

The Pennsylvania State University

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**DIFFERENCES IN DIMENSIONS OF CAREER MOTIVATION  
BETWEEN INTERNATIONAL AND DOMESTIC  
GRADUATE STUDENTS BY AGE AND GENDER**

A Thesis in

Workforce Education and Development

by

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## ABSTRACT

In 2005 the United States Bureau of Labor Statistics reported a tremendous growth of foreign-born workers in the United States with more than a quarter of them (26.5%) being in management, professional or related positions. This demonstrated a need to study differences between people from multiple cultures and the impact those differences may have on the work environment. While a review of the research literature showed cultural differences in motivation, there was no evidence of extant studies on how career motivation might vary among people from different cultures. Using a London's Career Motivation Inventory as a theoretical framework and a web-based version of a research-validated instrument, this study sought to identify the relationship between a student's nationality, age, and gender with career motivation.

A review of the literature detailed past studies that identified weak relationships between age and gender and the three dimensions of career motivation: career resilience, career insight, and career identity. Literature regarding cultural differences in motivation seemed to indicate there would be some differences in career motivation, career resilience and career identity in particular, between the two groups. There are, however, individualist people in collectivist cultures and collectivist people in individualist cultures.

Over the course of three weeks, more than 1,400 graduate students originating from 51 nations responded to the survey. Multivariate multiple regression analysis was used to test the hypotheses that no relationship existed between student nationality, age and gender and the career motivation dimensions. Although there were some significant differences between age groups while accounting for gender and student nationality, there was no evidence to reject the null hypothesis that there was no difference in career motivation dimensions between domestic and international students at Pennsylvania State University.

Although the conclusions about career motivation and its relationships to student nationality, age, and gender from this study are limited, the power of the conclusions was very high due to the number of respondents. The first question of this study dealt with student nationality and its relationship to career resilience, career insight, and career identity. The analysis showed that no relationship existed. Differences between the cultures could have been masked by the diversity of cultures that made up the international respondents.

The results of the present study indicate relationships between age and the three dimensions of career motivation did exist. Women showed an increase in career resilience levels throughout their entire career life. For men there was an increase in career resilience from trial- to mid-career. There was not a significant difference between late-career men and the other two male age groups.

In the case of career insight and career identity, the results were virtually identical. Older women had higher levels of both insight and identity than trial-career men and women. Mid-career men also showed higher levels of career insight and career identity than trial-career men. For women career identity increased over their entire career although the difference between the two older groups was marginally insignificant. These results provided support for the existence of the relationship between age and career motivation dimensions and provided further clarity on the relationship between age and career motivation.

The last question of the study regarded gender's relationship to career motivation. The results of this study supported those previous findings of no existent significant relationship.

Several recommendations for future research are made. A significant limitation of this study was treating the international students as a homogeneous group. By partitioning out the international students into their respective nations, researchers can come to a greater

understanding of cultural influences on career motivation. In order to be able to generalize further than populations at large public American universities future research should address students at different types of universities and colleges. Researchers should also study students in different countries who attend schools or universities with similar factors such as student population, endowment, and degrees offered. This would offer an opportunity to study whether or not career motivation varies from culture-to-culture instead of from person-to-person living in the city but from different countries/cultures. Another interesting question for future study examines whether international students' motivation changes over time, specifically, over their first four to five years in the United States. The instrument used in this study is a self-report instrument. This lends the measures from the instrument open to respondent bias. Successful development of an assessment based on multiple sources would be an asset to the future of career motivation research.

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# CHAPTER 1

## INTRODUCTION

### Foreign-Born Workers in the U.S.

Over a recent three-year period from 2002 to 2004 the foreign-born workers in the United States (U.S.) saw an increase of 1.2 million people. This increase comprised just under half of the growth of the total labor force over this period (U.S. Bureau of Labor Statistics, 2005). At the end of 2004 the foreign-born participation rate in the U.S. labor force comprised almost 15 percent of the total workforce (U.S. Bureau of Labor Statistics). These facts, along with 26.5% of those foreign-born workers being in management, professional, and related occupations show that this segment of the workforce is definitely growing in size, strength and influence.

Workforce researchers need to examine the foreign-born worker population by identifying any possible differences between native workers and foreign-born workers and how these differences impact the economy, companies and people.

A great many foreign-born workers are in organizational positions that affect others such as management and professional occupations (U.S. Bureau of Labor Statistics, 2005) especially within high technology fields (Lowell, 2001). This results in a symbiotic effect between foreign-born workers and the domestic labor force. Previously, foreign-born workers were viewed as a small contingent external to the larger U.S. workforce having little to no impact on the greater population. In light of the numbers above, we know that foreign-born workers are participating in and affecting the U.S. labor force as never before. Since motivation is related to the culture and society in which one was raised (Miller, 2004; Triandis, 2004) foreign-born workers could have different sources of motivation from Americans.

Having greater knowledge and information about what motivates foreign-born workers and how it is related to their working environment would have several benefits. Organizations could adapt policies and procedures to create welcoming atmospheres for foreign-born workers. One way to investigate the relationship between workers and work conditions is by studying career motivation. London (1983) introduced the concept of career motivation which has been expanding and changing through research ever since (London & Mone, 1987). Career motivation “is defined as the set of individual characteristics and associated career decisions and behaviors that reflect the person’s career identity, insight into factors affecting his or her career, and resilience in the face of unfavorable career conditions” (London, 1983, p. 620). An organization could take steps to increase levels of career motivation in order to reduce turnover (because people are more motivated and happier), increase employee morale, and increase productivity. Employees would increase their own awareness about their motivations, where those motivations are rooted, and what they mean. On the other hand, ignoring the growing foreign-born worker segment of the labor force could have consequences that organizations have historically sought to avoid such as increased turnover, low employee morale or a rise in the number of incidents that require human resource or legal interventions. It is important for any company to know if their policies, procedures, and structure only motivate a small segment of their employees, and by extension negatively influence the motivation for a large segment of employees.

Differences in dimensions of career motivation levels have been shown to relate to organizational policies, development programs, work roles and job characteristics, having a mentor, along with age (Day & Allen, 2004; London, 1993a, 1993b; London & Bray, 1984; London & Noe, 1997; Ryan & Deci, 2000; Weinert, 2004). To overlook these possible

differences would do a disservice to foreign-born workers, their organizations, and their coworkers.

### Theoretical Framework

Motivation and the workplace have an impact on one another (Gollwitzer & Oettingen, 2004; Ryan & Deci, 2000). The workplace affects workers and their motivation, and vice-versa. Extensive research attempted to isolate the causes in changes to workers' motivational levels. The background of motivation as a psychological construct is discussed in this section. A model for career motivation is also covered.

#### *Psychology of Motivation*

Psychologists have been studying the concept of motivation since the early 1900s (Ryan & Deci, 2000). Motivation is one of many reasons or causes that explains why people behave the way they do. Motivation in and of itself is simply a human construct that explains the impulses and drives that cause people to behave the way they do (Miller, 2004). Simply put, motivation is a force that acts upon people that get them to do something and then either causes them to continue to do it or stop. Similar to physical forces, motivation sometimes acts swiftly and other times it is not perceptible. However, simply because one cannot sense motivation (or gravity) acting upon you does not mean it is not doing so. For instance, a smoker can be motivated to quit smoking but if that motivational force is not greater than the smoker's motivation to have another cigarette then the smoker will not be able to quit. Nevertheless, success or lack of it does not mean that the motivation did not exist; it simply was not strong enough to overcome. How much motivation people need to quit smoking is a question that, if answered, could make

someone a lot of money. However, there are a few barriers one must overcome in order to answer that question.

The primary barrier is that the level of motivation that people have cannot be measured in any objective or real sense. While you might be able to cite examples of highly motivated people such as Bill Gates or Bill Clinton what is it that indicates they are more motivated than a 4<sup>th</sup> grade teacher or your next-door neighbor? There is no way to tell whether one person is more motivated than any other is. There is no universal motivation-meter or ruler. Motivation is dynamic and affected by societal and moral influences and is likely to be different from population to population (Maslow, 1987).

Abraham Maslow (1987) studied motivation along with how people move through their hierarchy of needs. He concluded that “human beings have an innate tendency to move toward higher levels of health, creativity, and self-fulfillment” (p. xxxv). Maslow also said, “the process of self-actualization leads each individual to the highest levels of efficiency” (p. xxxv). Jung (1978) studied human motivation and the environment in which each person existed and found that “once a new level of performance is achieved, most individuals are not content to rest on their laurels” (p. 141). If one were to follow this logic out within the context of career development then each individual should be attempting to get to the next professional level. Given the dual nature of opposing motivational forces, this conclusion is preposterous. There are times when people do not want to risk what they have for what they might receive, especially when it comes to something as important as their jobs.

### *London's Career Motivation Inventory*

London's Career Motivation Inventory is a dynamic theoretical construct intended to "be an integrative, organizing framework for existing variables" (London & Noe, 1997, p. 61). The model from London and Noe (1997) (see Figure 1) consists of three central domains that make up career motivation: *career identity*, *career resilience*, and *career insight*. While the model has been tested and used in research (Day & Allen, 2004; London, 1983; London & Mone, 1987; London & Noe, 1997; Noe, Noe, & Bachhuber, 1990) it is not by any means intended to be an exhaustive or complete representation of career motivation (London & Noe, 1997).

London (1983) established career resilience as the cornerstone domain of career motivation. Research showed that factors that make up a person's career resilience are formed by early adulthood (London). Career resilience is the "resistance to career disruption in a less than optimal environment" (p. 621). Put another way it is "the ability to adapt to changing circumstances, even when the circumstances are discouraging or disruptive" (London & Noe, 1997, p. 62). As the foundational domain of career motivation, career resilience serves to create the values, attitudes, and behaviors recognized as parts of career insight and career identity.

Career insight is "the extent to which the person has realistic perceptions of him or herself and the organization and relates these perceptions to career goals" (London, 1983, p. 621). A person with strong career insight can establish "clear career goals and know[s] one's strengths and weaknesses" (London & Noe, 1997, p. 62). As career insight focuses and becomes clearer the individual is better able to form their self-perception through career identity.

Career identity is defined as a measure of "how central one's career is to one's identity" (London & Noe, 1997, p. 62). Career identity is created through "job, organizational, and professional involvement and needs for advancement, recognition, and a leadership role"

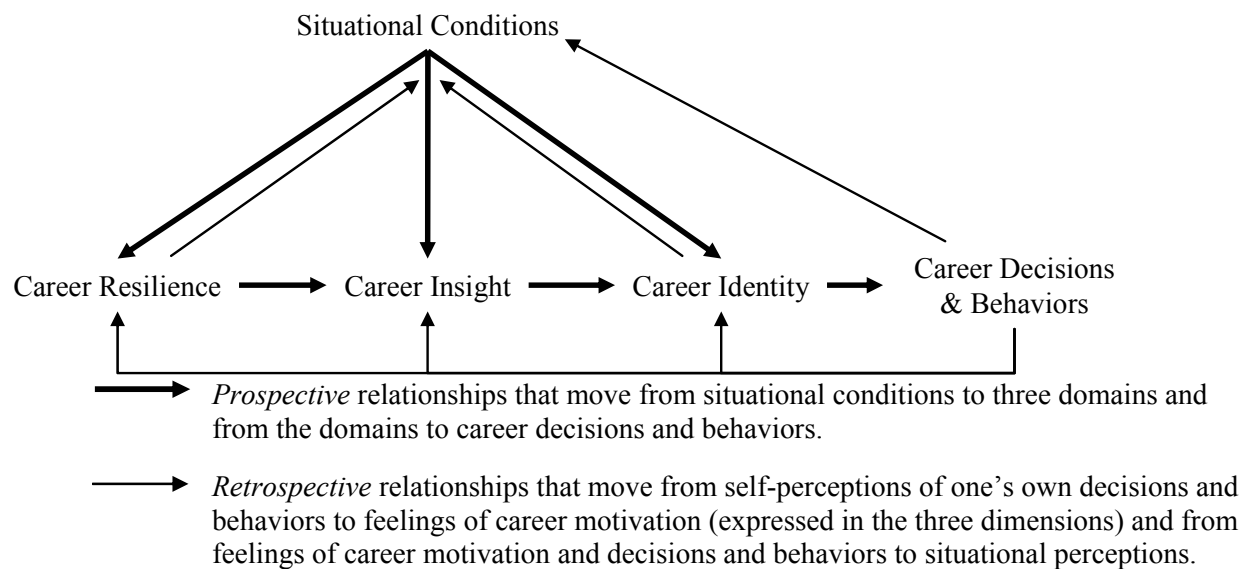


Figure 1. London's Career Motivation Inventory.

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(London, 1983, p. 621). Over time, London and Noe (1997) suggested, the three dimensions will impact one another, with career insight and career identity being the most dynamic of the three domains and therefore these two dimensions are more likely to be affected by situational conditions such as training, job loss or restructuring, and organizational change.

### Studying Career Motivation among Graduate Students

Motivation and its relation to and effect on work is a field that has seen focused research in the past decades (Feldman & Bolino, 2000; London, 1993a; London & Bray, 1984; Wolf, London, Casey, & Pufahl, 1995). Career motivation (also referred to in the literature as career commitment) researchers have tended to focus on specific job roles (Walsh & Borkowski, 1995), differences between men and women's career motivation (Korman, 1999; London, 1993b), and organizational behaviors (Houkes, Janssen, de Jong, & Bakker, 2003). While there has been



research on workers' career motivation (and career commitment) internal to countries other than the U.S. (Carson & Bedeian, 1994; London, 1993b; Noe et al., 1990), there are no known studies of career motivation of foreign-born workers residing in the U.S. This study began to address the gap in the research by examining the relationships between various qualities and traits and the three career motivation dimensions among graduate students enrolled at Pennsylvania State University. The main goals of this research were:

1. To explore differences in career motivation between international and domestic graduate students.
2. To determine whether differences that are found are meaningful in any practical sense.
3. To further research into career motivation of specialized populations.

The researcher adapted three paper-and-pencil instruments designed to measure dimensions of career motivation to a web-based survey format. Through analysis of the resulting data, the researcher hoped to answer the following questions:

1. To what extent is there a relationship between student nationality and career resilience, career insight, and career identity among graduate students at an American university?
2. To what extent is there a relationship between age and career resilience, career insight, and career identity among graduate students at an American university?
3. To what extent is there a relationship between gender and career resilience, career insight, and career identity among graduate students at an American university?

### Summary

Foreign-born workers are becoming a larger and more influential segment of the U.S. labor force. Once people secure what they need, they move towards getting what they want.

They progress through a hierarchy of needs, desires and accomplishments. While there are basic motivational forces common across cultures there are both large and small differences that affect an individual's motivational levels that vary from one culture to the next. Organizations and employees will benefit from further study into factors related to career motivation. An employee who is not motivated to contribute could cost a company more than just their wages.

Unmotivated employees in an organization can create problems and researching factors that relate to motivation can only help. Using a framework for career motivation and a self-report instrument, in the form of a web-based survey, this study sought to determine whether significant differences in career motivation exist among graduate students by student nationality, age, and gender at Pennsylvania State University.

## CHAPTER 2

### LITERATURE REVIEW

When the topic of one's career comes up, motivation must be recognized as an integral part of the discussion. Toward this end, researchers endeavored to study motivation and its relation to career choices. The construct of career motivation stems from the psychological construct of motivation and ideas and theories in career development (London, 1983; London & Bray, 1984; London & Noe, 1997; Noe et al., 1990; Vroom, 1964). This literature review will focus on past career-related motivation research, comparative research in career motivation and conclude by discussing the current standing of research on culture and its relationships to motivation.

#### Motivation and the Working World

Those in the fields of psychology and business have been the principal researchers interested in the role of motivation and its impact on the workplace and on the individual as worker. From a psychological point of view, career people have researched motivational root causes for career-related decisions (Atkinson, 1957; McClelland, 1958, 1985, 1955; McClelland, Atkinson, Clark, & Lowell, 1953) and the relationship between mentoring and career motivation (Colarelli & Bishop, 1990; Day & Allen, 2004).

Researchers from a business-focused perspective studied human resource strategies and how they affect career motivation (Korman, 1999). London and Bray (1984) examined career motivation in young managers while others explored age and its relation to career motivation (Colarelli & Bishop, 1990; Greller, 2000; London, 1993a), studied the relationships between

career motivation and career development (London, 1993b), and investigated career motivation's relation to training behaviors and outcomes (Wolf et al., 1995).

The breadth of these publications illustrate that there has been, and continues to be, a good deal of interest for research in career motivation. However, there is a significant lack of research of career motivation across cultures. The majority of psychologists only began to seriously entertain the idea that culture significantly affected an individual's motivation in the last 15 years (Triandis, 2004). Since then there has been an increase in cross-cultural studies of motivation yet this has not materialized into similar cross-cultural career motivation research. Discussion was therefore limited to the introduction of concepts in cross-cultural motivation that relate to career motivation.

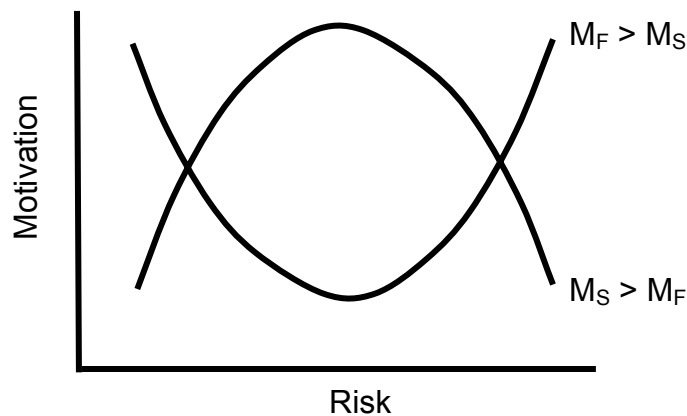
### *Success or Failure*

John Atkinson, David McClelland and their colleagues have done extensive research on two opposing motivational forces and their effect on career paths of the individual (Atkinson, 1957; McClelland, 1958, 1985, 1955; McClelland et al., 1953). Within the framework of career choices and behaviors Atkinson and McClelland et al. opined that there are two mutually exclusive and opposing types of motivation: the *motivation to achieve success* ( $M_S$ ) and the *motivation to avoid failure* ( $M_F$ ) and how these two motivations acted upon an individual's work related decisions. The idea is that each person falls somewhere along a motivational spectrum and that each of us has a fixed level of motivation ( $M_T$ ) and that at any given moment  $M_S$  may or may not be greater than  $M_F$ . Atkinson (1957) posited this idea as a function:  $M_T = M_S + M_F$ . Given this equation and  $M_T$  being fixed for any particular behavior we can see that as a person's

$M_F$  towards a certain activity went up the  $M_S$  towards the behavior had to go down and vice versa.

Neither type of motivation is negative or detrimental; one is simply greater and determines whether one engages in that activity. For example, let us consider the act of looking for a better job. There are instances when one would like to push ahead and go for that promotion ( $M_S > M_F$ ) and there are others where one might be happy with a current job and therefore avoid any action that might jeopardize it ( $M_F > M_S$ ) (see Figure 2 from Atkinson (1957)). An additional consideration is that motivation levels regarding particular activities are volatile and can change instantly.

In our example, motivation level could change with the news that one is going to be a parent for the first time or that an elderly parent needs additional or costly medical care. One would certainly expect that  $M_S$  in looking for a better job would increase and perhaps become greater than  $M_F$  in such a situation.



*Figure 2.* Atkinson's Motivation Level versus Risk in Relation to Motive for Success and Motive to Avoid Failure.

### *Motivation in the New World of Work*

In 1999, Korman discussed the impact that the working world will have on motivation. He stated, “The new world of work...has had and continues to have a major impact on the motivational and attitudinal characteristics of people in the workforce, both men and women” (p. 27). Korman also took a slightly different view of  $M_S$  and  $M_F$ . He adapted the ideas to human resource management and called them *self-enhancing* and *self-protective* motivation. He went on to say that we live in “a world in which desire and need for security has become as relevant as the need for achievement, growth, and development. It is a world in which both motivational patterns will need to be addressed” (p. 28). London’s (1983) dynamic model for career motivation has been an effective aid for researchers to meet that need.

### *Mentoring and Career Motivation*

Day and Allen (2004) studied the links between career motivation as a mediator “of the relationship between mentoring and measures of career success” (p. 73). In addition they hypothesized that career motivation would increase because of mentoring, and that a positive causal relationship existed between career motivation and a person’s career objective and subjective career success. Their participants “were 125 employees for a southeastern municipality” (p. 77) that were scattered throughout different departments. Day and Allen used Noe, Noe, and Bachhuber’s (1990) and London’s (1993b) instruments to assign a composite career motivation score to each participant while also collecting information about their mentoring experiences. They concluded that “mentored individuals did report higher levels of career motivation than those who had not been mentored” (p. 85) while finding only partial support of the theory that career motivation was positively related to career success. They found

that subjective success measures (e.g. performance effectiveness) were increased while objective measures (e.g. salary, promotions) had mixed relationships to career motivation. Their findings also pointed to the fact that “receiving more mentoring was related to greater career motivation” (p. 85). While Day and Allen (2004) sought to examine whether there was a difference in career motivation between people who were mentored and those who were not, London and Bray (1984) gave special attention to young managers.

### *Young Managers*

London and Bray (1984) studied the career motivation of young managers within two different companies. London and Bray came to several conclusions regarding career motivation. They posited the following: that young managers may benefit from knowing more about the dimension of career motivation; career motivation is related to company policies and procedures; a boss has control of many factors that affect a young manager’s career motivation, and lastly, that formal development programs will be hampered if the manager’s boss does not support the program. This last idea reinforces the adage that subordinates, if given a choice between doing something that the boss likes and something the boss dislikes will choose the former to the exclusion of the latter. Put simply, the worker respects what the boss inspects. Although a supervisor or boss’s behaviors and opinions are critical to career motivation, research has found that age was related to career resilience and career insight.

### *Age and Career Motivation*

In their career motivation research Greller (2000) and London (1993a; London, 1993b) made some interesting observations about how age is related to career motivation. Greller was

concerned with age norms (beliefs about what constitutes appropriate work related behavior for particular age groups), and how those norms influence career motivation, attitudes, and career development. Greller found, across age groups, that norms dictated, “people were expected to be less concerned with career advancement, forming new relationships, and developing new skills as they age” (p. 222). Although norms dictated a change in levels of career motivation as one gets older, Greller found that career motivation, as a whole, actually held steady across all ages. Greller was surprised by these results. Upon further speculation, he presented several reasons for this: methodology; respondent population; and reversed causality. Greller seemed distressed by his results but he can take solace in the fact that they are not unique.

In one article that covers two studies of the relationships between situational characteristics and career motivation London (1993a) had some conflicting results. The first study involved 172 people, while the second study had 96 participants. All were mid- or late-career workers. This is an age-based distinction used by London. Mid-career workers were 31-45 years old, late-career workers were 46 years old and older, and trial-career workers were 30 years old or younger. In both studies, London had the participants fill out an assessment consisting of 17 items on career motivation. London then scaled each score in order to place participants' career motivation dimensions on a scale from 1 (low) to 5 (high).

While the two designs were virtually identical, the populations were distinct. The first study had 76 men, 92 women, and four people who did not indicate a gender from eight different organizations including business, non-profit, and government. The second study's population consisted of 60 men, 29 women, and seven not indicating a gender, who were all from a single public utility company. These differences lead to slightly different conclusions. The first study resulted in London (1993a) concluding that older workers had higher self-reported levels of



career resilience including older men reporting higher career insight than younger men. The second study in the article (London, 1993a) found that older workers had higher career insight while not having a significant difference in career resilience. These differences could come from the difference in population. A public utility work environment is such that change is less frequent and has more of an impact when compared to the frequency and impact of change that occurs to organizations like those represented in the first study (Worrall, Cooper, & Campbell-Jamison, 2000). In yet another pair of studies London (1993b) explored relationships between career motivation, worker empowerment, and their career development.

#### *Career Motivation, Development, and Support*

Both of these studies (London, 1993b) used employee self-report ratings for all three career motivation dimensions: career resilience, career identity and career insight. Supervisors of participants also rated their reports on the same three dimensions. In addition, both the supervisors and employees evaluated the supervisors' efforts in providing support and empowerment for the employee's career development activities. The relationships between dimensions, manager support for career development, and managerial empowerment of the employee were explored. Study 2 was developed in order to build upon and validate the results from Study 1.

For Study 1 London (1993b) found 183 employees and their supervisors from 30 different organizations. Each organization contributed no more than seven participant-supervisor pairs for the single instance data collection. This study was exploratory and sought to "develop scales and examine cross-sectional relationships among the variables" (p.58). Factor analysis on the items led London to conclude that "the more highly supervisors viewed themselves as

empowering subordinates, the more the employees rated themselves highly on career identity...and career insight” (p. 59). Another result was that “employees’ ratings of empowerment and support were significantly related to supervisor’s ratings of their employees’ career motivation” (p. 59). Other significant findings included employees rating themselves higher on career insight than their supervisors, and the supervisors rating the employees higher in empowerment than the employees. Another important point to note was that there was no significant relation found between career motivation, empowerment, or support with gender or age.

For Study 2 (London, 1993b) 17 career motivation items from the first study were used again and refined “to make them less wordy” (p. 63). The respondents were from 17 organizations (different from those in the first study) with no organization having more than four employee-supervisor pairs. Data was collected at two points in time, three and a half months apart. London attempted to demonstrate test-retest reliability of the instrument (the first and second instances had median  $\alpha$  of .80 and .84, respectively). In the first instance, there were 72 employee-supervisor pairs. The second instance had an 82% repeat response rate with 59 employee-supervisor pairs completing the instrument. The study, however, only yielded one significant relationship: between self-ratings of organization identity and supervisor ratings of empowerment. London suggested that “those employees who view themselves as loyal to the organization are less likely to be those employees supervisors believe they empower” (p. 66). The discrepancies between the data sources were even stronger in Study 2. Employees reported higher levels of “career resilience..., insight ..., work identity..., while supervisors rated the employees higher in empowerment..., and support for career development” (p. 66). In addition, there was no evidence that gender or age was significantly related to career motivation. While

comparing the results of the two studies London noticed that the first study found “self-ratings of empowerment and support for career development were positively and significantly related to supervisor ratings of career motivation” (p. 66) while the second study found “the relationships were positive, but not significant” (p. 66).

London’s (London, 1993a; 1993b) results were mixed. No clear conclusions can come from this series of studies although there are a few areas for future study. One may make the argument that career motivation is related to the type of organization or its structure. Another possibility is that the rate or breadth of change an organization experiences is inversely related to the level of career resilience or career insight of its employees. Wolf et. al. (1995) went a different direction. They explored career motivation in people with no organizational ties.

### *Training Behaviors and Outcomes*

A 1995 study (Wolf et al.) explored career motivation for displaced engineers who went through a retraining program aimed to help “trainees demonstrate their value to prospective employers” (p. 316). The aim of the study was to examine the “extent to which work experience and career motivation contribute to training behaviors and outcomes” (p. 316). The training was a semester-long program. Career motivation was measured during the first week using the instrument in Noe et al. (1990) ( $\alpha$  ranged from .74 for the 13 career resilience items to .80 for the 5 career identity items). These measures were scrutinized for relationships to behaviors observed during the training and training outcomes (e.g. attaining employment within three months of program completion, salary level, dropping out of program, quitting job search).

Wolf et al. (1995) concluded that those engineers with medium experience levels demonstrated a significant negative relationship between career motivation and training

behaviors. The study found that for people with medium work experience, the “higher their career motivation, the lower the training-related behaviors” (p. 328), that in turn contributed to positive outcomes. This was their only statistically significant career motivation–related result. Contrary to their predictions, career motivation was not significantly related to either training behaviors or outcomes for the group as a whole. This was odd since, as they point out, these engineers were motivated enough to enroll and participate in an extended training program. One additional conclusion, not directly related to career motivation, was that work experience was negatively related to training outcomes (after controlling for the other variables). Wolf et al. suggested that this corroborated the notion that “older individuals with more time in the industry would find changing career direction especially difficult” (p. 327). In contrast, the motivation-behavior relationship was positive for those with high experience. Which would lead one to conclude that while older individuals (a great portion of which have high experience) would find it difficult to change career direction there is higher career resilience among such individuals due to the fact that there is little else that they might do other than move through the cycle of change.

These studies all examine career motivation. There is a very similar idea of career commitment that has seen research attention lately. Career commitment is defined by Colarelli and Bishop (1990) as being “characterized by the development of personal career goals, the attachment to, identification with, and involvement in those goals” (p. 159). The one significant difference in career motivation and career commitment research is that career commitment research has included commitment to the organization and so takes a wider view than career motivation, which is tightly focused on the individual. Nevertheless, some of the research on career commitment applies to this discussion.

### *Career Commitment*

In a survey-based study involving 341 managerial students and 85 chemists Colarelli and Bishop (1990) studied career commitment's correlations with age, years of education, and having a mentor among other measures. They used two previously validated instruments totaling 31 items with  $\alpha$  measures of .94 (17 items) and .84 (14 items). This study found that age, years of education, and having a mentor were all positively related to career commitment across all 426 respondents. Although in examining the two groups separately, they found that the relation to age was not significant for the professional (chemists) group. Among their strongest conclusions is that "having a mentor appeared to be the most robust correlate of career commitment" (p. 171). In 2004, Poon studied career commitment and its relation to career success.

Poon (2004) studied measures of career success such as salary level and career satisfaction and their relation to career commitment among 180 Malaysian workers. Both salary level and career satisfaction were positively correlated with career commitment. The relationship between salary and commitment was stronger with people who had greater emotional perception. Poon defined emotional perception as "the ability to identify emotions (in oneself and in others), express emotions accurately, and discriminate between accurate and inaccurate expressions of emotions" (p. 377). Poon reported a correlation of .69 ( $p < 0.001$ ) between satisfaction and commitment. This was a reasonable outcome, as one might assume people would be more committed to jobs they found satisfying. A slightly different definition of career commitment was used in a 1993 study.

Aryee and Debrah (1993) studied the applicability of a western career planning model in an eastern culture. As a part of this, they examined career commitment, among other measures, and its relation to career planning. Aryee and Debrah defined career commitment as "the extent

to which one's career is a central part of one's identity" (p.123). This definition aligned closely with the idea of career identity. Using such a definition for career commitment and an appropriate instrument, they found statistically significant positive correlations between career commitment and career planning, career strategy, and career satisfaction. Career planning had the correlation with greatest magnitude ( $r = .50, p < 0.01$ ). After further analysis of the 214 returned surveys, they also found that career commitment had no significant relation to either gender or age. Cherniss (1991) explored for additional correlates to career commitment in his study of human service professionals.

Cherniss (1991) interviewed and collected quantitative data for 25 individuals twice over a 12-year period. In keeping with Colarelli and Bishop's (1990) definition of career commitment Cherniss used an eight item instrument to measure career commitment ( $\alpha = .87$ ) and a four item instrument to measure job satisfaction ( $\alpha = .85$ ), along with collecting demographic information including marital status and age. Using correlational analysis because of the small number of subjects, Cherniss found that job satisfaction, age, and being married (versus single or divorced) were significantly positively correlated with career commitment. When combining his interview results with the measures of career commitment he found that "all five of the high commitment [subjects] had had mentors early in their careers" (p. 430). Lastly, is Farmer and Chung's (1995) study of career commitment in college students.

In a study designed to find various vocational behavior predictors Farmer and Chung (1995) hoped to expand a model designed for high school students to college students. Using a 14 item instrument ( $\alpha = .82$ ) developed by Farmer (1985) they sampled 100 undergraduate students (91 students who completed all the measures were used), aged 18 to 24 years. Their results showed that gender was not significantly related to career commitment and personal

factors, such as valuing math/science and support for women working, were significant and positively related to levels of career commitment.

Research in career motivation has been steady over the last 20 years. Studies have sought out factors that relate to career motivation. Some relationships were strong, such as the one between career motivation and support for career development. Results from studies on the relationship between age and career motivation had mixed results. The one aspect that all these studies have in common is that they were done in western cultures. Further (or any) cross-cultural career motivation research is needed.

### *Cross-cultural Motivation*

Motivation research across cultures has resulted in few critical ideas bubbling to the surface. The first of these, and perhaps the most important to the work setting, is the individualism-collectivism scale (Triandis, 2004). People in individualist cultures believe they are responsible for their own future while also being concerned with material possessions and social status (Di Cesare & Golnaz, 2003). People in collectivist societies views themselves as members of a group ahead of being individuals. A collectivist society tends to value behavior that strengthens the group (or organization) over the individual. Triandis wrote that one of “the most important characteristics of people in collectivist cultures relative to those in individualist cultures is the emphasis on *context* more than *content*” (p. 90). This illustrates the importance that delivery and communication styles and preferences have on the messages delivered. If one is angry and threatening action but delivering the message calmly then the receiving collectivist individual will most likely misinterpret the message and not sense any threat. Triandis was careful to point out that within each type of culture there are people who are idiocentric (who

behave like people from individualist cultures) and allocentric (who behave like people from collectivist cultures). Triandis further stated that the individualism-collectivism framework “becomes a general way of thinking about cultural differences and facilitates learning about the other culture” (p. 91). Where a culture falls on this individualism-collectivism spectrum may have a relationship to the level of career identity and career insight. One might expect that people from individualist cultures to have higher levels of career identity and insight than those from collectivist cultures. However, indiocentrism has been shown to grow with increased exposure to Western media and Western culture (Triandis & Trafimow, 2001).

A second critical idea coming from cross-cultural motivation research that is relevant to studying career motivation is uncertainty avoidance. In the same vein as Atkinson’s (1957) motives for success and to avoid failure uncertainty avoidance is “the degree to which people feel threatened by unstructured outcomes and the tolerance a culture has toward ambiguous situations” (Di Cesare & Golnaz, 2003, p. 32). Individualist cultures have low levels of uncertainty avoidance. Collectivist cultures are high on this scale so, generally, people from these cultures feel threatened by uncertainty or ambiguousness (Di Cesare & Golnaz). For career motivation, this would indicate that there would be a negative relationship between the level of collectivism in a culture and the career resilience of its members. These two ideas not only affect how the individual behaves but also how organizations make decisions.

Studies have found that business practices in individualist cultures have “greater use of individual human resource practices” (Triandis, 2004, p. 91). Practices like selecting people based on their individual attributes and the fact that managers in individualistic cultures are more concerned with performance than interpersonal relationships. In contrast, group memberships are the basis for selection in collectivist cultures, more training tends to take place in a collectivist



culture, while managers value interpersonal relationships over employee performance (Triandis). These organizational tendencies along with cultural norms demonstrate that we should expect differences in dimensions of career motivation from individualist cultures to collectivist cultures.

### Summary

Motivation and its relation to the workplace and the employee has been an area of study for many years. The area of career motivation, while comparatively young, has found an audience and has seen growing interest in recent years. Unfortunately the field has had mixed results as it attempted to define the relationships that career motivation has with career development policies and procedures, managerial practices, along with age and gender among others. In one study, older workers had higher levels of career resilience with older men having greater levels of career insight than younger men. Other studies found the relationships between age and gender to be insignificant to explain differences in career motivation and career resilience. The shortcoming of its standing as a developing research topic is the scarcity of studies examining career motivation across cultures and cultural boundaries. The ideas of cultural individualism-collectivism and uncertainty avoidance would imply that there is a relationship between culture of origin and career motivation.

## **CHAPTER 3**

### **METHODOLOGY**

The literature review demonstrated that there has been significant research done on career motivation, but none of it explored the differences between career motivation among foreign-born and U.S. born workers. Therefore, the purpose of this study was to explore differences between correlates of career motivation for foreign-born workers and U.S. born workers. This chapter will cover the research methodology. It includes a description of the target population and sample, survey distribution and data collection methods, variables, and data analysis.

#### Target Population and Sample

The target population for this study was graduate students enrolled at Pennsylvania State University during the fall 2005 semester. The cost of surveying the entire population was no greater than surveying a significant sample. Therefore, the entire population was invited to participate in the survey. A response rate of 30-35% was expected based on previous response rates for Penn State graduate student web surveys of 37% (A. Dowhower, personal communication, August 5, 2005).

#### Survey Distribution

Three validated and tested career motivation self survey paper and pencil instruments were adapted for use over the internet. The instruments are Noe, Noe and Bachuber's (1990) instrument (Appendix A) which focuses on behaviors and career motivation, London's (1993b) focuses on attitudes (Appendix B), and Carson and Bedian's (1994) instrument (Appendix C)

that measures career resilience. London and Noe (1997) found evidence that the three instruments measure different aspects of career motivation, and are therefore not interchangeable, and should be used together. Demographic questions were included. A review of the instrument by six international student colleagues of the author (from China, Greece, India, Korea, Taiwan and Turkey) confirmed that there was no reason to believe the survey contained language that would pose comprehension problems for international students. See Appendix D for the complete survey.

### *Data Collection*

The data was collected through a web-based (internet) survey. The survey implementation methods outlined here were largely adapted from Dillman (2000). Dillman's Tailored Design Method for web surveys outlined steps to increase response rate and data quality.

One of the most effective methods of increasing response rates on surveys is to engender a feeling of social responsibility in the survey respondents (Dillman, 2000). According to one of the university's survey research groups, graduate students already feel a great degree of social responsibility when compared to undergraduate students. Such responsibility was demonstrated in a recent career services that had a 37% response rate among graduate students without any external incentives (A. Dowhower, personal communication, August 5, 2005).

Initial contact with the sample was made through an introductory email (Appendix E). This email was a short introduction to the study and used to inform recipients that they were going to get an invitation to participate in a survey in the next few days. Three days later the entire graduate school population received the invitation email (Appendix F) containing introductory text to explain the nature of the study. A hyperlink was included to allow the

students to go directly to the survey through their web browser. Included in this link was a unique identifier in order to secure the integrity of the data. Each student was able to respond to the survey once and only once. The first page of the survey included a welcome reiterating the main points of the study and an invitation to enroll in the drawing for one of 13 prizes (3 iPod Shuffles valued at US\$99 each, 10 \$25 gift certificates to local businesses). Those wanting to be in the drawing were required to enter their unique alphanumeric university account number and informed that only people who fully completed and submitted the survey would be included in the drawings. Smaller scale prizes, which respondents have a greater chance of winning, have been shown to increase response rate in web surveys over a fewer number of larger incentives (Bosnjak & Tuten, 2003; Deutskens, Ruyter, Wetzels, & Oosterveld, 2004). Respondents then proceeded to the consent participation form (included in Appendix D) and were asked to give their consent. Upon their consent, they proceeded to the first page of the survey.

A week after the invitation email the first reminder email (Appendix G) was sent to people who had yet to respond. Sending this email within one week of the survey opening has been shown to be more effective than sending out a reminder after two weeks as has been the practice in regular mail-based surveys (Deutskens et al., 2004; Dillman, 2000). Another week after the first reminder email a second reminder (Appendix H) was sent to those people who had not responded. The survey was closed three weeks after the introductory email. Data analysis was conducted on the variables of interest.

#### *Non-respondent Data*

Approximately six weeks after the close of the first survey an attempt was made to gather data on non-respondents of the initial survey. An invitation email (Appendix I) was sent out to

the graduate students who did not respond to the initial survey. One week later the same invitation email was sent to people who had yet to respond. Data analysis was conducted and the results were compared to those for the initial respondent population.

### Research Variables

This section details the dependent and independent variables explored in this study. The dependent variables are the three dimensions of career motivation: career identity, career insight, and career resilience. The independent variables are student nationality, age, and gender. The calculation of the validity and reliability of the instrument was also included in the analysis.

#### *Career Identity*

Career identity “is the extent to which one defines oneself by work” (London & Noe, 1997, p. 62). The measurement for career identity was an ordinal variable, represented by CID, that consisted of the mean value of the responses from the career identity-specific items in London’s (1993b) and Noe et al.’s (1990) instruments. In cases where there was a missing response the mean was calculated from the existent responses. For instance, people who did not respond to one career identity item had their score calculated using the mean of the 11 responses instead of the 12 possible responses.

#### *Career Insight*

Career insight “is the ability to be realistic about oneself and one’s career and to put these perceptions to use in establishing goals. It consists of establishing clear career goals and knowing one’s strengths and weaknesses” (London & Noe, 1997, p. 62). The measurement for career

insight was an ordinal variable, represented by CIn, that consisted of the mean value of the responses from the career insight-specific items in London (1993b) and Noe et al.'s (1990) instruments.

### *Career Resilience*

Career resilience “is the ability to adapt to changing circumstances, even when the circumstances are discouraging or disruptive” (London & Noe, 1997, p. 62). The measurement for career resilience was an ordinal variable, represented by CR, that consisted of the mean value of the responses from the career resilience-specific items in Carson and Bedeian's (1994), London's (1993b), and Noe et al.'s (1990) instruments. The reverse-scored items on the Carson and Bedeian instrument were verified for accuracy.

### *Demographic Variables*

Survey respondents were to provide some demographic information. Among these questions were items on their student nationality status, age, and gender. Student Nationality was reflected by a binary categorical variable. Participants classified their age (in years) in one of three ranges: 30 years old or less, 31 years to 45 years, and 46 years or older. This kept with Noe et al.'s (1990) procedure of using age periods (see Slocum & Cron, 1985). In the interests of clarification, Gender's two values and Age's three values were crossed to create five Gender-by-Age dummy variables for the six categories, using females aged 46 years or more as the reference group.

## Data Analysis

This section outlines the analysis used in the study. The statistical methodology used for studying the effects of one or more independent variables to a collection of dependent variables is regression analysis (Johnson & Wichern, 2002). Relevant Cronbach's  $\alpha$  measurements were also calculated. All analysis used SAS®9 software (SAS, 2003) except for one investigative procedure that was done with Minitab Statistical Software (Minitab, 2005).

### *Regression Analysis*

The analysis was done using multivariate multiple regression in order to test the hypotheses  $H_0 : \sigma_{Model}^2 = 0$ . Upon rejection of the hypothesis at a .05 level, the significance of the coefficients in each of the univariate multiple regression cases were examined. The hypotheses in the univariate cases were of the form:  $H_0 : \beta_i = 0$ . These hypotheses tested the significance of the relationship between the single dependent variable and the independent variables. The coefficients in the univariate cases were considered significant at the .008 level. This reflects a Bonferroni correction to hold the experiment-wide error rate at .05. An additional result from the analysis was the magnitude and direction of these relationships, represented by the values of the resulting coefficients in the model. Confidence intervals for these coefficients were calculated.

The equation for the multivariate multiple regression model was:

$$\begin{pmatrix} CR \\ CIn \\ CId \end{pmatrix} = \boldsymbol{\mu} + \boldsymbol{\beta}_1 INTL + \boldsymbol{\beta}_2 F1 + \boldsymbol{\beta}_3 F2 + \boldsymbol{\beta}_4 M1 + \boldsymbol{\beta}_5 M2 + \boldsymbol{\beta}_6 M3$$

In this model, CR, CIn, and CId denoted the career resilience, career insight, and career identity measures respectively,  $\boldsymbol{\mu}$  designated the intercept vector for the population, and  $\boldsymbol{\beta}_i$  represented a

vector of the coefficients of the respective independent variable for the population. Student nationality was represented with INTL, and coded “1” for international students, “0” for domestic students. The five Gender-by-Age dummy variables were coded F1, F2, M1, M2, and M3. For example, F1 had a value of “1” for trial-career females aged 18-30 years, “0” otherwise, while M3 had a value of “1” for late-career males aged 46 years or more, “0” otherwise.

Following from the multivariate model the univariate models were:

$$CR = \mu + \beta_1 INTL + \beta_2 F1 + \beta_3 F2 + \beta_4 M1 + \beta_5 M2 + \beta_6 M3$$

$$CIn = \mu + \beta_1 INTL + \beta_2 F1 + \beta_3 F2 + \beta_4 M1 + \beta_5 M2 + \beta_6 M3$$

$$CId = \mu + \beta_1 INTL + \beta_2 F1 + \beta_3 F2 + \beta_4 M1 + \beta_5 M2 + \beta_6 M3$$

Detailed results from the analysis are in the next chapter.



## CHAPTER 4

### RESULTS

The purpose of the study was to examine the extent of the relationship between the three dimensions of career motivation and a person's culture of origin, age, and gender. The results and analysis of the study are presented in this chapter. Results include a description of the target population, the response rate, validity and reliability for the web-based survey created for this study from London (London, 1993b), Noe, Noe & Bachhuber (1990), and Carson and Bedeian (1994) (see Appendix D for the entire survey), descriptive statistics of the respondents, along with a detailed account of the data analysis methods used and the results. With the exception of one investigative method using Minitab software (Minitab, 2005), SAS®9 software (SAS, 2003) was used for the analysis.

#### Survey Results and Respondent Description

The entire population of 8,402 graduate students whose emails appeared in the university database was invited to participate in the web-based survey. There were 1,406 respondents who submitted at least a partially completed survey. Responses for one respondent were eliminated because there were no answers for the gender, age, and student nationality questions. Another 25 respondents were eliminated because they did not complete more than 80% of the 55 career motivation items. This left 1,380 respondents, for usable response rate of 16%. From the respondent population 161 individuals did not complete the survey in its entirety leaving 190 answers blank. Three people did not answer four items, one person did not answer three items, and 13 people left two questions blank. The respondent population had 799 women (57.9%), 298 international students (21.6%), almost three-quarters were 18-30 years old (74.2%), and more

than one-fifth were 31-45 years old (21.2%). Table 1 contains further details about the respondent population. There were 50 countries of origin reported by the International students. Students from China composed the largest group (27.3%) among the international students with the second largest group coming from India (22.2%). See Table 2 for specific frequencies.

### Dependent Variables

The 55 items from the questionnaire were used to develop the three dimensional measures that were the focus of the three research questions. The career resilience measure was generated from 30 items, career insight used 13 items, and career identity used 12 items. Internal consistency for each of these dimensional item groups was measured with Cronbach's  $\alpha$  coefficient (see Table 3). Career resilience, career insight, and career identity measures were

Table 1  
*Regular and Relative Frequency Distributions by Gender, Age, and Student Status among Survey Respondents*

Independent Variable	Domestic		International		Total	
	n	%	n	%	n	%
<b>Gender</b>						
Male	411	29.8	170	12.3	581	42.1
Female	671	48.6	128	9.3	799	57.9
Total	1,082	78.4	298	21.6	1,380	100.0
<b>Age</b>						
18 - 30 years	784	56.8	240	17.4	1,024	74.2
31 - 45 years	237	17.2	55	4.0	292	21.2
46 years or more	61	4.4	3	.2	64	4.6
Total	1,082	78.4	298	21.6	1,380	25.8
<b>Student Status</b>						
Full-time (7 credits or more)	726	52.7	288	20.9	1,014	73.5
Part-time (4 - 6 credits)	219	15.9	8	.6	227	16.4
Part-time (3 credits or less)	136	9.9	1	.1	137	9.9
Total	1,081	78.4	297	21.6	1,378	100.0

Table 2  
*Regular and Relative Frequency Distributions of International Students by Nation among Survey Respondents*

Nation	n	%
China	80	27.3
India	65	22.2
Korea	21	7.2
Taiwan	18	6.1
Turkey	16	5.5
Brazil	7	2.4
Thailand	7	2.4
Argentina	5	1.7
Canada	5	1.7
Great Britain	4	1.4
Japan	4	1.4
Germany	3	1.0
Netherlands	3	1.0
South Africa	3	1.0
Venezuela	3	1.0
Vietnam	3	1.0
Colombia	2	.7
France	2	.7
Ghana	2	.7
Indonesia	2	.7
Iran	2	.7
Malaysia	2	.7
Mexico	2	.7
Peru	2	.7
Russia	2	.7
Serbia	2	.7
Spain	2	.7
Trinidad and Tobago	2	.7
Other <sup>a</sup>	22	7.5

<sup>a</sup> 22 different nations with n = 1.

Table 3  
*Cronbach's  $\alpha$  by Career Motivation Dimension*

Dimension	<i>n</i> responses used to calculate $\alpha$	Items in Scale	$\alpha$
Career Resilience	1,282	55	.86
Career Insight	1,341	13	.84
Career Identity	1,337	12	.80

generated by calculating the mean score of all the items for each dimension for which there was a response. Although imputation of missing data was considered, 11 out of the 14 people who did not reply to one item, “To what extent do you have a specific plan for achieving your career goal?” were women. This meant imputation would introduce significant bias into the data set (Schafer, 1997).

A normal distribution of the observed data is a necessary condition for sound regression analysis (Johnson & Wichern, 2002). Although the number of respondents eliminated the need for formal verification of normality by the Central Limit Theorem it is good practice to run Mardia's Skewness Test (Mardia, 1980) to get an idea of the distribution and skewness of the data (Johnson & Wichern, 2002). The larger a value for Mardia's test statistic, the greater the skewness of the data. The results of Mardia's Skewness Test found the data were heavily skewed (Mardia's = 87.31,  $p < .0001$ ). In an attempt to reduce the skewness as much as possible, the measures were all transformed by the power of 1.5. This power level was found using Minitab (Minitab, 2005) to perform a Box-Cox Transformation on all three measures. While the power level of 1.5 was not the optimal suggestion for any measure, it was within the confidence intervals for all three. Transforming the means in this way resulted in the hypothesis (the data was not skewed) not being rejected (Mardia's = 17.84,  $p = .058$ ). As a result, the scales for the measures used for the regression analysis had a range from 1.00 (low) to 11.18 (high).

## Data Analysis

This section details the statistical methods used to analyze the study's results. The results presented in this section were calculated with SAS®9 software (SAS, 2003).

### *Multivariate Analysis*

Multivariate analysis methods such as multivariate analysis of variance (MANOVA) and multivariate multiple regression (MMR) are appropriate when there is evidence of high correlations between the multiple dependent variables in the model (Johnson & Wichern, 2002). A correlation analysis of the three dependent variables showed that significant high correlations did exist (Table 4). Formally, MMR is appropriate when there are significant correlations between the residuals of the dependent variables (Johnson & Wichern, 2002). The results of the correlation analysis on the residuals are in Table 5. The large and significant correlations confirm that MMR was an appropriate analysis. Before performing MMR, there were assumptions that required confirmation. Those assumptions were (a) independence of the observations, (b) a common mean vector, (c) multivariate normality of the residuals, and (d) constant variance of the residuals.

The first two assumptions did not have formal tests. Independence was assumed due to the nature of the survey. In other words, each individual's set of responses was independent from each other set of responses. The assumption of a common mean vector required the assumption that people answered truthfully. Multivariate normality of the residuals held due to the size of the sample and the Central Limit Theorem.

Constant variance of the residuals was confirmed through examination of a plot of the residual values versus fitted values in the model. Therefore, there was no evidence to indicate

Table 4  
*Correlations among the Dependent Variables in the Model*

Variable	1	2	3
1. Career Resilience	-		
2. Career Insight	.67*	-	
3. Career Identity	.67*	.61*	-

\* =  $p < .0001$

Table 5  
*Correlations among the Residuals of the Dependent Variables in the Model*

Residual	1	2	3
1. Career Resilience	-		
2. Career Insight	-.30*	-	
3. Career Identity	-.59*	-.23*	-

\* =  $p < .0001$

any assumptions needed for sound MMR analysis were violated. Proceeding with simultaneous MMR analysis the model tested was:

$$\begin{pmatrix} CR \\ CIn \\ CId \end{pmatrix} = \mu + \beta_1 INTL + \beta_2 F1 + \beta_3 F2 + \beta_4 M1 + \beta_5 M2 + \beta_6 M3$$

Using PROC REG, the model was found to be significant (Wilk's  $\lambda = .935$ ,  $F(18, 3878.3) = 5.17$ ,  $p < .0001$ ). Complete results are presented in Table 6. Relationships were considered significant at the experiment-wide level of .05, which translated to a Bonferroni Correction level of .008 for the six coefficients of the independent variables. In Table 6 for example, the mean for trial-career women (F1) was 3.69 with a 95% confidence interval of (3.66, 3.73), while the mean for those who were not in F1 was 3.72 with a 95% confidence interval of (3.73, 3.79). When compared to the Reference group (late-career women) the regression coefficient for F1 was -.87 with a 95% Bonferroni confidence interval of (-1.33, -.42) which meant the women in F1 had a

Table 6

*Means and Regression Coefficients of Dimensional Measures by Dependent Variables*

Variable	Career Resilience <sup>a</sup>		Career Insight <sup>b</sup>		Career Identity <sup>c</sup>	
	<i>M</i> ( <i>CI</i> )	<i>b</i> ( <i>CI</i> )	<i>M</i> ( <i>CI</i> )	<i>b</i> ( <i>CI</i> )	<i>M</i> ( <i>CI</i> )	<i>b</i> ( <i>CI</i> )
INTL						
International	3.71 (3.67, 3.76)	-0.02 (-0.22, 0.19)	3.71 (3.65, 3.78)	-0.10 (-0.36, 0.17)	3.65 (3.59, 3.72)	0.15 (-0.12, 0.42)
Domestic	3.74 (3.71, 3.76)		3.78 (3.75, 3.81)		3.63 (3.60, 3.67)	
Reference						
Women (46 yrs & Older)	4.00 (3.89, 4.10)	-	3.97 (3.81, 4.13)	-	4.01 (3.88, 4.14)	-
Other	3.72 (3.70, 3.74)		3.76 (3.73, 3.76)		3.62 (3.59, 3.65)	
F1						
Women (18-30 yrs)	3.69 (3.66, 3.73)	-0.87 (-1.33, -0.42)	3.75 (3.71, 3.79)	-0.63 (-1.21, -0.04)	3.57 (3.53, 3.61)	-1.28 (-1.89, -0.68)
Other	3.76 (3.73, 3.79)		3.78 (3.74, 3.81)		3.69 (3.69, 3.73)	
F2						
Women (31-45 yrs)	3.83 (3.77, 3.89)	-0.49 (-0.99, 0.02)	3.94 (3.86, 4.02)	-0.08 (-0.73, 0.57)	3.78 (3.69, 3.87)	-0.66 (-1.34, 0.01)
Other	3.72 (3.69, 3.74)		3.74 (3.71, 3.77)		3.62 (3.59, 3.65)	

Table 6 (Continued)

Variable	Career Resilience <sup>a</sup>		Career Insight <sup>b</sup>		Career Identity <sup>c</sup>	
	<i>M</i> ( <i>CI</i> )	<i>b</i> ( <i>CI</i> )	<i>M</i> ( <i>CI</i> )	<i>b</i> ( <i>CI</i> )	<i>M</i> ( <i>CI</i> )	<i>b</i> ( <i>CI</i> )
M1						
Men (18-30 yrs)	3.69 (3.65, 3.73)	-0.87 (-1.34, -0.41)	3.67 (3.62, 3.73)	-0.83 (-1.43, -0.23)	3.57 (3.52, 3.63)	-1.28 (-1.90, -0.66)
Other	3.75 (3.72, 3.77)		3.80 (3.77, 3.84)		3.66 (3.63, 3.70)	
M2						
Men (31-45 yrs)	3.80 (3.72, 3.87)	-0.57 (-1.08, -0.07)	3.85 (3.76, 3.94)	-0.31 (-0.97, 0.34)	3.80 (3.71, 3.89)	-0.63 (-1.30, 0.05)
Other	3.72 (3.70, 3.75)		3.75 (3.72, 3.78)		3.62 (3.58, 3.65)	
M3						
Men (46 yrs & older)	3.68 (3.45, 3.91)	-0.92 (-1.85, 0.01)	3.63 (3.38, 3.88)	-0.98 (-2.18, 0.22)	3.75 (3.47, 4.03)	-0.78 (-2.02, 0.46)
Other	3.73 (3.71, 3.75)		3.77 (3.74, 3.79)		3.64 (3.60, 3.67)	

Note: Mean values were transformed back to the original measurement scale. Confidence intervals for the regression coefficients are Bonferroni confidence intervals. <sup>a</sup>  $R^2 = .029$ ; <sup>b</sup>  $R^2 = .030$ ; <sup>c</sup>  $R^2 = .043$ .



significantly lower measure for career resilience than the women in the Reference group did. The results from the non-respondent survey and the comparison between the two respondent groups are presented in the next section.

### *Non-respondent Results*

Non-respondents were the portion of the initial sample that did not respond to the first survey. The non-respondent population numbered 6,996 students. While the intention was to send all of the students in this population an invitation, the system used to send the emails mistakenly included previous respondents in the non-respondent population. As a result, respondents were not included in the non-respondent survey results unless they could be confirmed, through cross-referencing email addresses, that they did not respond to the first survey. This process yielded 198 people who submitted at least a partially completed survey. Responses were eliminated for two respondents who did not answer the age question. Only 29 people did not complete the survey in its entirety. Four people did not respond to two questions while three people left three questions blank. This left 196 responses to use in the non-respondent data analysis. The non-respondent population had 94 women (48%), 51 international students (26%), 117 people aged 18-30 years (59.7%), and 63 people aged 31-45 years (32.1%). In comparison, the respondent population was 57% female, 21.6% international students, with 74.2% aged 18-30 years and 21.2% aged 31-45 years. Table 7 contains more information on the non-respondent population. The measures for each of the three dimensions were calculated in exactly the same way as the survey respondent variables.

Two-Sample Hotelling's  $T^2$  was used to test the hypothesis that there was no difference between the measures of the three career motivation dimensions between the two groups of

Table 7

*Regular and Relative Frequency Distributions by Gender, Age, and Student Status among Survey Non-Respondents*

Variable	Domestic		International		Total	
	n	%	n	%	n	%
Gender						
Male	71	36.2	31	15.8	102	52.0
Female	74	37.8	20	10.2	94	48.0
Age						
18 - 30 years	82	41.8	35	17.9	117	59.7
31 - 45 years	48	24.5	15	7.7	63	32.1
46 years or more	15	7.7	1	.5	16	8.2
Student Status						
Full-time (7 credits or more)	81	41.3	48	24.5	129	65.8
Part-time (4 - 6 credits)	35	17.9	1	.5	36	18.4
Part-time (3 credits or less)	29	14.8	2	1.0	31	15.8
Total	145	74.0	51	26.0	196	100

respondents. Assumptions of  $T^2$  are (a) the two groups have the same population mean vector and (b) have common variance-covariance matrix, (c) independence of the observations, and (d) both populations are multivariate normally distributed (Johnson & Wichern, 2002). The first assumption was confirmed through survey design. Data for non-respondents and respondents would not exist unless respondents were in either of the two groups. Bartlett's Test is an accepted method to test the hypothesis that the variance-covariance matrices are equal (Johnson & Wichern, 2002). Results from Bartlett's indicated the hypothesis cannot be rejected ( $\chi^2 = 4.73, df = 8, p = .578$ ). Independence was also a consequence of experimental design as it was with the original survey data. The Central Limit Theorem confirmed multivariate normality for both groups. The results of  $T^2$  analysis showed that there was not a significant difference between any of the three dimensional measures for the two groups ( $T^2 = 5.08, F(3, 1572) = 1.69, p = .167$ ). Thus, further analysis of the non-respondent data was not required. Specific results

from the respondent analysis pertaining to the research questions are presented in detail, with restatements of the research questions, in the next sections.

#### *Research Question One*

*RQ1. To what extent is there a relationship between student nationality and career resilience, career insight, and career identity among graduate students at an American university?*

The first research question studied was the extent of the relationship between Student Nationality and career resilience, career insight, and career identity among graduate students at an American university. The MMR analysis yielded no evidence of a relationship between Student Nationality and career resilience ( $p = .806$ ), career insight ( $p = .341$ ), or career identity ( $p = .156$ ).

#### *Research Questions Two and Three*

*RQ2. To what extent is there a relationship between age and career resilience, career insight, and career identity among graduate students at an American university?*

*RQ3. To what extent is there a relationship between gender and career resilience, career insight, and career identity among graduate students at an American university?*

The second and third research questions addressed the extent of the relationships between Age and Gender to career resilience, career insight, and career identity, respectively. These questions were answered by a close examination of the regression coefficients and their confidence intervals presented in Table 6.

There was evidence of a significant relationship between career resilience and age between the youngest (F1) and oldest (Reference) age groups in women. The difference between mid-career women (F2) and late-career women was borderline insignificant with the older women having a higher measure. Trial-career and mid-career men (M1 and M2) also scored significantly lower than late-career women did. The difference between the two younger groups of women (F1 and F2) and men (M1 and M2) was not significant. For men there was not a significant relationship between age and career resilience. Between men and women in the same age groups, the only evidence of a difference appeared in the borderline case between men and women in the late-career group (M3 and Reference) where the men scored lower than the women did.

Career insight was highest in late-career women and significantly different from career insight in trial-career men (M1) and women (F1). Among men and women considered separately, there were no significant differences due to age. There was no difference in career insight between men and women in the same age groups, which demonstrated no overall relationship between career insight and gender.

Career identity was highest in late-career women (Reference) and significantly different from career identity in trial-career men (M1) and women (F1). Like career insight, there were no other significant differences in career identity measures due to age. There was no difference in career identity due to gender.

### Summary

This chapter presented the findings of an analysis to examine the extent of the relationships between independent variables Student Nationality, Gender, and Age with

dependent variables Career Resilience, Career Insight and Career Identity. The three career motivation measures were generated from the responses from 1,380 respondents. Multivariate multiple regression was used to answer the three research questions. Results from the analysis showed that there was no evidence of a relationship between Student Nationality and the career motivation measures. Career Resilience and Career Identity both had a couple significant relationships with Age among women with the older women having higher measures when contrasted to the youngest women. Gender did not have a significant relationship with any of the career motivation dimensions when controlling for age. The difference between men and women aged 46 years or more was borderline but still insignificant. Analysis of 196 respondents to a second iteration of the survey did not indicate any difference in career resilience, career insight, or career identity measures between the two groups of respondents. Discussion of these results and future areas of research are addressed in the next chapter.

## **CHAPTER 5**

### **DISCUSSION**

The purpose of this study was to investigate the extent of the relationship between student nationality, age, and gender and the three dimensions of London's Career Motivation Inventory (1997): career resilience, career insight, and career identity among graduate students at Pennsylvania State University (PSU). There are three sections in this chapter. The first section is a summary of the study, the second section is a discussion of the results, and the chapter concludes with suggestions for future areas of study.

#### **Summary of the Study**

With the tremendous growth of foreign-born workers in the United States and more than a quarter of them (26.5%) being in management, professional or related positions (U.S. Bureau of Labor Statistics, 2005) there was a clear need to study differences among people from multiple cultures and the impact those differences may have on the work environment. While research has shown that there are cultural differences in motivation (Miller, 2004; Triandis, 2004), there was no evidence of extant studies on how career motivation might vary among people from different cultures. Using London's Career Motivation Inventory (London & Noe, 1997) as a theoretical framework and a web-based version of a research-validated instrument based on that framework (London & Noe), this study sought to identify the relationship between a student's nationality, age, and gender with career motivation.

A review of the literature detailed past studies that identified weak relationships between age and gender and the three dimensions of career motivation: career resilience, career insight, and career identity. An extensive search of the literature yielded no studies of the relationships

between career motivation and cultural background or nationality. Literature regarding cultural differences in motivation seemed to indicate there would be some differences in career motivation, career resilience and career identity, in particular, between international and domestic graduate students. The idea of collectivist and individualist cultures (Triandis, 2004) was central to this conclusion. When comparing a person from an individualist culture to a person from a collectivist culture one might think that the person from the collectivist culture would score lower in career resilience than the individualist who came from a culture that has low levels of uncertainty avoidance. There are, however, individualist people (idiocentrics) in collectivist cultures and collectivist people (allocentrics) in individualist cultures (Triandis, 2004).

Over the course of three weeks and multiple email contacts, more than 1,400 graduate students from the population of over 8,000 responded to the survey. Multivariate multiple regression analysis was used to test the hypotheses that no relationship existed between student nationality, age and gender and the career motivation dimensions. While there were some significant differences between age groups while accounting for gender and student nationality, there was no evidence to reject the null hypothesis that there was no difference in career motivation dimensions between domestic and international students at PSU. Conclusions from these results are presented in the next section.

### Conclusions

While the conclusions about career motivation and its relationships to student nationality, age, and gender from this study were limited due to small variance explained by the regression model, the power of the conclusions is very high due to the number of respondents. The

independent variables of interest drive each of the three parts of this section. Special attention is paid to student nationality, otherwise, the discussion is limited to how the results compare to findings of previous studies.

### *Student Nationality*

The first question of this study dealt with student nationality and its relationship to career resilience, career insight, and career identity. The analysis showed that no relationship existed with  $p$  values ranging from .156 (career identity) all the way up to .806 (career resilience). These conclusions would seem to conflict with past research on the relationship between motivation and culture. One reason for this may be the choice to parse students into one of only two groups and compare American domestic students to their international peers. Differences among the cultures could have been masked by the diversity of cultures that made up the international respondents. After all, the American students were not compared to students from another single country or region; they were compared to students from all over the world representing 50 nations.

Another reason for the homogeneity of career motivation measures between the two groups may be a self-selection effect by the international students. They all chose to come to PSU. Something drew them to apply and attend the university. The act of choosing PSU is an indication that they have something in common with PSU's domestic students. Those commonalities may extend to sources of motivation. For international students who came from collectivist cultures this would indicate that they are unlike their cultural counterparts. International students who are more allocentric, whether they are from individualist or



collectivist nations, may choose not to come to PSU and so remove themselves from the population. This same line of thinking can be extrapolated to the foreign-born worker population.

While the variation in career dimensions explained by the independent variables was very low, there was strong evidence that when comparing the domestic students at this large university to their international counterparts they showed no differences in career resilience, career insight, and career identity when accounting for age and gender.

### *Age*

Put together, the past studies in career motivation and career commitment have had mixed results regarding the relationships between age and career resilience, career insight, career identity, and career commitment (Aryee & Debrah, 1993; Cherniss, 1991; Colarelli & Bishop, 1990; Greller, 2000; London, 1993a, 1993b). London (1993a), Cherniss (1991), and Colarelli and Bishop (1990) found age to be positively associated with career resilience. London (1993b) found that among business, non-profit, and government organizations older men had higher levels of career resilience than young men. Yet among employees at a public utility company London (1993b) found no relationship between age and career resilience, but he did find that older workers had higher levels of career insight.

The results of the present study indicated some relationships between age and the three dimensions of career motivation. Women showed an increase in career resilience levels throughout their entire career life, although the differences between the two adjacent age groups of women were not significant. For men there was no evidence of a change in career resilience with age. One reason for this may be only having 14 men in the oldest age group (M3) that resulted in a broad confidence interval.

In the case of career insight and career identity, the results were virtually identical. Late-career women had higher levels of both insight and identity than trial-career men and women. For women, career identity increased from trial-career to late-career and while it increased over the entire career the differences between mid-career women and the adjacent groups were not significant.

These results provided some support for the existence of the relationship between age and career motivation dimensions. There was greater strength and evidence of the relationship in women than men however; the weakness of the relationship in men could be due to the small number of men in the late-career group. The support for the relationships was a direct result of the large number of respondents. The large number in each group (with the exception of late-career men) contributes to tighter confidence intervals around each group mean. These results provided further clarity on the relationship between age and career motivation.

### *Gender*

The last question of this study addressed the relationship of gender to career motivation. Past studies have shown there was no evidence to show that career resilience, career insight, career identity or career commitment have a relationship to gender (Aryee & Debrah, 1993; Farmer & Chung, 1995; London, 1993a, 1993b). The results of this study supported those previous findings. Together with the power of these results (due to the large sample size), these studies seemed to conclusively indicate that gender and career motivation are not related.

## Future Areas for Research

Based on the conclusions several recommendations for future research are made. The suggestions center on the next steps for researchers, international study of career motivation, and a brief word on measuring career motivation.

### *Nation to Nation*

A significant limitation of this study was treating the international students as a homogeneous group. This meant that any strong or subtle differences between students from different nations were lost or, at the very least, masked. By partitioning out the international students into their respective nations, researchers can come to a greater understanding of cultural influences on career motivation. Taking this step with this study's model would most likely increase the variance explained by the model. Given the high number of students that responded from China and India any differences between these students would become clearer.

### *School to School*

In order to be able to generalize further than populations at large public American universities, future research should address students at different types of universities and colleges, such as specialty schools that feature programs in engineering, business, fine arts, and vocational and technical trades.

### *International Career Motivation*

Researchers should also study students in different countries who attend schools or universities with similar factors such as student population, endowment, and degrees offered.

While this would not address the domestic vs. international question, it would offer an opportunity to study whether or not career motivation varies from culture-to-culture instead of from person-to-person living in the city but from different countries/cultures. Another interesting question for future study would be to test an extension of the idea that idiocentrism increases with exposure to Western culture (Triandis & Trafimow, 2001) through examination of whether international students' motivation changes over time, specifically, over their first four or five years in the United States. A longitudinal study that measured career motivation in foreign-born workers and/or international students every year beginning in their first months in the U.S. would address this.

#### *Measuring Career Motivation*

While the instrument used in this study was research validated and tried and true, it is a self-report instrument. This lends the measures from the instrument open to respondent bias. London (1993b) found discrepancies in career motivation levels when using the 17 item instrument that was a part of the larger instrument used for this study. Respondent age was a categorical variable for this study. Future studies should attempt to avoid this in order to provide a clearer picture of the relationship between age and career motivation. Successful development of an assessment based on multiple sources such as observational data, school or work records, and colleagues, would be an asset to the future of career motivation research. Additionally, the adoption of qualitative methods (e.g. follow-up interviews, focus groups) with a sample of the respondent population could reveal additional subtleties about career motivation that surveys such as the instrument used for this study are not able to measure.

## APPENDIX A

### Noe, Noe & Bachhuber (1990) Instrument

#### Career Insight

To what extent...

1. do you have a specific career goal?
2. do you have a specific plan for achieving your career goal?
3. do you feel you are aware of your skill strengths and weaknesses?
4. do you ask co-workers you respect for feedback on your performance?
5. have you changed or revised your career goals based on new information you have received regarding yourself or your situation?
6. have you sought job assignments that will help you obtain your career goal?
7. have you taken the initiative to discuss you career goals with your boss?
8. have you asked your boss to discuss your specific strengths and weaknesses?

#### Career Identity

To what extent...

9. do you spend your free time on activities that will help you do your job?
10. have you taken courses toward a job-related degree?
11. have you joined professional organizations related to your career goal?
12. have you kept current on company affairs?
13. do you stay abreast of developments in your line of work?

#### Career Resilience

To what extent...

14. do you accept compliments rather than discount them?
15. do you believe other people when they tell you that you have done a good job?
16. do you reward yourself when you complete a project?
17. do you take the time to do the best possible job on a task?
18. do you set difficult but not impossible work goals?
19. have you designed better ways of doing your work?
20. have you accepted a job assignment for which you have little to no expertise?
21. have you made suggestions to others even though they may disagree?
22. do you look for opportunities to interact with influential people in your organization?
23. do you help co-workers with projects?
24. have you made and maintained friendships with people in different departments?
25. have you outlined ways of accomplishing jobs without having to wait for your boss?
26. have you evaluated your job performance against personal standards rather than comparing it with what others do?

All items used a “to a very slight extent” (1), “To a very large extent” (5) response format.

## APPENDIX B

### London (1993b) Instrument

Please rate the extent to which you...

1. are able to adapt to changing circumstances.
2. are willing to take risks (actions with uncertain outcomes).
3. welcome job and organizational changes (e.g. new assignments).
4. can handle any work problems that come your way.
5. look forward to working with new and different people.
6. have clear career goals.
7. have realistic career goals.
8. know your strengths (the things you do well).
9. know your weaknesses (the things you are not so good at).
10. recognize what you can do well and cannot do well.
11. define yourself by your work.
12. work as hard as you can, even if it means frequently working long days and weekends.
13. are involved in your job.
14. are proud to work for your organization.
15. believe that your success depends upon the success of your employer.
16. are loyal to your employer.
17. see yourself as a professional and/or technical expert.

All items use a “low” (1), “moderate” (3), “high” (5) response format.

## APPENDIX C

### Carson & Bedeian (1994) Instrument

1. My line of work/career field is an important part of who I am.
2. This line of work/career field has a great deal of personal meaning to me.
3. I do not feel “emotionally attached” to this line of work/career field. <sup>r</sup>
4. I strongly identify with my chosen line of work/career field.
5. I do not have a strategy for achieving my goals in this line of work/career field. <sup>r</sup>
6. I have created a plan for my development in this line of work/career field.
7. I do not identify specific goals for my development in this line of work/career field. <sup>r</sup>
8. I do not often think about my personal development in this line of work/career field. <sup>r</sup>
9. The costs associated with my line of work/career field seem too great. <sup>r</sup>
10. Given the problems I encounter in this line of work/career field, I sometimes wonder if I get enough out of it. <sup>r</sup>
11. Given the problems I encounter in this line of work/career field, I sometimes wonder if the personal burden is worth it. <sup>r</sup>
12. The discomforts associated with my line of work/career field sometimes seem too great. <sup>r</sup>

<sup>r</sup> = reverse scored.

All items use a strongly disagree (1) to strongly agree (5) response format.

## APPENDIX D

### Complete Survey

#### Career Motivation among Graduate Students

Thank you for participating in this survey of Penn State Graduate Students.

The survey should take about 15 minutes to complete. It must be completed at one time. You cannot save and return to it later. Some questions ask you about a specific current job. For the purposes of the survey please keep ONE of your previous (or current) jobs in mind when answering these questions. Complete confidentiality will be given to your answers.

If you would like a chance to **win either 1 of 3 iPod Shuffles or 1 of 10 \$25 Downtown State College Business Gift Certificates** please enter your PSU access ID (xyz123):

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In order to be eligible for the drawing you must complete the survey in its entirety. Once you have submitted a completed survey, your participation is complete.

Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer.

You must be 18 years of age or older to take part in this research study.



# Implied Informed Consent Form for Social Science Research

## The Pennsylvania State University

**Title of Project:** Differences in Career Motivation between International and Domestic Graduate Students

**Principal**

**Investigator:** Tobin Lopes, Graduate Student  
Department of Learning and Performance Systems  
EMAIL: [tpl127@psu.edu](mailto:tpl127@psu.edu)  
TELEPHONE: (814) 238-0780

**Advisor:** Dr. David Passmore  
Department of Learning and Performance Systems  
315 Keller Building  
University Park, PA 16802  
EMAIL: [dlp@psu.edu](mailto:dlp@psu.edu)  
TELEPHONE: (814) 863-2583

**Purpose of the Study:** To explore possible differences in career motivation among graduate students. Career motivation is a term used to explain the extent to which people involve themselves in their own career paths and decisions. Differences in career motivation between men and women, age groups, and place of birth are the primary focus of this study.

**Procedures to be followed:** You will be asked to complete a Web-based survey that should take about 15 minutes to complete.

**Discomforts and Risks:** There are no foreseeable risks to you for participating in this study beyond what would be encountered in normal daily living.

**Benefits:** Participating in this research will help career development professionals and you by increasing awareness of the diversity of their customers and the workforce as a whole. There are no foreseeable risks in participating in this study.

**Duration/Time:** Completing the survey should take about 15 minutes.

**Statement of Confidentiality:** All of your responses will remain confidential. That is, none of your personally identifiable information such as name, gender, or student identification number will be linked to your individual responses during data analysis or reporting. Your USER ID number will be used for tracking purposes only. For example, if you are interested eligibility to one of several prizes, your USER ID number will help the investigator contact you if you have won. Please note that your confidentiality will be kept to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the Internet by any third parties. The Office for Research Protections may review records related to this project.

**Right to Ask Questions:** You can ask questions about this research. Contact Tobin Lopes at 238-0780 with questions. If you have questions about your rights as a research participant, contact The Pennsylvania State University's Office for Research Protections at (814) 865-1775.

**Compensation:** Once you have submitted a completed survey your participation will be complete. If you choose, however, you may also enroll in a drawing for one of 13 prizes (i.e., three iPod shuffles, 10 \$25 Downtown State College Business Gift Certificates). To enter the drawing, you must provide the researcher your PSU access id (e.g., xyz123). Winners of the drawings valued at more than \$100, should please be advised that there are IRS regulations that now have to be reported for items worth more than \$100. The principal investigator is now required to collect the Social Security number or PSU ID number of the winner(s).

**Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer.

You must be 18 years of age or older to take part in this research study.

Completion and return of the survey implies that you have read the information in this form and consent to take part in the research.

Please save a copy of this electronically or print this page to keep for your records or future reference.

**This informed consent form was reviewed and approved by the Office for Research Protections (IRB#21701) at The Pennsylvania State University on 10-18-2005. It will expire on 09-26-2006. DWM**

- I consent to take this survey.**
- I decline to take this survey.**

1. What is your gender?

- Male
- Female

2. What is your age?

- 30 years or less
- 31 – 45 years
- 46 years or older

3. Which Penn State College do you attend?

- Agricultural Sciences
- Arts and Architecture
- Behrend College
- Business Administration (Smeal)
- Communications
- Earth and Mineral Sciences
- Education
- Engineering
- Health and Human Development
- Information Sciences and Technology
- Liberal Arts
- Science (Eberly)
- Capital College
- School of Graduate Professional Studies
- Interdisciplinary/Intercollege Graduate Programs

4. What is your student status this semester?

- Part-time, no more than 3 credits
- Part-time, 4 to 6 credits
- Full-time, 7 or more credits

5. Are you an international student?

- Yes
- No

5a. What is your country of Origin?

- Canada
- China
- Great Britain
- India
- Japan
- Korea
- Malaysia
- Taiwan
- Thailand
- Other \_\_\_\_\_

5b. When did you live in your Country of Origin?

- Infancy only (Birth – 4 years)
- Infancy and early childhood (Birth – 12 years)
- Infancy, early childhood, and teen years (Birth – 17 years)
- Entire childhood into adult years

6. How many total years have you lived in the United States?

- Between 0 and 4 years
- Between 4 and 9 years
- Between 9 and 14 years
- Between 14 and 19 years
- 20 or more years

Please rate the extent to which you...	Low	Moderate	High
are able to adapt to changing circumstances			
are willing to take risks (actions with uncertain outcomes)			
welcome job and organizational changes (e.g. new assignments)			
can handle any work problems that come your way			
look forward to working with new and different people			
have clear career goals			
have realistic career goals			

know your strengths (the things you do well)					
know your weaknesses (the things you are not so good at)					
recognize what you can do well and cannot do well					
define yourself by your work					
work as hard as you can, even if it means frequently working long days and weekends					
are involved in your job					
are proud to work for your organization					
believe that your success depends upon the success of your employer					
are loyal to your employer					
see yourself as a professional and/or technical expert					
Please rate the extent of your agreement with the following statements.	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
My career field is an important part of who I am.					
This career field has a great deal of personal meaning to me.					
I do not feel “emotionally attached” to this career field.					
I strongly identify with my chosen career field.					
I do not have a strategy for achieving my goals in this career field.					
I have created a plan for my development in this career field.					
I do not identify specific goals for my development in this career field.					
I do not often think about my personal development in this career field.					

The costs associated with my career field seem too great. Given the problems I encounter in this career field, I sometimes wonder if I get enough out of it.				
Given the problems I encounter in this career field, I sometimes wonder if the personal burden is worth it.				
The discomforts associated with my career field sometimes seem too great.				
To what extent...	Very slight extent	Slight extent	Large extent	Very large extent
do you have a specific career goal?				
do you have a specific plan for achieving your career goal?				
do you feel you are aware of your skill strengths and weaknesses?				
do you ask co-workers you respect for feedback on your performance?				
have you changed or revised your career goals based on new information you have received regarding yourself or your situation?				
have you sought job assignments that will help you obtain your career goal?				
have you taken the initiative to discuss you career goals with your boss?				
have you asked your boss to discuss your specific strengths and weaknesses?				
do you spend your free time on activities that will help you do your job?				

---

have you taken courses toward a job-related degree?

have you joined professional organizations related to your career goal?

---

have you kept current on company affairs?

---

do you stay abreast of developments in your line of work?

---

do you accept compliments rather than discount them?  
do you believe other people when they tell you that you have done a good job?

---

do you reward yourself when you complete a project?

---

do you take the time to do the best possible job on a task?  
do you set difficult but not impossible work goals?

---

have you designed better ways of doing your work?

---

have you accepted a job assignment for which you have little to no expertise?

---

have you made suggestions to others even though they may disagree?

---

do you look for opportunities to interact with influential people in your organization?

---

do you help co-workers with projects?

---

have you made and maintained friendships with people in different departments?

---

have you outlined ways of accomplishing jobs without having to wait for your boss?

---

have you evaluated your job performance against personal standards rather than comparing it with what others do?

---

Thank you for completing the survey. In order to finalize your survey simply click on the “Submit” button below.

If you entered yourself in the drawing be aware that only people who completed surveys **in their entirety** will qualify.

Thank you again for taking part in this survey.

If you would like to receive a short report on the results of this study please enter an email address below:

---

Tobin Lopes



## APPENDIX E

### Introductory Email

Greetings!

My name is Tobin Lopes. In partnership with Penn State Career Services, I am conducting research on career motivation differences in graduate students at Penn State under my advisor Dr. David Passmore.

In a few days you will receive an invitation to participate in a web-based survey. As an incentive to participate you can choose to enter a drawing to win 1 of 3 iPod Shuffles or 1 of 10 \$25 Downtown State College Gift Certificates!

Thank you and keep a lookout for the invitation email in a few days.

Sincerely,  
Tobin Lopes (Principal Investigator)  
[tp1127@psu.edu](mailto:tp1127@psu.edu)  
(814) 238-0780  
706 W. Whitehall Rd  
State College, PA 16801

Dr. David Passmore (Advisor)  
[dlp@psu.edu](mailto:dlp@psu.edu)  
(814) 863-2583  
315 Keller Building  
University Park, PA 16802

## APPENDIX F

### Invitation Email

Greetings!

My name is Tobin Lopes. In partnership with Penn State Career Services, I am conducting research on career motivation differences in graduate students at Penn State under my advisor Dr. David Passmore.

The purpose of my research is to explore differences in career motivation. Career motivation is a term used to explain the extent to which people involve themselves in their own career and career decisions. Participating in this study will help career development professionals and you by increasing awareness of the diversity of their customers and the workforce as a whole.

In order to participate (and maybe win some prizes!) simply click on the link below. The link will take you to a web-based survey that should take about 15 minutes to complete. Please make sure and read the consent form prior to completing the survey. If you choose to, you can enroll in a drawing to win 1 of 3 iPod shuffles or 1 of 10 \$25 Downtown State College Business Gift Certificates by providing your PSU access id (xyz123). Once you have submitted a completed survey your participation is complete.

<http://web.survey.psu.edu/careermotivation?1445040>

You must be 18 years of age or older to take part in this research study.

Sincerely,  
Tobin Lopes (Principal Investigator)  
tpl127@psu.edu  
(814) 238-0780  
706 W. Whitehall Rd  
State College, PA 16801

Dr. David Passmore (Advisor)  
dlp@psu.edu  
(814) 863-2583  
315 Keller Building  
University Park, PA 16802

## APPENDIX G

### First Reminder Email

Greetings!

Last week you received an invitation to participate in a survey. The survey is still open and I invite you to participate.

The purpose of my research is to explore differences in career motivation. Career motivation is a term used to explain the extent to which people involve themselves in their own career paths and decisions.

In order to participate (and maybe win some prizes!) simply click on the link contained in this email. The link will take you to a web-based survey that should take about 15 minutes to complete. If you choose to, you can enroll in a drawing for one of 13 prizes (3 iPod shuffles, 10 \$25 Downtown State College Business Gift Certificates) by providing your PSU access id (xyz123). Once you've submitted a completed survey your participation is complete.

<http://web.survey.psu.edu/careermotivation?1445040>

You must be 18 years of age or older to take part in this research study.

Sincerely,  
Tobin Lopes (Principal Investigator)  
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315 Keller Building  
University Park, PA 16802

## APPENDIX H

### Second Reminder Email

Greetings!

Two weeks ago, you received an invitation to participate in a survey. The survey is still open and I invite you to participate one last time.

The purpose of my research is to explore differences in career motivation. Career motivation is a term used to explain the extent to which people involve themselves in their own career paths and decisions.

In order to participate (and maybe win some prizes!) simply click on the link contained in this email. The link will take you to a web-based survey that should take about 15 minutes to complete. If you choose to, you can enroll in a drawing for one of 13 prizes (3 iPod shuffles, 10 \$25 Downtown State College Business Gift Certificates) by providing your PSU access id (xyz123). Once you've submitted a completed survey your participation is complete.

<http://web.survey.psu.edu/careermotivation?1445040>

You must be 18 years of age or older to take part in this research study.

Sincerely,  
Tobin Lopes (Principal Investigator)  
tpl127@psu.edu  
(814) 238-0780  
706 W. Whitehall Rd  
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University Park, PA 16802

## APPENDIX I

### Non-respondent Invitation Email

Greetings!

I need your help. My name is Tobin Lopes. Last month I conducted a web-based survey on Penn State Graduate Student Career Motivation. Although the response to the survey was good, I need to know more and need your help. Please take a few minutes to complete my survey and help me with my research.

The purpose of my research is to explore differences in career motivation among graduate students. Career motivation is a term used to explain the extent to which people involve themselves in their own career and career decisions.

In order to participate simply click on the link below. Please make sure and read the consent form prior to completing the survey. Once you have submitted a completed survey your participation is complete.

<http://web.survey.psu.edu/careermotivation3?15957>

You must be 18 years of age or older to take part in this research study.

Sincerely,  
Tobin Lopes (Principal Investigator)  
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**TOBIN P. LOPES**  
Curriculum Vitae

**Education**

**Doctor of Philosophy, Workforce Education & Development - Minor in Applied Statistics,**

The Pennsylvania State University, expected May 2006

**Master of Education, Adult Education & Human Resource Studies**

Colorado State University, 2002

**Bachelor of Arts, Mathematics**

Claremont McKenna College, 1993

**Teaching Experience**

Career Planning (Penn State University)

Train-the-Trainer

Inspection Principles

High School Courses within English-as-a-Second-Language Program

High Technology Soldering Skills

Workmanship Standards

New Employee Orientation

**Professional Affiliations**

*Vice President*, Penn State Society for the Study of Workforce & Economic Development, 2005 – 2006, Member since 2005

*Certified Facilitator*, Development Dimensions International, since 2005

*Member*, American Society for Training and Development, since 2001

ASTD Training Certification Exam Item Writer, 2005

*Member*, Academy of Human Resource Development, since 2006

*Chair*, WFED Alumni Reunion Planning Committee, September 2003 – June 2004

**Areas of Interest**

Workforce & Economic Development

Leadership Development

Adult Education & Training

Applied Statistics

Career Motivation & Career Self-Efficacy

Instructional Design

**Professional Experience**

**Graduate Research Assistant:** Dr. William J. Rothwell, Pennsylvania State University, State College, PA 16802

**Project Consultant (Team Leader):** Office of Economic and Workforce Development: Pennsylvania State University, State College, PA 16802

**Project Consultant:** Pennsylvania CareerLink Curriculum and Credentialing Program. State College, PA 16801.

**Graduate Research Assistant:** Outreach Marketing Research: The Pennsylvania State University, State College, PA 16802.

**Office Technology Portfolio Reviewer:** Human Resource Development Center: The Pennsylvania State University, State College, PA 16802.

**Education Services Specialist:** American Water Works Association, Denver, CO 80235

**Technical Trainer:** Celestica (High Technology Manufacturing), Ft Collins, CO 80528

**Manufacturing Line Lead:** Celestica (High Technology Manufacturing), Ft Collins, CO 80528

**Technical Trainer:** Hewlett Packard, Ft Collins, CO 80528

**Publications**

Lopes, T. P. (2006). *A Justification for Career Motivation Research Between Foreign-Born and U.S. Born Workers*. Paper presented at the Academy of Human Resource Development Annual Conference, Columbus, OH.

Lopes, T. P. (2006). *Differences in Dimensions of Career Motivation Between Foreign-Born and U.S. Born Workers by Age and Gender*. Paper presented at the Academy of Human Resource Development Annual Conference, Columbus, OH.

**Presentations**

*Evidence of Self-Organizing Systems for Learning in On-Line Communities*. D. Passmore, T. Lopes (2004). Paper presented at Northeastern Educational Research Association 35<sup>th</sup> Annual Conference.

*The Role of Motivation In Career Development: A.K.A. Career Motivation*. T. Lopes (2004). Poster presented at The Pennsylvania State University College of Education-Spring 2004.