two asked whether there were any differences between the intrinsic job satisfaction factors (work itself and advancement opportunities) and extrinsic job satisfaction factors (salary, supervisor support, and coworker relations) in relation to overall physician assistant faculty’s job satisfaction. Again, the Web-based survey used a Likert scale for addressing the intrinsic and extrinsic satisfaction categories (5 = *Very Satisfied*, 4 = *Satisfied*, 3 = *Neutral*, 2 = *Dissatisfied*, 1 = *Very Dissatisfied*). Table 12 provides a summary of the means and standard deviations for the average scores for the intrinsic and extrinsic categories. Overall, respondents were more satisfied with the intrinsic category ( $M = 3.71$ ,

$SD = 0.58$ ) than the extrinsic category ( $M = 3.55, SD = 0.68$ ). Overall satisfaction was again satisfied ( $M = 4.15, SD = 0.78$ ).

Table 12

*Means and Standard Deviations of Respondents' Level of Satisfaction for the Intrinsic versus the Extrinsic Categories and Overall*

Variable	Mean	SD
Intrinsic category	3.71	0.58
Work itself		
Advancement opportunities		
Extrinsic category	3.55	0.68
Salary		
Supervisory support		
Coworker relations		
Overall satisfaction	4.15	0.78

*Note: Scale: 5 = very satisfied; 1 = very dissatisfied*

Mann-Whitney  $U$ -tests were computed to compare the average scores of the two JDI job satisfaction scales (intrinsic and extrinsic). A  $p$ -value of less than 0.05 was required for significance. The results of the  $U$ -test analyses are presented in Table 13. The average score for each JDI category is statistically and significantly different than the score of the other JDI category.

Table 13

*Mann-Whitney U tests, p values, and Mean Ranks for each JDI Job Satisfaction Category in Relation to the other JDI Job Satisfaction Category*

Mann-Whitney U test (p value) [Mean rank*]		
Variables	Intrinsic Category	Extrinsic Category
Intrinsic Category		63441.500
Work Itself		(0.001)
Advancement Opportunities		[409, 358]
Extrinsic Category	63441.500	
Salary	(0.001)	
Supervisor Support	[358, 409]	
Coworker Relations		
*Mean Ranks are listed as column first, row second		

*Note: \*Mean ranks are listed as column first, row second*

Correlation coefficients were computed among the two categories of job satisfaction scales (intrinsic & extrinsic). A *p* value of less than 0.05 was required for significance. The results of the correlational analyses presented in Table 14 show that the two correlations were statistically significant. The Spearman correlations for each category were 0.664 (intrinsic) and 0.566 (extrinsic). Each category had a statistical significance of less than 0.000.

Table 14

*Spearman Correlations and p values for the Intrinsic and Extrinsic Categories in Relation to Overall Satisfaction*

<u>Variables</u>	<u>Spearman correlation (<math>r_s</math>)</u>	<u>p value</u>
Intrinsic category	0.664	0.000
Work itself		
Advancement opportunities		
Extrinsic category	0.566	0.000
Salary		
Supervisor support		
Coworker relations		

In general, the results suggest that if PA faculty members are satisfied with intrinsic or extrinsic, they tend to be satisfied overall. In evaluation of the relationship of intrinsic and extrinsic categories to overall satisfaction, each category had a significant positive relationship with overall job satisfaction.

*Question Three*

Research question three attempted to determine what personal and professional characteristics (gender, race/ethnicity, highest degree earned, number of years in PA education, tenure status, current position, academic rank, and faculty salary), intrinsic satisfaction factors (work itself and advancement opportunities), and extrinsic satisfaction factors (salary, supervisor support, and coworker relations) predict overall satisfaction among physician assistant faculty.

A multiple regression analysis was conducted to evaluate how well the characteristics and factors measured predicted overall satisfaction. The predictors were the eight characteristics and the five JDI job satisfaction factors, and the criterion variable was the



overall job satisfaction. The linear combination of the final characteristics and factors was significantly related to overall job satisfaction,  $F(5, 422) = 81.29, p = 0.000$ . The sample multiple correlation coefficient was 0.70, indicating that approximately 49% of the variance of the overall job satisfaction in the sample could be accounted for by the linear combination of these characteristics and JDI satisfaction factors.

$$\begin{aligned} \text{Overall Satisfaction} = & .074 (\text{Yrs. in PA Ed.}) + 0.333 (\text{Total of Work Itself}) \\ & + 0.193 (\text{Total of Advancement Opportunities}) \\ & + 0.101 (\text{Total of Supervisor Support}) \\ & + 0.212 (\text{Total of Coworker Relations}) + 0.334 \end{aligned}$$

In Table 15, the relative strength of the individual predictors is listed. These five bivariate correlations between the one personal characteristic and four factors with the overall satisfaction were positive, as expected, and all were statistically significant ( $p < 0.05$ ). On the basis of these correlational analyses, it is tempting to summarize that these five attributes (one personal characteristic and four job factors) were statistically significant in having a strong influence on the overall satisfaction. The multiple linear regression utilized a stepwise regression model. This analysis continued until the five areas in Table 13 were significant ( $p < 0.05$ ). These five areas included number of years in PA education ( $p = 0.035$ ), work itself ( $p = 0.000$ ), advancement opportunities ( $p = 0.001$ ), supervisor support ( $p = 0.032$ ), and coworker relations ( $p = 0.000$ ). The areas that were not statistically significant included gender, race/ethnicity, highest degree earned, tenure status, current position, academic rank, and faculty salary (an extrinsic satisfaction factor).

Table 15

*Standardized Beta Coefficients Standardized and Significance After Multiple Linear Regression Analysis of Personal, Professional, and Job Satisfaction Factors*

Variable	Beta coefficient (Standardized)	Significance
Number of years in PA education	0.074	0.035
Total of work itself	0.333	0.000
Total of advance opportunities	0.193	0.001
Total of supervisor support	0.101	0.032
Total of coworker relations	0.212	0.000

In summary, this multiple linear regression model has an R-squared of 0.491, which interprets as 49.1% of the variability in overall satisfaction being predicted by these five criteria.

*Summary*

In summary, this chapter presents the results of the analysis to answer the three research questions. The first research question asked if there were any differences between the JDI factors of work itself, advancement opportunities, salary, supervisor support, and coworker relations in relation to overall physician assistant faculty's job satisfaction. After the Spearman correlation ( $r_s$ ) was performed, the JDI factors from greatest linear relationship to the least linear relationship were as follows: work itself ( $r_s = 0.601$ ), coworker relations ( $r_s = 0.578$ ), advancement opportunities ( $r_s = 0.572$ ), supervisor support ( $r_s = 0.409$ ), and salary ( $r_s = 0.386$ ).

The second research question asked if there were any differences between the intrinsic job satisfaction factors (work itself and advancement opportunities) and extrinsic job satisfaction factors (salary, supervisor support, and coworker relations) in relation to overall physician assistant faculty's job satisfaction. Overall, respondents were more satisfied with the intrinsic category ( $M = 3.71$ ,  $SD = 0.58$ ) than the extrinsic category ( $M = 3.55$ ,  $SD = 0.68$ ). The Spearman correlation for each category was intrinsic ( $r_s = 0.664$ ) and extrinsic ( $r_s = 0.566$ ).

The third and final research question asked what personal and professional characteristics (gender, race/ethnicity, highest degree earned, number of years in PA education, tenure status, current position, academic rank, and faculty salary), intrinsic satisfaction factors (work itself and advancement opportunities), and extrinsic satisfaction factors (salary, supervisor support, and coworker relations) predict overall satisfaction among physician assistant faculty. Only five areas were identified as statistically significant for predicting overall satisfaction for PA faculty. These five areas included number of years in PA education ( $p = 0.035$ ), total of work itself ( $p = 0.000$ ), total of advancement opportunities ( $p = 0.001$ ), total of supervisor support ( $p = 0.032$ ), and total of coworker relations ( $p = 0.000$ ).

The next chapter will present a discussion of the findings of this study. Along with an explanation of the findings, the theoretical and policy implications will also be included. Finally, study limitations and suggestions for future research will be highlighted.

## Chapter V: Discussion

### *Introduction*

This study examined three research questions: (a) Are there differences between the JDI job satisfaction factors of work itself, advancement opportunities, salary, supervisor support, and coworker relations in relation to overall physician assistant faculty's job satisfaction? (b) Are there differences between the intrinsic job satisfaction factors (work itself and advancement opportunities) and extrinsic job satisfaction factors (salary, supervisor support, and coworker relations) in relation to overall physician assistant faculty's job satisfaction? (c) What personal and professional characteristics (gender, race/ethnicity, highest degree earned, number of years in PA education, tenure status, current position, academic rank, and faculty salary), intrinsic satisfaction factors (work itself and advancement opportunities), and extrinsic satisfaction factors (salary, supervisor support, and coworker relations) predict overall satisfaction among physician assistant faculty? The first two questions were examined by simple statistical significance testing (the Spearman correlation), and the last question applied multiple regression. Any differences were investigated at an appropriate significance level ( $p \leq 0.05$ ). This chapter presents the major findings of the study in the context of the current literature, the policy implications of the study findings, and the study limitations and concludes with suggested topics for future research.

### *Major Findings*

Physician assistant faculty members were found to be more overall satisfied than dissatisfied with their jobs in physician assistant education when the means ( $M = 4.15$ ,  $SD =$

0.78) were examined. Of the JDI job satisfaction factors, PA faculty reported the greatest satisfaction in coworker relations ( $M = 4.03$ ,  $SD = 0.63$ ), followed by the work itself ( $M = 3.92$ ,  $SD = 0.54$ ). Physician assistant faculty members were least satisfied with salary ( $M = 2.61$ ,  $SD = 0.81$ ) and advancement opportunities ( $M = 3.46$ ,  $SD = 0.78$ ). Overall within the categories of intrinsic (work itself and advancement opportunities) and extrinsic (salary, supervisor support, and coworker relations), PA faculty were slightly more satisfied with the intrinsic category ( $M = 3.71$ ,  $SD = 0.58$ ) than the extrinsic category ( $M = 3.55$ ,  $SD = 0.68$ ). When the means were examined, there was a statistically significant difference found between the intrinsic and extrinsic categories.

*Research question one: Correlation to determine PA faculty job satisfaction factors as related to overall job satisfaction.* The correlation coefficients among the five factors (work itself, coworker relations, advancement opportunities, supervisory support, and salary) and overall satisfaction for PA faculty indicated positive relationships. According to Safrit and Wood (1995), there are clear guidelines for how correlations should be interpreted (0.80 to 1.00 = High, 0.60 to 0.79 = Moderately High, 0.40 to 0.59 = Moderate, 0.20 to 0.39 = Low, and 0.0 to 0.19 = No Relationship). Applying Spearman's correlation, work itself ( $r_s = 0.601$ ) had a moderately high relationship to overall job satisfaction. Coworker relations ( $r_s = 0.578$ ), advancement opportunities ( $r_s = 0.572$ ), and supervisor support ( $r_s = 0.409$ ) had moderate relationships to overall job satisfaction for PA faculty. Salary ( $r_s = 0.384$ ) had a low relationship to overall job satisfaction. All satisfaction scales were significant ( $p = 0.00$ ).

Smith et al. (1969) defined a construct of job satisfaction "as the feelings a worker has about his job" (p. 100). A worker's feelings have been described by Smith et al. as job satisfaction factors within the following five categories: work itself, advancement

opportunities, salary, supervisor support, and coworker relations. Similarly, PA faculty members demonstrated a positive relationship between these five factors and overall satisfaction; however, salary had a low relationship to overall satisfaction. Like that of other higher education faculty (Cohoon et al., 2002; Davis, 2001; Dee, 2002; Grace & Khalsa, 2003; Green, 2000; Miller et al., 2001; Nienhuis, 1994; VanderPutten & Wimsatt, 1999) and clinical faculty (Davis, 1991; Koller 1992), PA faculty members' job satisfaction is explained by work itself (workload or fulfillment of employment), coworker relations (cooperative climate or supportive colleagues), advancement opportunities (achievement), support (supervisory or organizational), and salary (income or compensation packages).

In examination of the current literature, work itself, workload, and fulfillment of employment were terms also used to describe the work itself. Davis (1991) listed fulfillment of employment as an important job satisfaction factor, while Miller et al. (2001) listed faculty workload as a perceived challenge to job satisfaction. Physician assistant faculty identified work itself as moderately high in relation to job satisfaction. Research studies (Cohoon et al., 2002; Davis, 2001; Dee, 2002; Grace & Khalsa, 2003; Green, 2000; Miller et al., 2001; Nienhuis, 1994; VanderPutten & Wimsatt, 1999; Davis, 1991; Koller 1992) have indicated that workload and fulfillment of employment are important job satisfaction factors.

In regard to coworker relations, advancement opportunities, and supervisory support, PA faculty identified these factors as having a moderate relationship to overall job satisfaction. According to Davis (2001), faculty's most cited reasons for dissatisfaction were resource issues, such as noncompetitive salaries, lack of research support, lack of supportive colleagues, and employment opportunities for spouses. Support from colleagues, or coworker relations, has been important to PA faculty's job satisfaction. Advancement opportunities

have also been defined in the literature as achievement. Green (2000) found that greater job satisfaction included social service, creativity, and achievement. Achievements and professional growth were also important to PA faculty's job satisfaction. Support can be perceived in two forms, organizational (in this case, university) and supervisory. If support from the university was low, then faculty members' dissatisfaction was high (Dee, 2002). Miller et al. (2001) found that the top three methods used by department chairs with job satisfaction were on-campus faculty development, mentoring programs, and workload flexibility. Over 73% of faculty listed appreciation for his/her work, as well as the support from the chair as important factors in overall job satisfaction and the consideration of leaving or staying with the institution (Nienhuis, 1994). Koller (1992) demonstrated that within those evaluation measures, department chairs were a primary source of information and job satisfaction. Support from supervisors (e.g., department chairs or the university), has a moderate relationship to overall job satisfaction for PA faculty.

*Research question two: Correlation to determine intrinsic & extrinsic factors as related to overall job satisfaction.* For PA Faculty, intrinsic factors had a moderately high satisfaction when compared to overall job satisfaction. Extrinsic factors had a moderate relationship when compared to overall job satisfaction. In this study, work itself and advancement opportunities were categorized as intrinsic factors, but coworker relations, supervisor support, and salary were categorized as extrinsic factors. Overman (2001) stated that "according to Herzberg's theory of job satisfaction (1966), intrinsic factors were major sources of job satisfaction, while extrinsic factors contributed primarily to job dissatisfaction" (p. 123). In his book *Work and the Nature of Man*, Herzberg proposed hygiene factors (factors extrinsic to the job) and motivational factors (factors intrinsic to the

job) as important factors that affected overall employee motivation and job satisfaction. Herzberg labeled extrinsic factors as dissatisfaction issues surrounding the job and included supervision, company policy and administration, working conditions, interpersonal relations with peers, interpersonal relations with superiors, interpersonal relations with subordinates, status, job security, salary, and personal life. The intrinsic factors were identified as six needs or satisfaction issues. These six needs that motivate people to work are physiology, safety, belongingness, autonomy, self-understanding, and creativity. Herzberg further defined these six needs as achievement, recognition for achievement, the work itself, responsibility, advancement, and possibility for growth. Herzberg's and Maslow's (1954) theories were important in the evaluation of job satisfaction.

For physician assistant faculty, both of Herzberg's (1966) extrinsic and intrinsic categories had a positive relationship to overall job satisfaction. After evaluating 1,200 clinical dental faculty members, Overman (2001) differentiated between intrinsic and extrinsic satisfaction. The greatest satisfaction among dental faculty was in the work itself and with interpersonal relations. The greatest dissatisfaction among dental faculty was with salaries and administrative policies. Overman also found that clinical dental faculty had a lower intent to leave and higher job satisfaction from an organization when provided with opportunities for research, opportunities to advance, and an ideal geographic location.

*Research question three: Multiple regression to predict the relationship of personal and professional characteristics along with JDI satisfaction factors to the criterion of overall job satisfaction.* The regression model with all the defined predictors accounted for 49% of the variance of the overall job satisfaction. The job satisfaction of PA faculty was found to be the total of work itself, total of coworker relations, total of advancement opportunities, total



in supervisory support, and number of years in PA education. The total scores were used because each JDI factor had a different number of questions/items. The total of work itself had the highest predictive value. The work itself scale items/questions included the course preparations required, committee responsibilities, challenges of teaching, and work schedule. The variables that were not statistically significant were gender, race/ethnicity, highest degree earned, tenure status, current position, academic rank, and faculty salary (an extrinsic factor).

Multiple regression analysis must meet three underlying assumptions: normal distribution, residual independence, and homoscedasticity (Kachigan, 1991) The first assumption is that the population follows normal distribution. The standardized residual for this study represented a normal distribution (see Appendix H). The second assumption is that residuals are independent of each other. Each person's difference between the actual and the predicted is independent. The final assumption is homoscedasticity (equal and constant variance). The scatter plot for this study demonstrated increasing or more dispersed residuals (see Appendix H). However, because of the ordinal data points and because so few PA faculty selected a *1 = very dissatisfied* or a *2 = dissatisfied*, there is a slight tendency in the scatter plot formula to overpredict low scores and underpredict high scores.

Other personal and professional demographics, which were collected but not analyzed, included departmental affiliation, age, U.S. citizenship, attendance at public versus private PA school, and other types of health professionals who teach in PA programs. These demographic variables were not included in the multiple regression because there was no relation between these characteristics and job satisfaction in the research literature.

Work itself, coworker relations, advancement opportunities, and supervisory support had positive relationships to overall job satisfaction. Therefore, it would be reasonable to expect that these factors may serve as predictors of overall job satisfaction for PA faculty members. The vast majority of PA faculty satisfaction depended on satisfaction with these variables, but one demographic variable, number of years in PA education, was also found to predict overall satisfaction. Number of years in PA education was a positive and significant predictor of overall job satisfaction. Overman (2001) found a similar result with clinical dental faculty; she stated, “Whatever the reason, clinical faculty with more years of experience were more satisfied with their jobs as faculty” (p. 125).

Two professional demographics that did not indicate a significant role in predicting job satisfaction for PA faculty were academic rank and tenure status. Overman (2001) found among clinical dental faculty that the ranks of assistant professor and clinical faculty were significantly predictive for overall job satisfaction. The lack of significance for rank and tenure for PA faculty is important because tenure issues have been expressed by other higher educational leaders. According to Overman (2001), “Tenure track positions have been the dominant mode of faculty appointment in higher education” (p. 33). Scholars who have studied higher education faculty’s attitudes have seen a decrease in job security and satisfaction in persons in nontenure track positions (Bowen & Schuster, 1986; Finkelstein et al., 1998; Luu, 1985). According to Anderson (1998), over 50% of faculty members in higher education hold tenure. In the examination of the future needs of PA faculty, tenure status is an important issue to be evaluated. Overman also stated, “Non-tenure tracks could impair the ability of schools to meet research goals” (p. 36). Harris (1980) analyzed the tenure process (i.e., work itself), and she found that only 10% of M.D. faculty strongly agreed that tenure

was an aid in retaining high-quality faculty. Overman found that tenure status was not a significant factor in leaving dental education, but it was “a significant factor for clinical dental faculty intentions to move to another academic position” (p. 137). Compared to other faculty in higher education, only 4.3% of PA faculty members in the academic year 2004-2005 held tenure (Simon, 2005). Currently, 26.7% of PA faculty members are in tenure-track positions (Simon, 2005), compared to 21.1% in tenure track and 9.1% tenured for those who responded in this study. In this study, tenure status and rank for PA faculty were not predictors for overall job satisfaction. This may be due to the fact that only a few PA faculty members are in tenure track positions; however, movement by faculty from PA program to PA program may need to be carefully monitored.

In summary, PA faculty members are satisfied with their overall academic positions. The work itself is a source of satisfaction for PA faculty. This finding holds true regardless of gender, race/ethnicity, highest degree earned, tenure status, current position, academic rank, and faculty salary (extrinsic factor). Overall, job satisfaction is predicted by the total of work itself, total of coworker relations, total of advancement opportunities, total of supervisory support, and number of years in PA education.

### *Implications of the Findings*

In general, this study identified several implications regarding the methodology and the results. Each of these implications will be explained further in the following section in order to assist PA educational administrators. First, Web-based surveys are a relatively new methodology, and this study utilized this technique for collecting the data. Second, physician assistant faculty members are satisfied with four of the five JDI satisfaction factors. Third, years of PA education experience is a significant predictor for overall job satisfaction and

requires administrators to be aware of their respective institutions' faculty needs. Finally, this study did support Herzberg's (1966) theory and Smith et al.'s (1969) theoretical framework.

The researcher utilized a Web-based survey for collecting the data, a research procedure which has become increasingly popular (Dillman, 2000). In comparison to paper surveys, Web-based surveys have response rates similar to those of paper surveys, and in some studies, even higher response rates (Cook et al., 2000). Web-based survey experts have identified several advantages for a Web-based survey over other methods (Blessings, 2005; Upcraft & Wortman, 2000). By following the standards of Web-based survey development, this study obtained a good response rate. The prenotice flyer, as well as the follow-up email reminders, increased response rates and, it is hoped, decreased the number of nonresponses (Cook et al.; Crawford et al., 2001; Dillman; Malaney, 2002; Rogness, personal communication, 2005). This study assumed that this population had good computer accessibility and good computer literacy, but this assumption may have impeded an even higher response rate.

In this study, physician assistant faculty members were satisfied with their academic positions. They were satisfied with four of the five JDI job satisfaction factors (work itself, coworker relations, advancement opportunities, and supervisory support). With coworker relations, PA faculty members indicated that they were satisfied with the friendliness and cooperation on the job. They were also satisfied with the growth and recognition as part of the advancement opportunities.

This study also found years of PA education experience as a significant predictor of overall job satisfaction. Along with the total of work itself, total of coworker relations, total of advancement opportunities, and the total in supervisory support, years of PA education

experience, together with these totals, accounted for 49% of the variance to overall job satisfaction. The other 51% of the variance could include many of the satisfaction variables (e.g., job fulfillment, expectancies, values, needs, job and individual interactions, and organizational commitment) not explored in this research study from other theoretical frameworks (i.e., content theorists, process theorists, situational theorists, and different measurement-evaluation theorists).

Years of PA education experience is important for many program directors to consider in relation to job satisfaction for a couple of reasons. First, most PA faculty members are experienced clinical practitioners without any previous academic teaching experience (Min, 2003). Many PA faculty job postings require an average of 3 – 5 years of clinical experience (PAEA, 2006a). Even though previous academic experience is preferred by most PA programs, it is not required. The Physician Assistant Education Association (PAEA) has identified that one aspect of PA turnover is the result of difficulties and/or lack of satisfaction that PA faculty experience when moving from clinical medicine to academic positions. Therefore, PA faculty members who have recently transferred from clinical medicine and have fewer years of PA education experience may be less satisfied. The faculty members with limited educational experiences may need extra supervisory support to assure job satisfaction.

Second, other researchers who have examined years of higher education experience have found a retention relationship of faculty as clinical practitioners move to higher education faculty positions (Overman, 2001; South Texas Community College, 2002; Zhou, 2003). Previous studies on clinical dental faculty suggests that more experienced faculty are more likely to stay versus those with less experience being more likely to move on

(Overman, 2001). Physician assistant faculty with less experience may also be at risk for leaving higher education. However, the PA educator with more years of PA education experience may have a better understanding of the higher education environment, the work itself, the coworker relations, and the role of supervisory support.

In summary, the satisfaction results in this research study for PA faculty did support the theoretical framework of Smith et al. (1969). Four of the five JDI factors had a positive relationship to overall job satisfaction (work itself, coworker relations, advancement opportunities, and supervisory support). The fifth JDI factor, salary, had a low relationship and no predictive value for overall job satisfaction of PA faculty. Given the explanation regarding salary disparities between academic and clinical positions, Smith et al.'s theory confirmed the need to address this concern. However, despite the low relationship of salary to job satisfaction, PA faculty members still demonstrated a positive job satisfaction overall.

Finally, the satisfaction results of this study for PA faculty also supported the work of Herzberg (1966). Herzberg's two-factor theory suggests that overall satisfaction arises from the intrinsic and the extrinsic factors. In this study, both intrinsic (work itself and advancement opportunities) and extrinsic factors (salary, supervisory support, and coworker relations) contributed to overall satisfaction equally. As Herzberg's theory highlighted, intrinsic factors relate to job content and when present, produce job satisfaction (Green, 2000). On the other hand, extrinsic factors relate to job context (work environment) and when absent, produce job dissatisfaction (Green). For PA faculty members, both the intrinsic and extrinsic factors were present and produced satisfaction.

### *Recommendations*

Physician assistant educational administrators, specifically program directors, program chairs, and department heads should be aware of some recommendations based on this research study's findings. The results of this research suggest that supervisory support and assessment of faculty needs are important considerations for program directors.

First of all, supervisory support can impact the work itself, can foster positive coworker relations, and can affect advancement opportunities. The PA faculty members are satisfied with the support they receive from their program chairs and the university. Department heads should understand that this supervisory satisfaction could affect the satisfaction in the work itself, coworker relations, and advancement opportunities. If PA faculty members are not satisfied with the supervisory support, then at least three of the JDI factors (work itself, coworker relations, and opportunities for advancement) may be limited and thus lead to faculty dissatisfaction.

Finally, physician assistant program directors need to be aware of the needs of their own faculty members. Program directors should develop a pleasant work environment that begins with an orientation for new faculty. Then an effective mentoring program should be established in order to retain faculty. Strong coworker relations should be promoted inside and outside the work environment to maintain a positive interaction among faculty members. Additionally, there should be opportunities for junior and senior faculty to advance in their academic careers with support from program directors. Finally, program directors need to be creative in addressing any salary disparities between academic positions and clinical positions for their faculty.

### *Limitations*

In examining the results of this study, certain limitations should be considered (Alreck & Settle, 1995; Dillman, 2000; Portney & Watkins, 2000; Upcraft & Wortman, 2000). The limitations included other possible job satisfaction variables, use of a Web-based survey, a dependent variable based on only one question, and any issues related to statistical analysis assumptions. These limitations are explained below.

The first limitation is the failure to include other potentially relevant variables in this study. The survey instrument was adapted from a survey used to assess dental faculty job satisfaction factors. The previous instrument had demonstrated reliability and validity, but it was not specifically developed for use in PA education. It is possible that job satisfaction factors specific to the PA educational environment were omitted from this study. Other factors could have an influence on PA faculty job satisfaction and should be taken into consideration when reviewing this study. These omissions also provide opportunity for further research.

The second limitation was the use of a Web-based survey. Survey research has inherent limitations, and, therefore, so does a Web-based survey. A couple of disadvantages to Web-based surveys are the potential lack of computer access and computer literacy of the population being studied. Another disadvantage is the potential inaccuracy with self-reporting surveys. To assist with this limitation, Dillman (2000) stressed the importance of consistency, readability, giving appropriate instructions, and conducive formatting in Web-based surveys. Upcraft and Wortman (2000) identified another potential disadvantage. It is the potential lack of appropriate computer software and equipment among the survey



population. However, Dillman noted that certain populations, such as university professors, have increased Web access and computer training.

The third limitation is a concern because only one question was used as the dependent variable that is, *Considering all aspects of your job as a PA educator, please indicate your overall level of job satisfaction*. Unfortunately, six other questions were in the overall satisfaction category (see Appendix E), but Cronbach's alpha coefficient revealed a lack of homogeneity in the scale. Upon further investigation, the researcher identified that each of the other six questions highlighted some specific aspect about a PA faculty member's job. The original intent for this section was to ascertain overall job satisfaction, not specific job attributes. The researcher believed that the one question, *considering all aspects*, more accurately represented the dependent variable for this study. Therefore, reliability of the dependent variable may be low.

The final limitation is related to statistical analysis. According to Alreck and Settle (1995),

Statistical analysis is the process of computation and manipulation of sample data in order to suppress the detail and make relevant facts and relationships more visible and meaningful, and to generate statistics in order to make inferences about the population as a whole. (p. 456)

In the conduction of statistical analysis, certain assumptions have valid results on only quantitative data. Significant information can be gained from qualitative data as well. This study statistically evaluated only quantitative data and assumed full response to all questions by all participants. However, the statistical analysis did not account for a responder's decision to skip questions.

### *Suggestions for Future Research*

A number of research opportunities still exist in PA education. As William Tozier (1999) stated, “Research by educators contributes to professional knowledge, improves professional learning, and consequentially provides better client service. The unique attributes of PA [education] deserve a broader scholarship effort that includes [faculty] oriented research” (p. 129). Opportunities still exist for research related to PA faculty members. Suggestions for future research include four specific areas.

First, the issues that promote satisfaction are based not only in the discipline of physician assistant, but also as a function of institutional characteristics. In order to comprehend satisfaction issues within specific PA programs, administrators may wish to focus on satisfaction at the institutional level to determine factors unique to their institutions.

Second, qualitative research methods, such as the use of focus groups or individual interviews, could provide valuable feedback and information that could help in identifying satisfaction strategies that work at a local level. Miles and Huberman (1994) stated, “Qualitative research may be conducted in dozens of ways, many with long traditions behind them” (p. 5). Overall, qualitative research is conducted through an intense contact to gain a holistic overview based upon perceptions in order to isolate certain themes and analyze them using words (Miles & Huberman).

Third, individual variables may be a function of the relative importance of satisfiers and dissatisfiers. Either a factor analysis of the independent variables or a stage model could be performed on the data collected from this study to better isolate and ascertain interaction effects of each individual variable.

Fourth, a faculty member's personality type may also be an important factor in overall job satisfaction. For purposes of this study, personality type was not ascertained or examined. According to personality-type theorists (e.g., McClelland, Myer-Briggs, etc.), job satisfaction may be a function of an individual faculty member's personality type.

Fifth, the survey instrument used in this study omitted variables that may be particularly and uniquely relevant for the job satisfaction of physician assistant faculty. Internal studies and additional external studies of faculty attitudes may permit inclusion of important variables not included in this study.

Finally, senior faculty in higher education may have certain issues not germane for faculty new to higher education. This study examined issues for faculty of all ages and at all stages of their careers. It is possible that the issues are different for junior and senior faculty in PA education. Examination and comparison of viewpoints based on faculty status may provide an additional avenue for future research.

### *Conclusions*

The future supply of physician assistants is directly affected by the quality of education physician assistants receive during their academic preparation. Physician assistant faculty members are important to the profession because they prepare PAs for the future. Maintaining satisfied faculty is important for this preparation. With 135 PA programs across the United States and ongoing interest in starting PA programs in other countries, the demand for PA faculty in higher education is increasing (PAEA, 2006b). This study sought to investigate the satisfaction of PA faculty members in order to assist administrators and program directors. Specifically, it was the aim of this study to examine job satisfaction factors related to overall job satisfaction for faculty in PA education.

In general, PA faculty members demonstrated a moderately high relationship between work itself and overall satisfaction. PA faculty members listed coworker relations, advancement opportunities, and supervisory support as moderately related to overall satisfaction, but salary had a low relationship to overall satisfaction. They were most satisfied with the coworker relations ( $M = 4.03$ ) and least satisfied with their salary ( $M = 2.61$ ) ( $5 = \text{Very Satisfied}$ ,  $4 = \text{Satisfied}$ ,  $3 = \text{Neutral}$ ,  $2 = \text{Dissatisfied}$ ,  $1 = \text{Very Dissatisfied}$ ). However, work itself had the strongest correlation to overall satisfaction. As categories, intrinsic and extrinsic factors were about equal in their relation to overall satisfaction. Even though salary had a positive correlation to overall satisfaction, the correlation was low.

Number of years in PA education was also a predictor for overall satisfaction among PA faculty. Other predictors of overall satisfaction for this study included total scores in the work itself, advancement opportunities, supervisor support, and coworker relations sections. Depending on the length-of-experience profiles of PA faculty at each individual school, administrators and program directors could face problems in retaining new faculty. Whether assessing, measuring, evaluating, or planning, it is important for PA education leaders to look at the overall environment and job satisfaction, the work itself, and the compensation for that work. Job satisfaction factors and environment may include better salary packages, improved benefit packages, more flexible work schedules to allow for clinical work, more on-the-job recognition and training, allowing work to be done at home, established daycare facilities, or other personal perks (Middlebrook, 1999). Physician assistant education leaders should arrange opportunities for less experienced faculty in order to assist them to better understand the academic environment.

The following personal and professional characteristics were not statistically significant in predicting overall job satisfaction: gender, race/ethnicity, highest degree earned, tenure status, current position, academic rank, and faculty salary (extrinsic factor). Physician assistant programs may want to review their unique environments to determine the appropriate mix of personal and professional characteristics, as well as job satisfaction factors. In conclusion, the viewpoints of faculty may provide additional information that can be used to create an environment that fosters a positive PA faculty job satisfaction.

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## Appendices

## Appendix A: Physician Assistant Education Association Approval

March 31, 2006

To: Whom It May Concern

From: J. Dennis Blessing, PhD, PA-C  
Chair, Research and Review Committee  
Physician Assistant Education Association

Re: Wallace D. Boeve, MSPA, PA-C  
Proposal Approval

This memo is to certify that Mr. Wallace D. Boeve, MSPA, PA-C proposal titled “National Study of Faculty in Physician Assistant Education Faculty Job Satisfaction/Dissatisfaction” has been approved by the Physician Assistant Education Associations’ Research and Review Committee. This approval is necessary for investigations of physician assistant programs, faculty, and students.

Please contact me if there are any questions.

Appendix B: Eastern Michigan Human Subjects Approval



## EASTERN MICHIGAN UNIVERSITY

June 21, 2006

Mr. Wallace Boeve  
College of Health Professions  
Grand Valley State University  
301 Michigan Street, NE #226 CHS  
Grand Rapids, MI 49503

Mr. Boeve:

The Human Subjects Institutional Review Board (IRB) of Eastern Michigan University has granted approval to your proposal, "A Study of Job Satisfaction Factors Among Physician Assistant Education Faculty in the United States."

After careful review of your completion application, the IRB determined that the rights and welfare of the individual subjects involved in this research are carefully guarded. Additionally, the methods used to obtain informed consent are appropriate, and the individuals participating in your study are not at a risk.

You are reminded of your obligation to advise the IRB of any change in the protocol that might alter your research in any manner that differs from that upon which this approval is based. Approval of this project applies for one year from the date of this letter. If your data collection continues beyond the one-year period, you must apply for a renewal.

On behalf of the Human Subjects Committee, I wish you success in conducting your research.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert Holkeboer".

Robert Holkeboer  
Associate Vice President  
Graduate Studies & Research  
Human Subjects Committee

Copy: Elizabeth Broughton

Appendix C: Grand Valley State University Human Subjects Approval

June 12, 2006

Proposal No.: 06-270-H

Review Date: 06/05/2006

Approval Date: 06/08/06

Category: Expedited

Expiration Date: 06/04/2007

Dear Mr. Boeve,

Grand Valley State University, Human Research Review Committee (HRRC), has completed its review of this proposal. The HRRC serves as the Institutional Review Board (IRB) for Grand Valley State University. The rights and welfare of the human subjects appear to be adequately protected and the methods used to obtain informed consent are appropriate. Your project has been **APPROVED as Expedited**. Please include your proposal number in all future correspondence. The first principal investigator will be sent all correspondence from the University unless otherwise requested.

**Revisions:** The HRRC must review and approve any change in protocol procedures involving human subjects, prior to the initiation of the change. To revise an approved protocol including a protocol that was initially exempt from the federal regulations, send a written request along with both the original and revised protocols including the subject consent form, to the Chair of the HRRC. When requesting approval of revisions both the project's HRRC number and title must be referenced.

**Problems/Changes:** The HRRC must be informed promptly if any of the following arises during the course of your project. 1) Problems (unexpected side effects, complaints, etc.) involving the subjects. 2) Changes in the research environment or new information that indicates greater risk to the subjects than existed when the protocol was previously reviewed and approved. 3) Changes in personnel listed on the initial protocol, e.g. principal investigator, co-investigator(s) or secondary personnel.

**Renewals:** The HRRC approval is valid until the expiration date listed above. Any project that continues beyond the expiration date must be renewed with a continuing review form that can be found at [http://www.gvsu.edu/forms/research\\_dev/FORMS](http://www.gvsu.edu/forms/research_dev/FORMS). A maximum of 4 renewals are possible. If you need to continue a proposal beyond that time, you are required to submit a new protocol application for a complete review.

**Closed:** When your project is completed or if you do not anticipate the study to extend past the one year approval, please complete and submit a closed protocol form. You can find this document at [http://www.gvsu.edu/forms/research\\_dev/FORMS](http://www.gvsu.edu/forms/research_dev/FORMS).

If I can be of further assistance, please contact me at 616-331-3417 or via e-mail: [reitemep@gvsu.edu](mailto:reitemep@gvsu.edu). You can also contact the Graduate Assistant in Faculty Research and Development Office at 616-331-3197.

Sincerely,

Paul J. Reitemeier, Ph.D.  
Human Research Review Committee Chair  
301C DeVos Center  
Grand Rapids, MI 49504

Appendix D: Overman's Permission Email



**From:** "Overman, Pam" <OvermanP@umkc.edu>

**To:** Wallace Boeve

**Date:** Monday - November 29, 2004 3:54 PM

**Subject:** RE: Survey Instrument



Mime.822 (2872 bytes) [View](#) [Save As](#)

Wally, you are more than welcome to use the survey as a template. My best advice is persist!! Best wishes in your quest.

Pam

Pam Overman

Associate Dean, Academic Affairs

UMKC School of Dentistry

overmanp@umkc.edu

816-235-2051 phone

816-235-5631 fax

-----Original Message-----

From: Wallace Boeve [mailto:boevew@gvsu.edu]

Sent: Thursday, November 18, 2004 9:37 AM

To: Overman, Pam

Subject: Survey Instrument

Dr. Overman,

I am emailing you in regards to your recent dissertation on dental school faculty. I am wondering if I might be able to use your survey instrument as a template for developing a survey instrument for my dissertation on Physician Assistant faculty. Any other feedback or advise you can offer in your research experience would also be helpful in my research endeavors.

Thanks In Advance,

Wally

Wallace D. Boeve

Doctoral Student

Eastern Michigan University

## Appendix E: Web-Based Survey

## A Study of Job Satisfaction Factors Among Physician Assistant Education Faculty in the United States

You are invited to participate in a national research project assessing faculty of physician assistant programs. The study is being conducted by Mr. Wallace Boeve of Grand Valley State University. The results of this study will contribute to a better understanding of faculty job satisfaction for physician assistant programs.

Your participation in this study involves completing a survey. The survey is comprised of demographics and scale items which will take a maximum of 10 minutes to complete. Your answers will be directly recorded into a data file and assigned an identification number. The login that you provide for your consent to participate will be stored in a file separate from the data you provide. Your name will not be connected to your answers. The results of this study will be reported ONLY in aggregate form. That is, the information provided by a single person will not be reported -only across all the participants in the study. In no way will you be associated with the responses you provide. Your participation is anonymous.

Also, your participation is completely voluntary. You may choose not to answer any question or to withdraw from any portion of the study at any time. If you choose to not participate in the survey, simply close your internet browser.

If you have questions about the study itself, please-contact the researcher, Wallace Boeve, Program Director, at Grand Valley State University at [boevew@gvsu.edu](mailto:boevew@gvsu.edu) or (616)331-5988. You may also contact the researcher's dissertation committee chair, Elizabeth Broughton, Associate Professor, at Eastern Michigan University at [ebroughto@emich.edu](mailto:ebroughto@emich.edu) or contact by phone (734)4877120, x2682. This research protocol has been reviewed and approved, and if you have any questions on the approval process, please contact either Dr. Patrick Melia or Dr. Steven Pernecky at (734)487-0379, or Dr. Paul Reitemeier at (616)331-3417, or the Physician Assistant Education Association's Research Institute.

We thank you for your participation and for your honest responses to our questions. It is important that we get truthful responses so that we may draw accurate conclusions. Please feel free to print this letter of consent for your own records.

**By entering my Login Code below, I indicate I have received an explanation of this study and agree to participate. I understand that my participation in this study is strictly voluntary.**

**Login Code (This number was in the email you received.)**

Submit

# A Study of Job Satisfaction Factors Among Physician Assistant Education Faculty in the United States

## By Wallace D. Boeve

### Faculty Job Satisfaction/Dissatisfaction Scale

The purpose of this study is to gain an understanding of your attitude regarding your academic position. Below are listed numerous factors that may relate to the level of satisfaction or dissatisfaction that you find in your position as a faculty member in a physician assistant program. Please reflect on your position and rate your current satisfaction for each factor (Work Itself, Advancement Opportunities, Salary, Supervisor Support, and Co-worker Relations).

#### Part I:

Using the following rating scale, rate your level of satisfaction with the following aspects of your academic position.

#### WORK ITSELF

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Work with college-age students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Challenging aspects of teaching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
General nature of work aside from teaching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Level of personal enthusiasm for teaching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of classes responsible for	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Numbers of hours worked each week	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Current work schedule compared to clinical practice schedule	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal office facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

University committee responsibilities (i.e. workgroups, councils, boards, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adequacy of instructional equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expectations of workload (i.e. teaching, service, research, etc.) as a faculty member	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work schedule compared to that of co-workers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional growth seen in students over time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**ADVANCEMENT OPPORTUNITIES**

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Opportunities for increased responsibility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opportunities provided for growth compared with growth in other fields	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opportunities for professional growth through formal education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opportunity to attain tenure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opportunity to objectively evaluate your accomplishments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Recognition by administration for ideas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responsibilities compared to those of co-workers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Involvement in making decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Procedures used to select faculty for administrative positions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**SALARY**

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Method used to determine your salary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Range of salaries paid to institutional faculty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Top salary available to PA faculty compared to PA clinical positions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Salary compared to PA faculty at other institutions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Amount of annual salary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Earning potential among faculty compared to administrative positions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opportunity to earn additional income (clinical practice or consulting)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**SUPERVISOR SUPPORT**

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Level of understanding between self and supervisor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Day-to-day supervision given by your supervisor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competence of supervisor to give leadership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal encouragement given by supervisor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Willingness of supervisor to delegate authority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mentoring counsel given by supervisor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fairness exhibited by supervisor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability of supervisor to sense others' needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consistency of supervisory responses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hands on training offered by your supervisor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extent of information provided about issues that matter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Present job security	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### **CO-WORKER RELATIONS**

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Friendliness of co-workers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cooperation shown by departmental faculty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cooperation of faculty from outside departments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of faculty-student interactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job-related professional relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job-related personal Relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall relationships within the institution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### **OVERALL SATISFACTION**

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied
Satisfaction with current job in general	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attitude toward physician assistant education as a career in general	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enjoyment inherent to the academic way of life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teaching experiences better than expected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Impact you feel you are making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
On the PA profession	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extent to which this job fits your own personal needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Considering all aspects of your job as a PA educator, please indicate your overall level of job satisfaction

**Part II:**

Using the scales below, indicate the importance or likelihood of the item for you.

If you were to leave your current position in academia to accept another position inside or outside PA education, how important would each of the following be in your decision?

	Very important				Not at all important
Work Itself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advancement Opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Salary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Supervisor Support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-worker Relations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

During the next three years, how likely is it that you will leave this job:

	Highly Likely				Highly unlikely
To accept a full-time position at a different PA program?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To enter a full-time PA clinic practice position?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To retire from the workforce?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### **Part III:**

**This last section asks you to provide information about yourself. Please be reminded that all your answers are confidential.**

**What is your departmental affiliation?**

- Basic Science
- Behavioral Science
- Clinical Science
- Administration (department chair, assistant or associate dean, or dean)
- Allied Health
- Research
- Other (please specify)

**If other departmental affiliation, please specify:**

|

**Is your position at this institution full-time?**

- Yes
- No

**If full-time, how many days per week is recognized as full-time at your institution?**

- 1 day
- 2 days
- 3 days
- 4 days
- 5 days

**What is your current position within the PA program?**

- Program Director
- Academic Coordinator
- Clinical Coordinator
- Medical Director
- Regular Faculty
- Other (please specify)

**If other position, please specify here**

---

**Your current rank:**

- Professor
- Associate Professor
- Assistant Professor
- Instructor
- Clinical appointment (Clinical professor, clinical associate professor, etc.)
- Other (please specify)

**If other rank, please specify:**

---

**Are you:**

- Clinical track?
- Tenure track?
- Tenured?
- Not eligible for tenure in your position?

**Your total years in PA education:**

---

**Your total years of clinical experience:**

---

**Is your PA program located in a:**

- School of Osteopathic or Allopathic Medicine?
- College or University affiliated with appropriate clinical teaching facilities?
- Medical Education facility of the federal government?

**By training, licensure, and/or certification, what is your professional degree? Select all that apply.**

- Physician Assistant
- Doctor of Allopathic Medicine
- Doctor of Osteopathic Medicine
- Doctor of Philosophy

- Doctor of Education
- Registered Nurse
- Nurse Practitioner
- Social Worker
- Other (please specify)

If other degree, please specify:

---

**What is the highest degree you have earned?**

- Doctorate
- Master
- Bachelor
- Associate
- Certificate
- Other, please specify

**If other highest degree, please specify here**

---

**Your current full-time faculty salary is:**

- < \$40,000
- \$41,000 - \$50,000
- \$51,000 - \$60,000
- \$61,000 - \$70,000
- \$71,000 - \$80,000
- \$81,000 - \$90,000
- > \$91,000

**Based on your total family income and level of living, your socioeconomic classification is best described as:**

- Upper Class
- Upper Middle Class
- Middle Class
- Lower Middle Class
- Lower Class

**Are you male or female?**

- Male
- Female

**What is the year of your birth?**      19 | \_\_\_\_\_

**What is your race/ethnicity?**

- American Indian or Alaskan Native
- Asian or Pacific Islander
- African American/Black
- Hispanic
- Caucasian/White
- Multiple or Other, please specify

**If multiple or other race/ethnicity, please specify here**

---

**What is your citizenship status?**

- United States citizen, native
- United States citizen, naturalized
- Permanent resident of the United States (immigrant visa)
- Temporary resident of the United States (non-immigrant visa)

**If U.S. resident with visa, what is your country of present citizenship?**

---

**Do you think this study is important to the current PA faculty employment market?**

- Yes
- No

**Do you have any additional comments or other factors not mentioned above that may impact your job satisfaction as a PA faculty?**

---

Submit

## Appendix F: Pre-Notice Flyer

# COMING SOON

*A Study of Job Satisfaction Factors  
Among Physician Assistant Education Faculty in the United States*

*By*

*Wallace D. Boeve, MSPA, PA-C  
Program Director  
Physician Assistant Studies  
Grand Valley State University*

*Do you often wonder what your colleagues have to say about what the  
important job satisfaction factors are in PA education?*

*Do you want to know better ways to support your junior or new  
fellow faculty members in order to keep them satisfied in their career  
choice of PA education?*

*Do you believe the results of a study on job satisfaction would be  
helpful in the recruitment of new PA faculty?*

*If you answered YES to any of the above questions, or if  
you want to know how satisfied you are, then watch  
your email accounts for this PAEA-approved, PAEA  
grant-funded, web-based, dissertation research project  
and TAKE PART*



## Appendix G: Original Email

July 10, 2006

Dear Colleague:

Two weeks ago, you should have received a flyer in the mail announcing this national survey about "Job Satisfaction Factors Among Physician Assistant (PA) Education Faculty in the United States." All PA program faculty have been invited to voluntarily participate in this research study. The outcomes of this study will assist PA leaders and program faculty to better understand and facilitate job satisfaction.

Your participation should take **no more than 8-10 minutes** from start to finish. In the busy lives of PA program faculty, there is never an ideal time to conduct a survey. However, this study has been designed in an easy to complete, online survey for your convenience. Your participation is important, so that we can learn more about job satisfaction factors among PA program faculty.

<http://frostcenter.org/PAEd.htm>

Your participation in this study is completely voluntary. You may withdraw from the survey at any time while you are taking it, and/or decline to answer any particular question(s) without any penalty.

Your privacy will be protected to the maximum extent allowable by law. Your individually assigned login is (#####) and are only being used to eliminate the chance for multiple attempts. This web page will record that you have completed the survey. At the time of download, we will immediately de-identify your responses. Your responses will not be identifiable in any research report or in storage of the survey responses.

Results may be disseminated through the medium of conference presentations and journal articles. Subjects will have access to the results via such dissemination, but will not receive the results directly. Confidentiality of participants will be protected.

If you have questions about the study itself, please contact the researcher, Wallace Boeve, Program Director, at Grand Valley State University at [boevew@gvsu.edu](mailto:boevew@gvsu.edu) or (616) 331-5988. You may also contact the researcher's dissertation committee chair, Elizabeth Broughton, Associate Professor, at Eastern Michigan University at [ebroughto@emich.edu](mailto:ebroughto@emich.edu) or contact by phone (734) 487-7120, x2682. This research protocol has been reviewed and approved, and if you have any questions on the approval process, please contact either Dr. Patrick Melia or Dr. Steven Pernecky at (734) 487-0379, or Dr. Paul Reitemeyer at (616) 331- 3417, or the Physician Assistant Education Association's Research Institute.

Thank you for your participation.

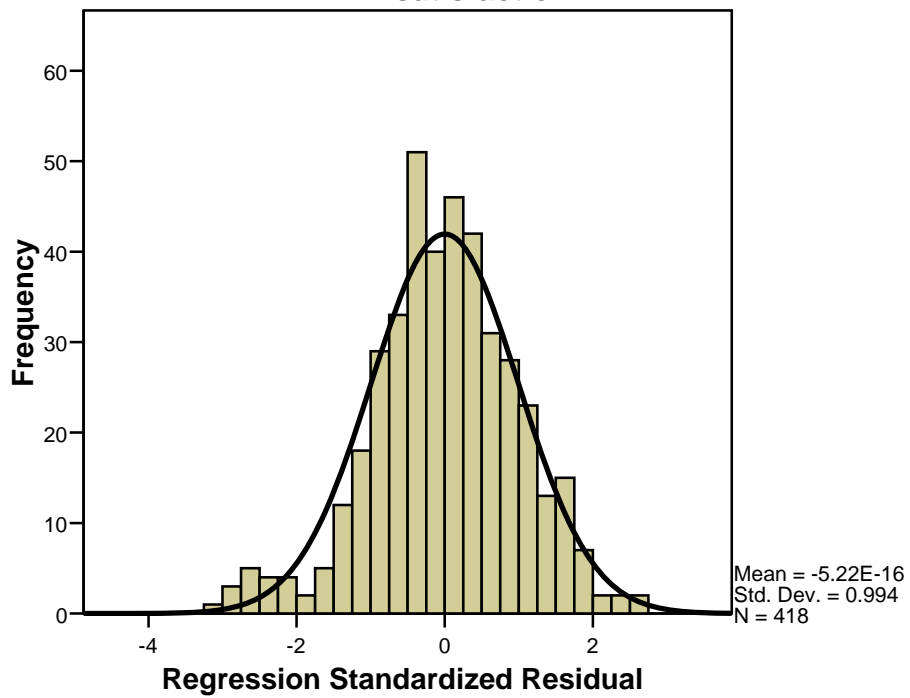
Sincerely,

Wallace D. Boeve  
Doctoral Student  
Eastern Michigan University  
Assistant Professor & Program Director  
Physician Assistant Studies, Grand Valley State University

## Appendix H: Regression Assumptions Graphics

## Histogram

Dependent Variable: Considering all aspects of your job as a PA educator, please indicate your overall level of job satisfaction



### Scatterplot

Dependent Variable: Considering all aspects of your job as a PA educator, please indicate your overall level of job satisfaction

