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Risk-taking propensity of faculty, administrators and academic department heads at large, urban, multicampus community college

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FLORIDA INTERNATIONAL UNIVERSITY

Miami, Florida

**RISK-TAKING PROPENSITY OF FACULTY, ADMINISTRATORS,
AND ACADEMIC DEPARTMENT HEADS AT A LARGE, URBAN,
MULTICAMPUS COMMUNITY COLLEGE**

**A dissertation submitted in partial satisfaction of the
requirements for the degree of
DOCTOR OF EDUCATION
IN
COMMUNITY COLLEGE TEACHING**

by

Lois Hanson Bolton

1997

To: Dean I. Ira Goldenberg
College of Education

This dissertation, written by Lois Hanson Bolton, and entitled "Risk-Taking Propensity of Faculty, Administrators, and Academic Department Heads at a Large, Urban, Multicampus Community College," having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this dissertation and recommend that it be approved.

Joseph B. Cook

Paul A. Rendulic, Co-Major Professor

Janice R. Sandiford, Co-Major Professor

Date of Defense: October 20, 1997

The dissertation of Lois Hanson Bolton is approved.

Dean I. Ira Goldenberg
College of Education

Dr. Richard L. Campbell
Dean of Graduate Studies

Florida International University, 1997

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I dedicate this dissertation to my husband, Wade, and my children, Jeremy and Chelsea. Their support, encouragement, and self-sufficiency made it possible for me to complete this study at this time in our lives.

This dissertation is especially dedicated to Dr. Lorraine R. Gay, who helped me get going on this project when I needed a push, and who served on my committee until the time of her death in July, 1997. I will always remember her unfailing encouragement, her uncountable hours of advice, and her ready sense of humor.

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ABSTRACT OF THE DISSERTATION

RISK-TAKING PROPENSITY OF FACULTY, ADMINISTRATORS, AND ACADEMIC DEPARTMENT HEADS AT A LARGE, URBAN, MULTICAMPUS COMMUNITY COLLEGE

by

Lois Hanson Bolton

Florida International University, 1997

Professor Janice R. Sandiford, Co-Major Professor

Professor Paul A. Rendulic, Co-Major Professor

This research was undertaken to explore dimensions of the risk construct, identify factors related to risk-taking in education, and study risk propensity among employees at a community college. Risk-taking propensity (RTP) was measured by the 12-item BCDQ, which consisted of personal and professional risk-related situations balanced for the money, reputation, and satisfaction dimensions of the risk construct. Scoring ranged from 1.00 (most cautious) to 6.00 (most risky).

Surveys including the BCDQ and seven demographic questions relating to age, gender, professional status, length of service, academic discipline, highest degree, and campus location were sent to faculty, administrators, and academic department heads. A total of 325 surveys were returned, resulting in a 66.7% response rate. Subjects were relatively homogeneous for age, length of service, and highest degree.

Subjects were also homogeneous for risk-taking propensity: no substantive differences in RTP scores were noted within and among

demographic groups, with the possible exception of academic discipline. The mean RTP score for all subjects was 3.77, for faculty was 3.76, for administrators was 3.83, and for department heads was 3.64.

The relationship between propensity to take personal risks and propensity to take professional risks was tested by computing Pearson r correlation coefficients. The relationships for the total sample, faculty, and administrator groups were statistically significant, but of limited practical significance. Subjects were placed into risk categories by dividing the response scale into thirds. A 3 X 3 factorial ANOVA revealed no interaction effects between professional status and risk category with regard to RTP score. A discriminant analysis showed that a seven-factor model was not effective in predicting risk category.

The homogeneity of the study sample and the effect of a risk-encouraging environment were discussed in the context of the community college. Since very little data on risk-taking in education is available, risk propensity data from this study could serve as a basis for comparison to future research. Results could be used by institutions to plan professional development activities, designed to increase risk-taking and encourage active acceptance of change.

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Chapter I

Introduction

Background and Significance of the Problem

Change has always been part of the human condition. Anthropologists and sociologists have clearly documented the evolution of humans and society, from the hunter-gatherer stage to the development of agriculture to the industrial age. Despite its ubiquity, we as humans have historically been reluctant to embrace change, often resisting the inevitable. Now, as we approach the 21st century and move from the industrial age into the information age, it is increasingly evident that there has been a change in change itself: the rate of change has risen significantly, making it even more difficult for humans to cope (Pritchett, 1994; Virginia Commission on the University of the Twenty-First Century, 1989).

Society is not adequately dealing with the fast pace of change as manifested by environmental pollution, the high divorce rate, the growing numbers of children living in poverty, continuing urban decay, the high cost of health care, the expanding illiteracy rate, rising teen violence, increased teen pregnancy, the high abortion rate, and the ongoing drug problem, among others. Most would agree that these problems are fed by ignorance, and that high quality, accessible education is a major part of the solution (Virginia Commission on the University of the Twenty-First Century, 1989).

Perhaps we have never needed a fully functioning and fully effective educational system as much as we do at this point in our history. However, both educators and non-educators alike have noted the decline of the educational system in the United States, as evidenced by the drop in standardized test

scores, the deficiency of basic skills among high school graduates, the under-preparedness of entering college freshmen, and the lack of employability skills among the newly-hired (Doucouliagos, 1992; Virginia Commission on the University of the Twenty-First Century, 1989; Wallach, 1971). In response to the declining effectiveness of education, legislators are cutting educational budgets, and together with taxpayers, employers, and parents are demanding a new accountability from educational institutions. Reduced funding and the pressure for results have multiplied the strain on an already-stressed system. The separation of politics and education, a core value embraced by our society from 1900 to the 1960's and viewed as necessary in order to isolate education from the corrupt political machine, is no longer in place (Cistone & Iannaccone, 1980).

In response, educational institutions can neither give up nor afford to merely conduct business as usual. Education must rise to the challenge or be faced with further budget cuts and increased competition from the private sector. Many experts believe that education must respond to academic, fiscal, and enrollment challenges with creativity, inventiveness, innovation, and change. However, innovation and change can occur only if educators are willing to take risks and try new approaches. In a successful future, educational leaders will play an especially important role: they will be responsible for helping to create environments that encourage faculty and staff to be risk-takers (Virginia Commission on the University of the Twenty-First Century, 1989).

The technology revolution and the resulting replacement of the industrial age by the information age have not only provided a challenge to society in general, but to education in particular. Technological change is occurring so fast that computers, software, and other technological teaching aids literally

become outdated in the amount of time it takes to order, purchase, and deliver them. The amount of factual information that could be taught and perhaps should be taught to today's school children and college students is growing so rapidly as to be totally overwhelming, fostering an educational methods revolution characterized by the phrase, "less is more." Rapid change has become the routine, and those educators that can deal with the fast pace and disruption of constant change are the ones that will help shape the future (Virginia Commission on the University of the Twenty-First Century, 1989).

Although technological change is already shaping the future, social change has lagged behind (Totten & Keys, 1994), making the nature of the challenge for education and other institutions more formidable. To further complicate matters, even though society's institutions are not rapidly changing, society's students are. Adult workers are returning to school to upgrade job skills or train for a mid-life career change, increasing the average age of today's college student. Demographic changes in the country, due in part to the increasing globalization of the economy, have contributed to the rich ethnic diversity found in today's classrooms. Lenient high school graduation requirements have resulted in under-prepared entering college students. Many of these students are "at risk" and may have a difficult time succeeding in college. Traditional pedagogy no longer works with today's diverse students; faculty who are willing to take risks and try new methods are a virtual necessity (Schwandt, 1996). Bogotch, Brooks, Riedlinger, and MacPhee (1992) claimed that the very future of education in our country depends on innovation, which according to them, is the centerpiece of any successful educational system. They further declared that the needs of at-risk students *demand* innovation.

At a time when educational innovation is most needed, the very institutions which provide education may be the least able to fill that need. Leinwand (1992) asserted that educators function primarily as perpetuators of a culture, and therefore tend not to be agents of radical change. Since cultural change conflicts with cultural conservation (Totten & Keys, 1994), educators in their role as cultural perpetuators may not even desire change (Kesler, Perry, & Shay, 1996; Virginia Commission on the University of the Twenty-First Century, 1989). This view is substantiated in a study by Seldin (1996) in which the relative importance of nine different factors that comprise academic culture were rated by university faculty. Seldin found that risk tolerance ranked number eight out of the nine, after intrinsic satisfaction, perceived quality of colleagues, participation, support, reward system, communication, and cooperation. Only sense of community was viewed as less important than risk tolerance. Interestingly, in a study that compared risk-taking propensity in university faculty from various discipline areas, education faculty were found to be less apt to be risk-takers than arts and science or nursing faculty (Masters & Meier, 1990).

Rosen (1996) stated that education is the last of society's major institutions (with the possible exception of the church) to initiate change: business, health care, and government have already begun that process. Rapid change was forced on the business sector due to mergers, the Internet, global competition, and the rise of technology. Perhaps education has lagged behind because, in yesterday's world, it was protected from the real-world economic environment. Private companies were the only ones that were regulated, market-driven, and motivated by economic pressures. In today's world, changing demographic trends, limited resources, and the demand for accountability have removed education's traditional protection (Lorenzo &

Blanzky, 1988). Colleges and universities are under increasing pressure to cut costs, and at the same time, to deliver more. In order to accomplish this paradoxical task, educational institutions may need to undergo radical cultural change and become institutions that consistently encourage risk-taking. Without a risk-taking culture, little change will occur (Turk, 1994). Barnes (1996) agreed, stating that both faculty and administrators will need more initiative, risk-taking, and resourcefulness in times like these.

If it is to survive and continue to serve its role in society, education will have to change. Educators are beginning to pay attention to innovations and methods implemented in business and have begun to incorporate aspects of some of the more successful business organizational models. Verville (1996), a player in the IBM reorganization in the early 1990's, has challenged educational institutions with a set of four questions:

1. Are you using the same model as you have used before?
2. Are you focused on your customers and their needs?
3. Do you understand your competitors?
4. Do your employees feel entitled to life as it has always been?

The obvious answers to these questions underscore education's need to view itself with a new perspective.

Although education as a whole may be change-averse, the community college sector may be inherently better suited to deal with rapid change than the other segments of higher education. Because of their open door policy, low cost, and multifaceted mission which includes responding to community needs, community colleges have been creatively dealing with problems and challenges since their rapid rise in the 1960's. These challenges have included the under-prepared student, the part-time student, the adult learner, the

commuting student, and the ethnically-diverse student (Cohen & Brawer, 1982; Commission on the Future of Community Colleges, 1988; Gleazer, 1961; Lorenzo & Blanz, 1988; Thornton, 1966; Vaughn, 1995). In order to meet these challenges and to fulfill the obligation of responsiveness, community college faculty and administrators have undoubtedly taken risks. Consequently, community colleges may be uniquely suited for inquiry into risk-taking and would lend themselves to studies which could provide answers to questions about risk-taking behaviors and risk-taking cultures.

If change and innovation are needed to revitalize education, then risk-taking will be an inherent part of that effort. Innovation follows creativity (Riggs & Sykes, 1993) and creativity, risk-taking, innovation, and intuition are all interdependent (Totten & Keys, 1994). According to Moore and Gergen (1985), the heart of the change process is risk-taking which "is a crucial element in change, transition, and entrepreneurship" (p. 72). Baskett and Dixon (1992) asserted that an organization that supported risk-taking provided a good environment for learning. Lorenzo and Blanz (1988) wrote, "Innovation is a behavioral indicator of a positive attitude toward risk-taking and entrepreneurship" (p. 17). They reported on a model for achieving and maintaining educational excellence in the community college which interrelated climate factors, performance factors, and purpose or mission. In this model, one of the three performance factors was innovation. Wentworth (1990) found that staff in K-12 schools where risk-taking was encouraged and rewarded had higher morale than in schools where it was discouraged. Staff in the latter environment were frustrated at not being able to change things. Short, Greer, and Michael (1991) found that schools where a high level of risk-taking behaviors were supported collaborated with business and industry, made

substantive changes in school structure, made better use of instructor time, empowered students, and increased the commitment level of teachers. Schools that exhibited a low tolerance for risk-taking accomplished less. Chiodo (1989) argued that the best teachers are the ones that are willing to take risks and experiment, and even to fail.

Lattimer and Winitsky (1984) believed that creativity and courage are essential for successful problem-solving and planning. According to them, organizations limit their potential if they assume that progress must occur by sequential, predictable steps. Each individual step on the way to a goal may not make sense in and of itself; trying to defend each step may limit the options and compromise the final solution. It is better to generate enough ideas so that some can be wrong; and even the wrong ideas can be useful if they last long enough to breed further ideas. Kouzes and Posner (1995) agreed and suggested that groups should work even with ideas that sound strange initially, for they may eventually lead to something productive.

Lattimer and Winitsky (1984) further stated the opinion that the solutions to all issues and problems involve dilemmas or making choices; all decisions are a choice between a risk-free alternative and a risky alternative. This view of decision-making had previously been applied by Wallach and Kogan (1959), who developed an instrument to measure the tendency to take risks (risk-taking propensity). This instrument, the Choice Dilemmas Questionnaire (CDQ), asked the subject to make a choice between two alternatives: one more attractive but risky, and the other less attractive but relatively risk-free. The CDQ has been widely used in risk-taking propensity studies.

Statement of the Problem

This research project was undertaken to address issues related to risk-taking in educational institutions. The overall purposes of this study were to explore dimensions of the risk construct, identify factors related to risk-taking in an educational environment, and study propensity to take risks among employees at a large, urban, multicampus community college.

Information gained in this and similar studies could be used to plan training and professional development activities for individuals and groups within educational institutions, and to compare risk-taking propensities at other community colleges and in other sectors of higher education. Increased and improved risk-taking as well as active acceptance of change would be the desired result. In their study, MacCrimmon and Wehrung (1986) advised that risk portfolios and risk profiles could be useful in several ways: to make personal risk-related decisions; to evaluate employees for hiring and promotion decisions; to make professional training and development decisions; and to describe organizational cultures.

This study attempted to answer the following research questions:

1. What is the relationship between risk-taking propensity in personal situations and risk-taking propensity in professional situations for faculty, administrators, and academic department heads?
2. Are there significant differences in propensity to take risks among high, moderate, and low risk-takers based on professional status?
3. Are the factors age, gender, current professional status, length of service at current professional status, academic discipline, highest degree earned, and campus location significant predictors of membership in high, moderate, and low risk-taker groups?

Delimitations of the Study

This study was limited to full-time faculty, administrators, and academic department heads employed by a large, urban, multicampus community college in the southeastern United States. The results may or may not be generalizable to faculty, administrators, and academic department heads in single campus institutions, in small institutions, in rural institutions, in other types of higher education institutions, in other geographical regions, or to staff members or part-time faculty.

Limitations of the Study

1. The amount of time faculty, administrators, and academic department heads may have spent at other academic institutions, whether risk-encouraging or risk-discouraging, was ignored in this study. It is possible that previous experience in other academic cultures could have affected the risk-taking propensity of the subjects in this study, making the study less controlled.
2. Some full-time faculty, administrators, or academic department heads may have served at the community college in the study in some capacity other than their current professional status. If so, the results pertaining to professional status may be less valid.
3. The total amount of time spent by each subject in an academically-related career was ignored in this study. The risk-taking propensity for a subject who was new to the current professional status, but had a lengthy academic career, could be atypical for the status group.

Definition of Terms

For the purposes of this research, terms used in this study have been defined as follows.

BCDQ: Bolton Choice Dilemmas Questionnaire; a modification by this researcher of the original CDQ (Kogan & Wallach, 1964); the instrument used in this study to measure risk-taking propensity.

Cautious shift: The tendency of a small group to make a more cautious decision than its individual members made previously (Mayer, 1985).

CDQ: Choice Dilemmas Questionnaire, an instrument designed to measure risk-taking propensity developed by Kogan and Wallach (1964).

Choice shift: The tendency of a small group to make a more extreme decision than its individual members made previously (Mayer, 1985); also termed group shift or group-induced shift.

High risk-takers: Those subjects who scored in the upper third of the BCDQ response scale.

Long-timers: Faculty, administrators, and academic department heads who have served at their current professional status for 16.5 or more years.

Low risk-takers: Those subjects who scored in the lower third of the BCDQ response scale.

Mid-timers: Faculty, administrators, and academic department heads who have served at their current professional status for 3.5-16 years.

Moderate risk-takers: Those subjects who scored in the middle third of the BCDQ response scale.

Non risk-taking culture: An institutional environment which discourages or does not encourage risk-taking.

Personal RTP score: Personal risk-taking propensity score; calculated by averaging a subject's responses to the six items of the BCDQ related to personal risk-taking.

Proactive culture: An institutional environment which officializes and rewards risk-taking and empowers and delegates to employees (Watwood, 1996).

Professional RTP score: Professional risk-taking propensity score; calculated by averaging a subject's responses to the six items of the BCDQ related to professional risk-taking.

Reactive culture: An institutional environment which discourages risk-taking and punishes failure (Watwood, 1996).

Risk: To expose to the chance of injury or loss (MacCrimmon & Wehrung, 1986).

Risk-taking: Taking action when the outcome is unknown (Moore & Gergen, 1985) or venturing upon that which involves possible loss, danger, or disadvantage (Totten & Keys, 1994).

Risk-taking culture: A deeply embedded, officialized institutional environment which fosters and rewards risk-taking.

Risk-taking propensity: The tendency to take action when the outcome is unknown and may involve loss, danger or disadvantage.

Risky shift: The tendency of a small group to make a more risky decision than its individual members made previously (Mayer, 1985).

RTP: Risk-taking propensity.

RTP score: Risk-taking propensity score; calculated by averaging a subject's responses to all 12 items of the BCDQ.

Short-timers: Faculty, administrators, and academic department heads who have served at their current professional status for 0-3 years.

Summary

This chapter dealt with the impact of change on, and the role of education in, society. Although change has always been a part of the human condition, the rate of change has increased so much in recent decades that society is faced with monumental social, environmental, and technological challenges. These challenges are made more formidable by ignorance, and can be resolved at least in part by education. However, just when a fully functioning educational system is most needed, that system appears to be in decline as evidenced by a drop in standardized test scores, the under-preparedness of entering college students, and the lack of employability skills in the work force.

In order to meet society's need, education must make changes, innovate, and try new approaches. Innovation in educational institutions requires risk-taking on the part of administrators and faculty. Historically, educators have functioned as perpetuators of the culture and therefore tend not to be radical change agents, making innovation and risk-taking somewhat foreign behaviors. This research project attempted to study risk-taking in the sector of higher education most accustomed to change, the community college. Results from this and similar projects would assist institutional leaders in encouraging innovation, planning professional development activities, and promoting an active acceptance of change.

Chapter II

Review of Related Literature

A sizable body of literature exists on the topic of risk-taking; however, a majority of the research deals with psychology-related or business-related topics, and very little with education-related topics. Risk-taking research in the area of psychology has measured risk-taking propensities in relation to such variables as age and gender, or has dealt with the risk construct itself. Although the psychological risk-taking literature has studied both risky preferences and cautious preferences, there appears to be a general agreement that risk-taking is valued by our society and is considered to be a positive characteristic (Vroom & Pahl, 1971; Wallach & Mabli, 1970). The business risk-taking literature has centered around monetary risk, and commonly has dealt with ways to assess and reduce the amount of risk to minimize financial loss. Consequently, risk-taking in business is viewed in a slightly more negative context, even though it is accepted that taking risks is inherent to success in business (MacCrimmon & Wehrung, 1986). In general, the small number of education-related risk-taking studies are framed in a positive context, advocating the view that risk-taking is desirable, and even necessary.

In this chapter, a review of the risk-taking literature is presented, including discussions of the risk construct itself; risk and organizational life cycles; leaders and risk-taking; factors that discourage risk-taking; reducing the amount of risk; factors that encourage risk-taking; and risk-taking propensity studies conducted in the areas of psychology, business, and education.

The Risk Construct

In order to study risk-taking and obtain meaningful results, the risk construct itself must be definable and measurable. Although a construct is easier to measure if it is unidimensional, most personality or behavioral characteristics are multidimensional. In theory, a multidimensional construct can be measured if a balanced measuring instrument is developed which includes items relating to all dimensions. In general, researchers agree that the risk construct is multidimensional; several researchers have attempted to identify the various dimensions of risk.

Jackson, Hourany, and Vidmar (1972) suggested that risk-taking behavior includes four dimensions: monetary, physical, ethical, and social. According to their definitions, monetary risk deals with financial gain and loss and may include gambling; physical risk includes an adventurous, thrill-seeking aspect; ethical risk relates to values and may include compromising standards and potential deceit; and social risk encompasses such things as enduring embarrassment among peers while meeting goals. The results of their research study involving 137 college students and housewives supported these four dimensions of risk, lending credibility to the concept that risk is a broad personality trait, and that the tendency to take risks is generalizable across situations and types of risks. However, they recommended that risk-measuring instruments include a balanced sample of item content representing the various dimensions of risk.

In contrast, Slovic (1972) asserted that risk preferences vary from situation to situation. He reviewed studies in which subjects had been tested in a variety of risk-taking tasks in problem-solving, athletic, social, vocational, and gambling risk situations. He determined that only highly similar tasks show a

correlation; the best predictor of risk preference in a particular task is risk behavior in a closely related task. He further stated that previous training and experience in risky situations played a greater role in determining risk-taking behavior than personal characteristics, and concluded that the evidence argued against risk-taking propensity as a generalizable characteristic.

Fischhoff, Lichtenstein, Slovic, Derby and Keeney (1981) studied the topic of risk from the “acceptable risk” perspective utilized in political, consumer protection, and social policy decisions. They proposed five dimensions of consequences that can result from making decisions involving risk: economic, physical, ecological, political/ethical, and psychological. They stated that there are no universally acceptable options or risk choices; the options chosen depend upon the individual making the choice and on consequences, values, and facts.

Four types of risk were distinguished by MacCrimmon and Wehrung (1986): financial, health, social, and career. Although they focused mainly on risk in the business world, they asserted that there are common elements in all risk-related situations that can be grouped into a basic risk paradigm. Risk-related situations present the possibility of two actions: 1) the status quo or “sure” action which is relatively risk-free; and 2) the risky action which would invoke a change and result in gain or loss. According to the basic risk paradigm, a decision tree can be used to diagram any risk-related situation. Figure 1 is a diagram of a decision tree which illustrates the two choices in any decision: to select the sure, known choice which has a sure, known outcome; or to select the risky choice. If the risky path is followed, two outcomes are possible (hence the risk involved in this choice). The more attractive outcome is one of gain, placing the chooser in a better position than before the choice; the

other outcome is one of loss, placing the chooser in a worse position than before the choice.

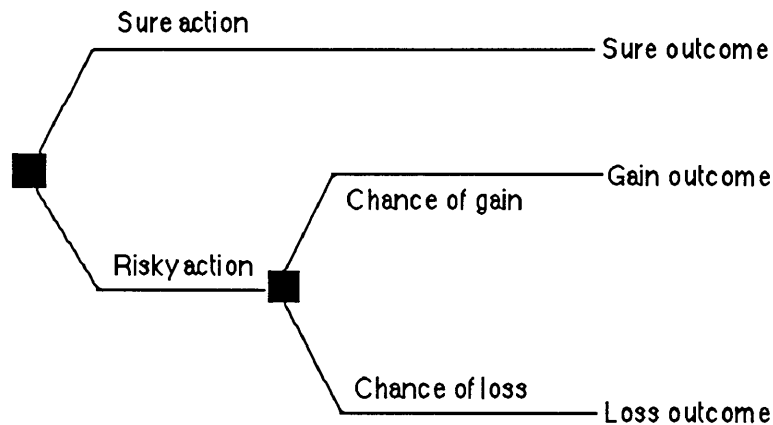


Figure 1. The basic risk paradigm diagrammed as a decision tree. From Taking Risks: The Management of Uncertainty (p. 12), by K. R. MacCrimmon and D. A. Wehrung, 1986, New York: The Free Press, a Division of Simon and Schuster. Copyright 1986 by K. R. MacCrimmon and D. A. Wehrung. Adapted with permission.

MacCrimmon and Wehrung (1986) cautioned that there is no reason to believe that a person who takes a risk in one area of life will necessarily take a risk in another. They recommended that when risk-taking propensity in professional situations is under study, that risk-taking propensity in personal situations should also be assessed. However, for personal and professional risk to be properly compared, the subjects must view the decisions in both areas as equivalent in riskiness, which the authors acknowledged is very difficult to accomplish.

Shapira (1995) reported that 70% of the managers he interviewed thought that risk-taking was easier in organizational settings. A poor decision at home affects the individuals involved more directly; whereas the consequences of a poor decision at work are borne by a larger group. Personal risk-taking was viewed as more non-reversible. In his interview study which included 50 top executives, he attempted to balance his interview questions: 47% of the questions were business-related and 53% were personally-oriented; 38% were financial, 32% were non-financial but work-related, and 30% were in other categories. He determined that people may respond differently in different situations, and reported that the executives in his study viewed risk as multidimensional and were hesitant to reduce risk to a single construct. Shapira further noted a discrepancy between risk attitude and risk behavior, and suggested that for this reason it is difficult to simulate real life situations in a laboratory setting.

Bailey (1991) identified seven dimensions of risk-taking in consumer decision making: financial, social, physical, professional, performance (risk of product failure after purchase), opportunity cost (risk of losing an opportunity), and time. She further subdivided the financial aspect of risk by distinguishing investment, budgeting, credit, income, product purchase, and expenditure risks.

Bromiley and Curley (1992) recognized risk-taking as dependent upon differences in individuals and situations, and summarized six different approaches to studying the risk construct based on that concept: 1) assuming individuals are essentially the same and studying the average individual's behavior in a variety of risk situations; 2) assuming risk behavior is essentially the same across situations and studying several individual characteristics; 3) focusing on one of several situations and studying multiple individual

characteristics; 4) focusing on one of several individual characteristics and studying multiple situations; 5) studying several individual characteristics in several situations; and 6) case studies. They discussed difficulties in measuring risk-taking due to the combined influence of situations and characteristics, and asserted that the key is to identify a core set of categories for situations and characteristics. They distinguished four broad situations involving risk: physical sensation, games and lotteries, everyday life choices, and business and finance.

A summary of the various dimensions of the risk construct as reported in the literature is presented in Table 1. In order to recognize commonalities, similar dimensions reported by different researchers were grouped together and placed into categories under the headings “money,” “reputation,” and “satisfaction.” Because choices relating to health were determined to be quality of life issues, dimensions related to physical or psychological health were placed in the satisfaction category.

Table 1

Summary of Risk Construct Dimensions Identified in the Literature

Researchers	Risk Dimensions			
	Money	Reputation	Satisfaction	Other
Jackson <i>et al.</i> , 1972	monetary	ethical social	physical	-----
Slovic, 1972	gambling	social	-----	problem-solving athletic vocational
Fischhoff <i>et al.</i> , 1981	economic	political/ ethical	physical psychological	ecological
MacCrimmon & Wehrung, 1986	financial	social	health	career
Bailey, 1991	financial	social	physical opportunity time	professional product performance
Bromiley & Curley, 1992	business/ finance	-----	physical sensation	games/lotteries everyday life choices

Risk and Organizational Life Cycles

Although educational institutions in the past have been protected from the business environment, demographic trends, limited resources, and the demand for accountability are now forcing them to face challenges previously faced only by the private sector. Proven practices in the business world, which before would have been ignored by education, are now more directly applicable to educational institutions.

Lorenzo and Blanzzy (1988) have studied and described the life cycle of business organizations. They reported on a model developed by Quinn and Cameron which identified four main phases in the life of the typical business based on business volume: the birth phase, the growth phase, the maturity phase, and the decline phase (Figure 2). According to their theory, a fifth phase, the renewal phase, was possible which could supplant the decline phase. During a renewal phase, an organization would be revitalized and the decline would be postponed.

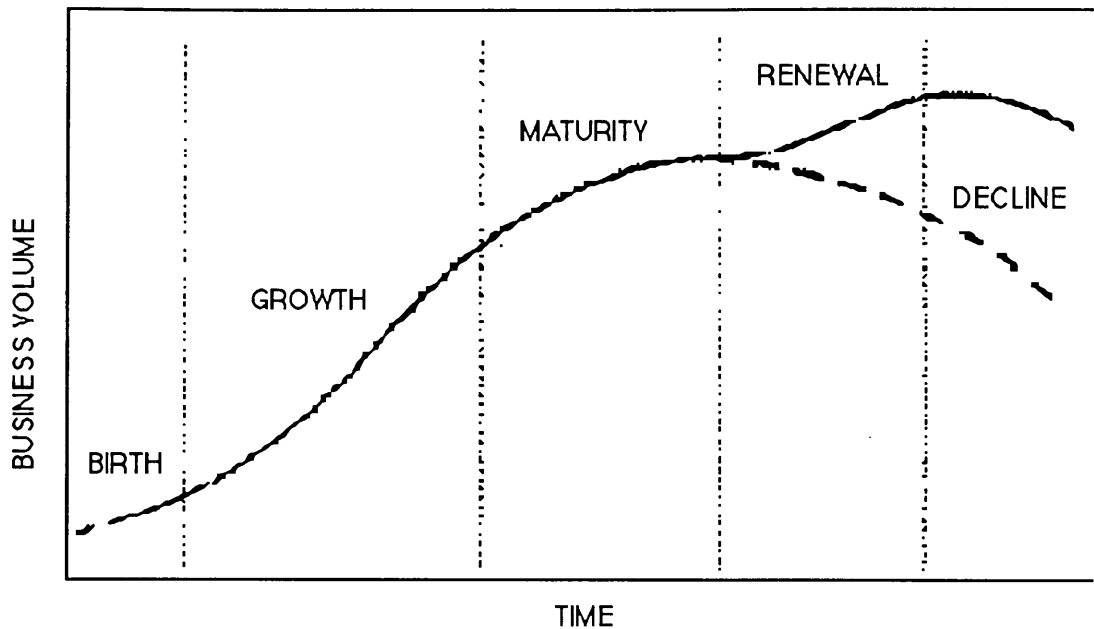


Figure 2. The organizational life cycle of businesses. From Mid-America Group: A Foundation for Renewal (p. 2), by A. L. Lorenzo and J. J. Blanzzy, 1988, Warren, MI: Macomb County Community College. (ERIC Document Reproduction No. ED 305 984)

According to Lorenzo and Blanzzy (1988), the birth and growth phases of an organization are characterized by innovation, risk-taking, proactiveness, and emphasis on the future. As the organization moves from the growth stage into the maturity stage, decision-making moves from simple to complex, the structure becomes more formal, and bureaucratic responsiveness decreases. The maturity stage is characterized by conservatism and the status quo. The organization is no longer being built; rather, it is being utilized. There is a notable shift of emphasis from individual effectiveness to a focus on organizational performance. Since many business organizations entered the

maturity phase during the 1980's and 90's, the current preoccupation with quality and excellence is predictable according to the model. As an organization moves through the maturity stage it comes upon a choice: to enter a renewal stage or to decline. Unless the organization confronts the choice and makes needed changes, decline is sure to follow. Renewal requires the readoption of the characteristics of the birth and growth phases and a return to an innovative and risk-taking environment. Life cycle theory may be useful to organizations to determine what managerial changes and decisions are most stage-appropriate.

As a comparison, Lorenzo and Blanz (1988) next studied community colleges, many of which were "born" in the 1950's and 60's. They compared the life cycle of business organizations with that of community colleges, substituting "college enrollment growth" for "business volume" as the prime indicator, and concluded that a majority of the nation's community colleges had reached the maturity phase in the 1980's (Figure 3). As community colleges moved into and through the maturity phase, the authors found that the overall college environment became more complex. The influence of founders was less important, the influence of other key figures and members of the Board diminished, the public felt increased ownership, and the influence of the customer was magnified. The use of information-processing procedures was more prevalent as evidenced by computers, performance controls, environmental scanning activities, planning procedures, and enhanced communication systems. In addition, the colleges had delegated and decentralized the authority for routine decisions, although structures for major decision-making and strategic planning remained centralized. Lastly, an important observation was that emphasis on inputs such as resource

acquisition and individual performance had given way to outputs such as organizational efficiency and performance.

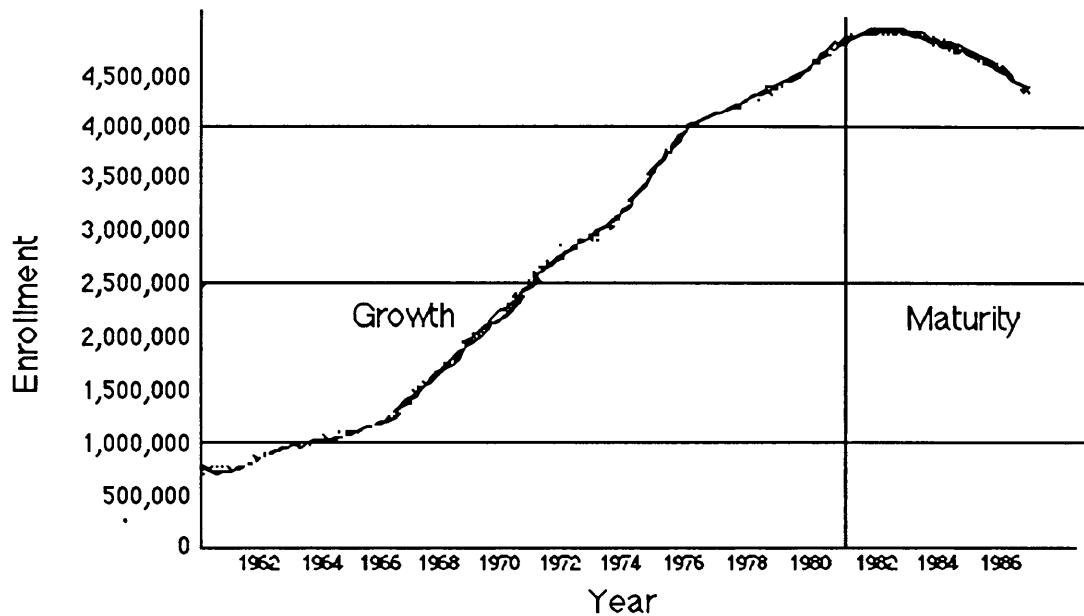


Figure 3. The life cycle of community colleges nationwide. From Mid-America Group: A Foundation for Renewal (p. 5), by A. L. Lorenzo and J. J. Blanzky, 1988, Warren, MI: Macomb County Community College. (ERIC Document Reproduction No. ED 305 984)

If the business model holds true for the academic sector, community colleges are now or will soon be faced with a choice: to allow decline or to proactively work for renewal and a return to the innovative and risk-taking environments of the birth and growth phases. According to Lorenzo and Blanzky (1988), the renewal stage in community colleges could be identified by characteristics such as responsiveness, empowerment, staff development and rewards, strategic planning, resource reallocation, curriculum currency,

collaboration, needs-based marketing, student development, interactive communication, and evaluating value.

Leaders and Risk-Taking

Leinwand (1992) defined risk-takers as decision-makers who are empowered by themselves and others; they are curious, self-confident, flexible, collaborative, willing to learn, and comfortable trying new ideas. In addition, they are often positioned to find out about innovations and resources, and use that information base to encourage and support change by matching up change agents with change opportunities. Riggs and Sykes (1993) also cited confidence as an important characteristic of risk-takers, and contrasted “intrapreneurs” with entrepreneurs. They defined entrepreneurs as those individuals who are passionate and dedicated enough about an idea to start up a new company; the same type of individual already inside an organization was termed an intrapreneur. Intrapreneurs are the internal trail-blazers who often are very individualistic and have a difficult time with bureaucracy. They tend not to be team players and can upset the institutional equilibrium. Riggs and Sykes contended that a balance between bureaucracy and intrapreneurship was needed for the most effective innovative environment.

Miller and Toulouse (1986) discussed flexibility and an internal locus of control as important characteristics of leaders who foster innovation. Lattimer and Winitzky (1984) described effective leaders as innovative, committed, enlightened, disciplined, and courageous. The enlightened leader operates from a value system base which is committed to innovation, risk-taking, high morale, trust, teamwork, flexibility and communication. The authors further contended that good managers need to engage in more than just objective

thinking; they need subjective thinking which goes beyond sequences, patterns, and categories and which recognizes the potential of spontaneity. This need for a combination of objectivity and subjectivity was recognized by Riggs and Sykes (1993), who noted that most people are left-brain dominant. They expressed the opinion that both people and institutions would be better-served if the creative right brain was utilized more. The need for the whole brain view is underscored in current discussions which compare leadership and management. Good leaders are usually described as having vision and the courage to think from new perspectives. They take risks and probably create a certain amount of chaos. Good managers, on the other hand, are the implementers who need routine and consistency in order to accomplish tasks such as balancing the budget and meeting deadlines. By developing a whole brain approach, an individual could learn to balance both leadership and management skills to the benefit of the institution he or she served.

Shapira (1995) noted that risk-prone managers were the dealmakers who made changes to improve things, and described them as innovative, transaction-oriented, confident, outgoing, outspoken, slightly messy, aggressive, quick, not safe, independent, and energetic. Risk-averse managers were nervous, unsure, passive, slow, pessimistic, defensive, and reserved. They preferred order, didn't go beyond job duties, covered themselves, worried about the approval of others, never made waves, and sat forever on decisions. Risk-prone managers were either very successful or very unsuccessful; the risk-averse tended to perform in the middle. He discerned the need to educate new managers on the importance of risk-taking so that as they move up the hierarchy, they will be more inclined to encourage others to engage in risk-taking.

Although his research was conducted with a small sample size, Macmillan (1993) found some interesting answers to the research question, “What effect does a policy involving rotating principals from school to school have on the principals themselves?” He interviewed five secondary school principals in two Canadian school districts. The principals were categorized as “new,” “mid-career,” and “senior” administrators. He found that the new administrators made quick decisions, modified their opinions significantly with time, took risks that perhaps were not worth taking, but caused others to reexamine the status quo and think about change and risk-taking. The mid-career administrators had a vision and stuck to it, felt a need to orchestrate progress, were willing to wait for change, were more realistic, were better informed by previous experiences, and caused changes that were more grounded in reality. The senior administrator was more conservative, engaged in minimal risk-taking, kept continuity with the programs and vision of the previous principal, had less at stake personally, appeared to take few or no risks when implementing change, and demonstrated better predictive abilities about the success of a risky venture. He delegated well and therefore was less personally involved in innovation, but did set up circumstances for others to innovate. Overall, this research appeared to support the concept that individual risk-taking propensity decreased with length of time spent in a particular career.

Kouzes and Posner (1995) reported that group longevity may have an effect on performance and communication. High performance groups communicated more often with people outside the group. However, the longer a group worked together, the less communication outside the group occurred, and the performance level dropped. The researchers suggested that the group members became too comfortable and familiar with each other and felt less

need to seek advice outside the group. Although this research did not deal directly with risk-taking, it did deal with factors that influence or are influenced by risk-taking. For example, Bogotch, Brooks, Riedlinger, and MacPhee (1992) found that limited access to external ideas was a factor that discouraged risk-taking.

Watwood (1996) conducted a qualitative study on institutional culture by interviewing presidents, vice presidents, deans, and chairs at two midwestern community colleges. He noted very different cultures at the two institutions, and because of his findings, labeled one college “proactive” and the other “reactive.” At the proactive community college, the president officialized risk-taking by asking employees to include innovation in their objectives. This president declared that it was not important if the innovation worked; that the attempt, and not necessarily the success, of an idea was what would be evaluated. Other administrators, echoing the president’s tone, stated their belief that it was acceptable to make mistakes and that creation of a permissive environment is how excellence is fostered. Delegation and empowerment were also a part of this proactive culture: a chair stated that when lower administrators and faculty felt a sense of ownership, then they felt free to take risks.

In contrast, at the reactive community college it seemed to be important to find someone to blame when things went wrong. Commenting on the environment at the reactive community college, one of its vice presidents acknowledged that when people are blamed for failure, innovation shuts down. Employees quit trying anything new to prevent being the focus of blame.

In his discussion, Watwood (1996) distinguished between transactional leaders, described as autonomous, reactive, and status quo; and transformational leaders, described as collaborative, proactive, and innovative.

He further observed that chairs with both administrative and teaching responsibilities tended to focus more on the teaching duties and operated in a more reactive fashion. Chairs with only administrative duties had time to focus on creative change and were more proactive.

Miller and Toulouse (1986) studied 97 small Canadian firms and found that culture in an organization was linked with the personal characteristics of the CEO. They identified flexibility, locus of control, and need for achievement as three prominent leadership traits that influenced company culture. Flexible managers tended to seek new information, respond to the environment, adapt to changing conditions, and delegate decision-making power. More rigid managers, who were unadaptive, powerful, and inflexible, appeared to favor centralization, bureaucracy, and formal procedures and to abhor risk-taking. Managers with a tendency for an internal locus of control (a belief that the consequences of one's behavior result from one's own actions) tended to be task-oriented, persuasive, adaptive, and participative and exhibited entrepreneurial, innovative, and risk-taking behavior. In contrast, CEO's that demonstrated a high need for achievement stressed control, centralization, and formal rules and procedures. These CEO's did not like to leave anything to chance, and therefore tended not to take risks or encourage disorder. Miller and Toulouse concluded that the personality of the CEO had more effect on an organization if the organization were small, and less effect if the organization were in a stable period. This information may have special ramifications for colleges and universities. In the current unstable legislative climate, the role of the college president may be more important than ever in establishing and maintaining the educational climate.

Several researchers have found that risk-taking behaviors are more likely to occur if they are supported by the district, the central office, and the institution's leaders (Bogotch, Brooks, Riedlinger, & MacPhee, 1992; Riggs & Sykes, 1993; Schwandt, 1996). Risk-taking, innovation, and creativity are enhanced even more if the leaders themselves model risk-taking behavior (Baskett & Dixon, 1992; Kouzes & Posner, 1995; Phelan, 1996; Wardlow, Swanson, & Migler, 1992). Wendel, Hoke, and Joekel (1994) found that successful school administrators advised others to embrace innovation, not hide from it, ignore it, or merely tolerate it. Officializing risk-taking by incorporating it into formal structural relationships within the institution also helped to establish a risk-taking culture (Bogotch, Brooks, Riedlinger, & MacPhee, 1992; Wendel, Hoke, & Joekel, 1994).

Factors That Discourage Risk-Taking

Educators and researchers have identified many factors that discourage risk-taking in organizational cultures. Among the most notable is fear: fear of punishment (Turk, 1994) and fear of failure (Riggs & Sykes, 1993; Shapira, 1995). Leinwand (1992) contended that the fear of failure not only maintained the status quo, but ensured mediocrity as well. Moore and Gergen (1985) believed that fear---the fear of taking risks---was the key factor in the resistance to change.

Other factors which discourage risk-taking included lack of a clear single vision (Bogotch, Brooks, Riedlinger, & MacPhee, 1992; Kesler, Perry, & Shay, 1996) lack of time and support (Leinwand, 1992), lack of trust (Kesler, Perry, & Shay, 1996), and lack of funding (Riggs & Sykes, 1993). Bogotch, Brooks, Riedlinger, and MacPhee (1992) cited standardization, mandated policies and

programs, collective bargaining, lack of knowledge in the central office, limited external ideas, and downsizing as discouragers of risk-taking. They also stated that emphasizing the needs of the source of funding rather than the needs of the school itself discouraged risk-taking, as did discontinuous cycles with “fits and starts.” Cynical attitudes (Bogotch, Brooks, Riedlinger, & MacPhee, 1992; Kouzes & Posner, 1995) and pessimism (Riggs & Sykes, 1993) also have been linked to risk-averse environments.

The central or district office may play a role: an overly-centralized organization (Bogotch, Brooks, Riedlinger, & MacPhee, 1992; Miller & Toulouse, 1986) or a bureaucratic organizational culture (Kesler, Perry, & Shay, 1996; Miller & Toulouse, 1986) also are believed to discourage risk-taking. In addition, Bogotch, Brooks, Riedlinger, and MacPhee (1992) found that central office positions often required too many tasks and functions from a single individual, preventing effectiveness and leaving no time for innovation. These employees needed time to reaffirm their “expert power” and needed permission to use that expertise in a focused way. Hemingson and Burroughs (1994) and Watwood (1996) also found that decreasing the number of tasks improved performance and innovation.

Reducing the Amount of Risk in Risk-Taking

If fear has a significant influence on risk-taking, then reducing the amount of risk in a risk-taking venture may reduce the amount of fear involved. Riggs and Sykes (1993) advocated “calculated risk-taking,” and other researchers have advised gathering information to reduce the uncertainty (Zinkhan, Joachimsthaler, & Kinnear, 1987) and conducting research to minimize the risk (Shwiel, 1986). In order to reduce fear and anxiety and optimize innovation,

Kouzes and Posner (1995) recommended a balance between skill and confidence, and risk and uncertainty. According to them an individual with low skills placed in a high-risk environment would experience anxiety; on the other hand, a highly skilled person in a low-risk environment would most likely be bored. Moore and Gergen (1985) assumed that the risk-taking process properly involved two steps: 1) the decision to take the risk; and 2) the strategy to minimize the risk. Weiss (1985) developed a 10-point method for cutting down risks in decision-making which would result in effective risk-taking: 1) have a goal in mind; 2) list everything that can go wrong and why; 3) intend to succeed; 4) be realistic; 5) make the best effort possible in the situation; 6) ask questions; 7) don't take a risk just to prove a point; 8) don't rush in; 9) once the decision is made to take the risk, act; and 10) give people credit.

Fischhoff, Lichtenstein, Slovic, Derby and Keeney (1981) listed several factors contributing to risk in decision-making: uncertainty about defining the decision problem; difficulty in assessing the facts; difficulty in assessing relevant values; uncertainty about the human element; and difficulty in assessing the quality of decision options. They recommended that risk could be reduced by considering all feasible options, all major consequences, all sources of uncertainty, and all reasonable values. According to MacCrimmon and Wehrung (1986) who focused their studies on the business world, there are three components to risk: the magnitude of the loss, the chances or odds of the loss, and the amount of exposure to the loss. In order to decrease the amount of risk involved, at least one of the three components would need to be reduced. They further stated that there are three determinants inherent in any risk-related situation: lack of control, lack of information, and lack of time. The amount of risk in the situation is proportional to these determinants, and gaining more

control, more information, or more time will reduce the amount of risk involved. They proposed the REACT model for risk assessment: 1) Recognize the risk; 2) Evaluate the risk; 3) Adjust the risk (more control, information, or time); 4) Choose the risk; and 5) Track the outcome.

Factors That Encourage Risk-Taking

Probably the factor most often cited as one that encourages risk-taking is lack of punishment for failure (Casteen, 1996; Chiodo, 1989; Kouzes & Posner, 1995; Moore & Gergen, 1985; Shapira, 1995; Still, 1996; Wardlow, Swanson, & Migler, 1992). Riggs and Sykes (1993) contended that allowing latitude for mistakes would remove the fear of failure, embarrassment, and guilt. Once the fear of failure is removed, innovation and creativity can more easily occur, as documented by Chiodo (1989) who maintained that, for a professor, failing was the best way to improve both teaching and learning. Failure verifies that experimentation is taking place. Still (1996) agreed, asserting that setbacks provide time for growth. Kouzes and Posner (1995) stated that uncertainty, risk, and mistakes are the price to be paid for innovation, change, and learning. They asserted that if people are not failing, they are not trying anything new and are not learning. They further contended that managers and leaders must make it safe for others to experiment and even to challenge authority.

Institutional support for individual employees is critical for risk-taking to occur. Weiss (1985) and MacCrimmon and Wehrung (1986) maintained that taking risks means different things to different people: what is a challenge to one may be a threat to another. Moore and Gergen (1985) also claimed that individual employees differed in their comfort level for risk-taking, and would respond to the degree that they perceived the organization supported them.

Attempts on the part of employees to stay “safe” were often interpreted instead as “resistance.” These authors contended that there is no such thing as resistance, just legitimate concern.

Delegation of responsibility is another factor which can enhance risk-taking. Authors have cited the need for leaders to share decision-making (Wardlow, Swanson, & Migler, 1992), permit others to exercise leadership (Bogotch, Brooks, Riedlinger, & MacPhee, 1992; Wentworth, 1990), empower others (Wendel, Hoke, & Joekel, 1994), delegate authority and responsibility (Hemingson & Burroughs, 1994; Virginia Commission on the University of the Twenty-First Century, 1989), and build constituent ownership (Casteen, 1996). Casteen (1996) further stated that a problem is solved more creatively and permanently if solved by those closest to the problem.

Trust plays an important role in fostering a risk-taking environment (Lattimer & Winitsky, 1984; Phelan, 1996; Riggs & Sykes, 1993; Robbins, Brown, Osburn, Patterson, Prouty, & Swicegood, 1991; Short, Greer, & Michael, 1991; Turk, 1994). Bogotch, Brooks, Riedlinger, and MacPhee (1992) asserted that trust is essential for effective risk-taking, because without trust, politics plays too large a role in deciding which projects are supported.

In order to innovate and experiment, employees need free time (Chiodo, 1989), an appropriate workload (Schwandt, 1996), and adequate funding (Moore & Gergen, 1985; Schwandt, 1996; Wardlow, Swanson, & Migler, 1992). Bogotch, Brooks, Riedlinger, and MacPhee (1992) contended that politics played a critical role in what kinds of projects received funding: any project dealing with governmental mandates rather than innovation was less likely to be cut in a time of tight budgets.

Other factors that encourage risk-taking included rewarding accomplishment (Bogotch, Brooks, Riedlinger, & MacPhee, 1992; Chiodo, 1989; Doyle, 1994; Kouzes & Posner, 1995; Moore & Gergen, 1985; Shapira, 1995; Turk, 1994; Wentworth, 1990), caring about employees (Wardlow, Swanson, & Migler, 1992), communication (Casteen, 1996; Phelan, 1996; Riggs & Sykes, 1993; Short, Greer, & Michael, 1991; Wardlow, Swanson, & Migler, 1992), collaboration (Lattimer & Winitsky, 1984; Robbins, Brown, Osburn, Patterson, Prouty, & Swicegood, 1991; Short, Greer, & Michael, 1991; Wendel, Hoke, & Joekel, 1994), shared values (Schwandt, 1996); flexibility (Lattimer & Winitsky, 1984); and decentralization (Virginia Commission on the University of the Twenty-First Century, 1989; Williams, 1986).

Longevity---of employment, in a professional category, or as a group member---has been reported to both encourage and discourage risk-taking. Wardlow, Swanson, & Migler (1992) found that exemplary vocational schools, whose characteristics included risk-taking, had low employee turnover which did not result in stagnation, but instead promoted innovation. In contrast, Macmillan (1993) interviewed school principals and found that with longevity, principals tended to take fewer risks. Kouzes and Posner (1995) reported a similar result: in business organizations, group members that had worked together for a long time communicated less often within and without the organization, and tended to exhibit lower performance. MacCrimmon and Wehrung (1986) found that managers with more seniority and those who had been with the same firm longer were more risk-averse.

Risk-Taking Propensity Studies

Several researchers have studied risk-taking by attempting to describe and measure risk-taking propensity in human subjects. Previous research has been conducted to determine the relationship between risk-taking propensity and age (Bailey, 1991; Botwinick, 1966; Botwinick, 1969; Calhoun & Hutchison, 1981; Korchin & Basowitz, 1956; MacCrimmon & Wehrung, 1986; Masters & Meier, 1990; Vroom & Pahl, 1971; Wallach & Kogan, 1961), gender (Bailey, 1991; Botwinick, 1966; Kogan & Dorros, 1978; Masters & Meier, 1990; Schell & Bonin, 1989; Wallach & Kogan, 1959; Wallach & Mabli, 1970), number of dependents (MacCrimmon & Wehrung, 1986), the influence of the opinions of others (Boster & Hale, 1989; Fischer & Burdeny, 1972; Jesuino, 1986; Mayer, 1985; Shure, Malamuth, & Johnston, 1975; Stoner, 1968; Vidmar & Burdeny, 1971; Wallach & Mabli, 1970), book censorship (Schell & Bonin, 1989), societal values (Stoner, 1968; Wallach & Mabli, 1970), motivational factors (Saha & Krishna, 1991), professional status (Masters & Meier, 1990), longevity of employment (Kouzes & Posner, 1995; MacCrimmon & Wehrung, 1986; Macmillan, 1993; Wardlow, Swanson, & Migler, 1992), academic discipline (Masters & Meier, 1990), educational level (Bailey, 1991; MacCrimmon & Wehrung, 1986; Masters & Meier, 1990), income (Bailey, 1991; MacCrimmon & Wehrung, 1986; Masters & Meier, 1990), institutional culture (Watwood, 1996), and the influence of institutional leaders (Baskett & Dixon, 1992; Bogotch, Brooks, Riedlinger, & MacPhee, 1992; Phelan, 1996; Riggs & Sykes, 1993; Schwandt, 1996; Wardlow, Swanson, & Migler, 1992).

The Choice Dilemmas Questionnaire. Although other methods have been used in risk-taking propensity research, one instrument, the Choice Dilemmas Questionnaire (CDQ), has dominated the field for nearly 40 years.

The CDQ is a semi-projective instrument which was developed in 1959 by Wallach and Kogan and utilized by them in several studies to assess risk-taking propensity and its relationship to age, gender, and various personality traits and cognitive processes (Kogan & Wallach, 1964; Wallach & Kogan, 1959; Wallach & Kogan, 1961). Since its development, the CDQ, parts of the CDQ, and modifications of the CDQ have been widely used by other researchers to measure risk-taking propensity in psychology-related studies (Boster & Hale, 1989; Botwinick, 1966; Botwinick, 1969; Calhoun & Hutchison, 1981; Fischer & Burdeny, 1972; Jackson, Hourany, & Vidmar, 1972; Kogan & Dorros, 1978; Mayer, 1985; Saha & Krishna, 1991; Shure, Malamuth, & Johnston, 1975; Stoner, 1968; Vidmar & Burdeny, 1971; Vroom & Pahl, 1971; Wallach & Mabli, 1970; Zuber, Crott & Werner, 1992), business-related studies (Zinkhan, Joachimsthaler, and Kinnear, 1987), and education-related studies (Horber & Geisinger, 1983, Schell & Bonin, 1989). The CDQ or parts of it have also been translated and administered in research studies in other countries (Jesuino, 1986; Saha & Krishna, 1991; Zuber, Crott & Werner, 1992).

The CDQ consisted of 12 hypothetical, but realistic, situations in which a character was faced with two courses of action; one more attractive but risky alternative, and the other less attractive but safer. The subject was asked to advise the central character in each situation, and to indicate the minimum odds of success needed to recommend the more attractive, risky alternative. A generalized version of the odds response scale used in the CDQ is as follows:

Please select the lowest odds that you would consider acceptable for the risky alternative to be chosen.

The chances that the risky alternative will be successful are:

- A. 1 in 10
- B. 3 in 10
- C. 5 in 10
- D. 7 in 10
- E. 9 in 10
- F. Select this option if you think the central character should NOT choose the risky alternative no matter what the odds.

Although there has been some variation, the most common method for scoring the responses to each CDQ item have utilized an 11-point scale which resulted in an inverse relationship between risk-taking propensity and the score on the CDQ. According to this scoring method, the highest risk-takers who chose the “1 in 10” response received the lowest score (1 point), and the most cautious who chose the “don’t-choose-the-risky-alternative-no-matter-what-the-odds” response received the highest score (11 points).

Wallach and Kogan (1961) reported that the split-half reliability coefficient using the Spearman-Brown formula for the CDQ was .53 for young men, .63 for young women, and .80 for both older men and women. Based on these values, they assessed the internal consistency as “satisfactorily high.” Although the reliability reported for older subjects (.80) is satisfactorily high, that reported for younger subjects (.53 and .63) is not. Usually when instrument reliability is reported in the literature, it is not commonly divided based on age and gender. Although this division provides useful information, a combined reliability for the CDQ could be estimated by mathematically averaging the reported scores, yielding a value of .69. However, this estimated combined reliability score still falls short of the desired minimum of .70 (Gay, 1996). Mayer (1985) reported a test-retest reliability of .62 for four selected CDQ

questions, and Schell and Bonin (1989) reported a Cronbach's alpha value of .62 for 10 items of the CDQ which had been revised. Most other researchers who have used the CDQ have not reported reliability data.

Although widely used, the CDQ has been criticized. MacCrimmon and Wehrung (1986) faulted the CDQ for its incompletely specified situations that required subjects frequently to switch roles. Consequently, for their study of risk-taking among business executives, they developed a series of instruments which centered around business-related decisions and did not require the subjects to change roles. Reingen (1976) was concerned about the odds response scale and its potential for causing confusion. When asked if the 1 in 10 response or the 7 in 10 response indicated greater risk-taking, 30% of subjects gave the incorrect answer of 7 in 10. In addition, the risk-taking propensity for those subjects giving the correct answer to that question was not significantly different from the risk-taking propensity for subjects giving an incorrect answer, causing Reingen to question the validity of the CDQ. Boster and Hale (1989) also described the odds response scale used in the CDQ as ambiguous and modified the CDQ to employ a Likert-type response scale.

The original 12-item CDQ has been modified by several researchers in various ways to accommodate particular research goals. Botwinick (1966, 1969) and Calhoun and Hutchison (1981) revised and added to the CDQ to create a balance based on perceived age of the central character in each of the situations. Stoner (1968) selected some items from the CDQ and some from other studies, and added new items to categorize the situations as usually eliciting a risky response or usually eliciting a cautious response. Vidmar and Burdeny (1971) also modified the CDQ to balance for risky items and cautious items. Kogan and Dorros (1978) created two identical forms of the CDQ, except

that the central characters in one form were all female, and in the other form were all male. Schell and Bonin (1989) also addressed the gender issue, but revised a 10-item version of the CDQ so that five of the central characters were male and five were female.

Psychology-related studies. In a 1959 study of 357 college students, Wallach and Kogan conducted a gender comparison of risk-taking propensity. Their study yielded no simple generalizations and they concluded that risk-taking behavior differences between men and women varied according to the subject matter involved. A later study by Wallach and Mabli (1970) showed no significant differences in risk-taking propensity between women and men; Schell and Bonin (1989) also noted no differences based on gender. In contrast Bailey (1991), who studied only the financial dimension of risk-taking, found that males were significantly greater financial risk-takers than females.

Kogan and Dorros (1978) noted that all the situations in the original CDQ contained male central characters. They revised the CDQ, resulting in 2 forms of a 10-item instrument, identical in all respects except for the gender of the central character. The female and male forms of the instrument were each presented to half of the 160 female and male undergraduate subjects enrolled in introductory psychology in New York City colleges. In addition to rating their own risk preferences, subjects were asked to indicate how they thought their peers would respond. Results were analyzed by sex of subject, sex of central character, and sex of peer. Interestingly, the female form of the instrument elicited higher levels of risk-taking from both female and male subjects, but the response was even more pronounced in male subjects. The authors concluded that the highly achieving female central characters might be perceived as more exceptional by the subjects than their male counterpart central characters, a

conclusion which may be related to the status of the gender equality issue in the 1970's. They also found that both male and female subjects perceived their peers to be more cautious than themselves.

Wallach & Kogan (1961) later conducted an age comparison of risk-taking in 511 subjects, who were matched for education and intelligence, and divided into two groups, "old" (average age of 70) and "young" (university freshmen and sophomores). They found that conservatism increased and risk-taking decreased with age for both sexes. Korchin and Basowitz (1956, 1957) also concluded that older subjects vacillated more, were more extreme in their judgments, and were more cautious and risked fewer failures than younger subjects. This result was confirmed by MacCrimmon and Wehrung (1986) who found that older executives were more risk-averse than younger executives.

Calhoun and Hutchison (1981) related age to risk-taking in a study of 45 women and 19 men with an average age of 69 and an average of almost 13 years of education identified through social service agencies in southwest Virginia. They utilized the CDQ, modified to include situations which involved both younger and older central characters. Their research procedure altered the CDQ responses, in one case allowing the subjects to avoid making a decision by selecting a "no choice" alternative, and in another forcing them to make a decision. They found that, when given the no choice alternative, the elderly subjects chose to make no decision, even when the attractive alternative was presented as involving no risk at all. Interestingly, their results indicated that the elderly responded more cautiously when the central character was younger. These results confirmed those from earlier studies by Botwinick (1966, 1969) who added 12 items, all with elderly central characters, to the CDQ. Botwinick found that both younger and older subjects responded more

cautiously when the central character was younger and that older subjects responded more cautiously than younger subjects. Interestingly, he also found that older subjects chose the “no choice” alternative more often than younger subjects; and that when forced to make a decision (because the no choice alternative was not available), older subjects were just as risky as younger subjects.

Motivational factors were related to risk-taking behavior in a study conducted by Saha and Krishna (1991), who administered the Hindi version of the CDQ to 300 male, urban, undergraduate university students in India, ranging in age from 18-22. After administration of the CDQ, they categorized the subjects as high, moderate, or low risk-takers and related risk status to scores on the Tripathy Personal Preference Schedule which measured motivational dimensions. They found that high risk-takers had low achievement and order motives, but high autonomy and affiliation motives. This result was consistent with the findings of Miller and Toulouse (1986) who reported that high achieving CEO's could not tolerate chaos and disorder, and were less apt to take risks.

Choice shift studies. Several studies have been conducted to measure the influence of small group discussion on individual risk-taking propensities. A common research procedure used in these studies was to ask subjects to respond to items on a test instrument three times: 1) as individuals prior to group discussion; 2) as a group after discussion; and 3) as individuals again after group discussion. Results were referred to as a “risky shift” if the small group made a riskier decision than the individual members, and as a “cautious shift” if the group made a more cautious decision. The stability of the risky or

cautious shift in the individual members after group discussion was also of interest to the researchers.

Mayer (1985) offered three possible explanations for the phenomenon of choice shift: 1) diffusion of responsibility, 2) persuasive argument, and 3) social comparison. In the diffusion of responsibility explanation, the individual's accountability is reduced when in a group; therefore an individual may agree to a riskier stance in a group than s/he would have taken alone. Mayer asserted that this explanation would apply only to risky shifts and not to cautious shifts. The persuasive argument explanation relies on the concept that an individual may shift opinions if presented with arguments for a risky and/or a cautious position. The shift is usually in the direction of the preponderance of the arguments, but novel arguments have more effect than familiar arguments. In the social comparison explanation, individuals tend to conform to the positions of others based on values. Choice shift based on social comparison appears to be more of an emotional response, and shift based on persuasive argument appears to be more of a rational response. The results of Mayer's study of 187 students enrolled in a basic speech course at a large midwestern university strongly supported the persuasive argument explanation, only minimally supported the social comparison explanation, and did not support the diffusion of responsibility explanation.

Other researchers, although they did not directly test the social comparison explanation, have reported results that indicate that people do compare themselves with their peers. Subjects considered themselves to be greater risk-takers than their peers (Kogan & Dorros, 1978; Shapira, 1995), adjusted their responses to equal or exceed the group norm (Boster & Hale, 1989), and rated themselves as more risky than their own actual behavior

would indicate (Jackson, Hourany, & Vidmar, 1972; MacCrimmon & Wehrung, 1986; Schell & Bonin, 1989; Shapira, 1995). Vroom and Pahl (1971) noted that older subjects did not rate themselves as more risky than others. They suggested that the elderly may place less value than younger subjects on risk-taking or on their self-image as risk-takers.

Stoner (1968) looked at choice shift from the perspective of societal norms and values by studying 212 university students and spouses of university students. He constructed a 12-item instrument by selecting risky or cautious situations validated by previous research and by creating new situations, resulting in equal numbers of risky and cautious items. His results were consistent with choice shift in the direction anticipated by widely held values. Vidmar and Burdeny (1971) also balanced the instrument for risky and cautious items. In their study of male Canadian introductory psychology students, they noted that the size of the risky or cautious shift increased with group size.

Wallach and Mabli (1970) used 10 items from the CDQ to study the effect of group discussion on the risk-taking propensities of 782 Duke University introductory psychology students. Three-person, single gender groups were formed, with either a majority of risky members or of conservative members. They found that after group discussion, conservatives tended to shift to a more risky position, but that risky members showed little or no shift. This result dominated the literature for several years, during which time it was thought that all group-influenced shifts would move in the risky direction, labeling the phenomenon "risky shift." These researchers also reported that they found no significant gender differences in risk-taking propensity.

Fischer and Burdeny (1972) studied choice shift as it related to group composition and item orientation in 120 male volunteer introductory psychology

students at a Canadian university. They first measured individual risk-taking propensity with the CDQ, using the results to categorize subjects as high risk-takers, moderate risk-takers, and low risk-takers. Then three-man discussion groups were formed, based on various combinations of the three categories. The items on the test instrument were categorized as items with a “risk” orientation (more likely to elicit a risky response from most subjects) or with a “caution” orientation (more likely to elicit a cautious response from most subjects). They found that low risk-takers appeared to be the most resistant to shift their decisions, that moderate risk-takers shifted in both directions dependent on group composition, that high risk-takers did not shift decisions if they constituted a majority and shifted in the cautious direction only if in the minority, and that persons holding an opinion matching the orientation of the item were less likely to shift their decisions. Overall, these researchers found that group composition and item orientation were important factors in determining group and individual choice shifts.

Boster and Hale (1989) studied choice shift among undergraduate students enrolled in a basic communications course at a midwestern university. They used the CDQ, but tested two types of response scales: the odds scale which was used in the original version of the CDQ; and a Likert-type scale. They asserted that the odds scale was ambiguous, and that simple misuse of this type of response scale would give erroneous results. In addition, they explored the effect of persuasive argument and of social comparison as influencing factors on choice shift. They found that social comparison (subjects comparing their own responses to those of others) was more important in determining choice shift when the odds scale was used; but persuasive argument (subjects listening to pro-risky and pro-cautious arguments relating to

the situations) exerted a stronger impact when the Likert scale was used. Although the odds scale may be somewhat ambiguous, the use of a Likert-type scale could introduce another source of error. In order to use a Likert scale, a risky or cautious decision for each situation must be made beforehand and a decision statement must be presented to the subject. The subject would then be asked to respond on a continuum from strongly agree to strongly disagree. The act of presenting the subject with an already-made decision may inadvertently influence the subject's response choice.

The effect of leadership on choice shift was studied by Jesuino (1986). He utilized the Portuguese version of the CDQ which consisted of 12 items, 9 of which were considered risky and 3 were considered cautious, with a 7-point Likert-type response scale. His subjects were 122 male and female enrollees in social psychology classes at a management school in Lisbon divided into 4 or 5 member groups. He found that neither a relationship-oriented nor a task-oriented leadership style significantly affected choice shift. However, the type of intervention exhibited by the group leader was significant: the laissez-faire leader elicited the smallest shift and no leader elicited the largest choice shift. The directive leader and the consensual leader elicited intermediate shifts.

Because of the interest in choice shift and its applicability to psychological research, this phenomenon was considered to be well-suited for teaching experimental design. Shure, Malamuth, and Johnston (1975) created a computer simulation to teach research methods to undergraduates, employing 13 variables commonly used in choice shift research: gender of subjects, group size, communication method, physical arrangement, decision process, degree of anxiety of subjects, group risk composition, group risk preference, group cohesiveness, communication time constraint, information

about risk preferences of group members, number of risky or cautious arguments presented, and the observer role of subjects. The computer model employed the CDQ (Kogan & Wallach, 1964) as the dependent variable and was constructed such that simulated experimental results were consistent with actual experimental results in choice shift studies reported in the literature. After use in the classroom, the authors compared simulation results with actual study results and found the accuracy of the model to be satisfactory. They further determined that the computer model was effective in teaching experimental design to undergraduate psychology students.

Business-related studies. Moore and Gergen (1985) studied organizations undergoing change. They found that organizations accomplishing very little change were largely composed of employees with low to moderate risk-taking tendency, and that organizations experiencing a high rate of change had more moderate to high risk-takers as employees. They concluded that employees who are moderately high risk-takers are necessary for organizations to change.

Bailey (1991) focused on the financial dimension of risk-taking. She sampled the general population from churches and civic and social organizations in Oklahoma and administered a 16-item, consumer financial risk-taking scale. Her results indicated that males, respondents younger than 60 years old, and those with lower incomes were significantly greater financial risk-takers; and females, respondents 60 years and older, and those with higher incomes were more financially risk-averse. This was in contrast to results of MacCrimmon and Wehrung (1986) who found that risk-taking propensity increased with income. In addition, Bailey (1991) found that educational level was not a significant factor in determining financial risk-taking propensity.

MacCrimmon and Wehrung (1986) chose to study risk-taking among top managers, labeling them professionals at making risky decisions. They mailed surveys, estimated to take two hours to complete, to senior business executives in the U.S. and Canada. Their initial Canadian direct mail response rate was 7%; follow-up personal contacts yielded a 48% response rate among selected non-respondents. Personal contact methods for the U.S. sample resulted in a response rate of 28%. Overall, the response rate for the entire sample was 14.4%. These researchers conjectured that their results may have been affected by the low response rate: non-respondents could have included risk-averse executives who refused to participate at all, and risk-takers who were too busy taking risks to respond.

MacCrimmon and Wehrung (1986) found that the executives tried to adjust the risks they faced in the survey situations either by collecting more information, bargaining, delaying, or delegating; and exhibited more risk-aversion when choices had to be made without any possibility of adjustment. On a self-rating portion of the survey, these executives rated themselves as more risky than their behavior on other parts of the survey would indicate. Other results indicated that the executives tended to take less risks when their own money was at stake than when their company's money was at stake, CEO's took more risks than lower level managers, managers with greater authority took greater risks, managers with more seniority were more risk-averse, managers in large firms were more risk-averse, managers in banking were more risk-averse, and managers with the same firm for a long time were more risk-averse. In general, the executives were more willing to take risks once in a risky situation than they were to enter a risky situation.

Education-related studies. Masters and Meier (1990) conducted a study in an academic institution to answer the question, "What area will be the first in the organization to adopt technological innovation?" They measured risk-taking propensity in various groups within the university and found that propensity was not related to gender or income, but increased with level of education. Interest in, and facility with, technology appeared to be related to risk-taking propensity: faculty with high scores on the technical skills test used in the study were also more inclined toward risk-taking. The subjects studied were between 30 and 60 years of age, and according to the authors, all exhibited "moderate" risk-taking propensity. This result appeared to indicate that, for these subjects, risk-taking propensity remained fairly stable with increasing age. At the conclusion of their study, Masters and Meier determined that faculty were more apt to take risks than staff. Therefore, it was determined that faculty would be trained first in the new technological innovation, and that staff would be trained later.

Schell and Bonin (1989) studied risk-taking propensity and censorship behavior in Canadian librarians. They administered a 124-question survey which included 10 items from the CDQ, revised to include five male and five female central characters. They found that librarians were liberal in attitude but conservative in behavior with regard to book censorship. As a group the librarians were risk-averse; but risk-propensity was a statistically significant predictor of censorship behavior.

Categorizing Risk-Takers

In an attempt to manage the data generated by risk-taking propensity studies and to assist in drawing meaningful conclusions, researchers have

grouped responses either absolutely or relatively to create a hierarchy of risk-taking categories.

Fischer and Burdeny (1972) divided their subjects into upper, middle, and lower thirds of the response scale for five caution items on the CDQ. By this method, they identified 28 high risk-takers, 48 moderate risk-takers, and 44 low risk-takers among the 120 male university introductory psychology students. By dividing the response scale into equal thirds, they defined high, moderate, and low risk-takers in an “absolute” manner. Because of the absolute nature of the definitions they used and the divisions they made, their results can be fairly easily compared to those of other studies.

Wallach and Mabli (1970) used the CDQ and scored it using an 11-point scale: the most cautious response to an item rated 11 points; the most risky response rated 1 point. They selected the upper third of the distribution of scores as the conservatives category and the lower third of the distribution as the risk-takers category. Saha and Krishna (1991) divided the score distribution on the Hindi version of the CDQ into thirds: 33% and below indicated a high risk-taker; from 34%-66% indicated a moderate risk-taker; and from 67% and above indicated a low risk-taker. By using these categories to divide 300 urban, male, Indian undergraduate subjects, they identified 102 high risk-takers, 98 moderate risk-takers, and 100 low risk-takers. MacCrimmon and Wehrung (1986) also divided their sample into three groups of approximately equal size and labeled their subjects as relatively risk-taking, relatively risk-neutral, and relatively risk-averting. By dividing the distribution of subject scores into nearly equal thirds, these three research groups defined high, moderate, and low risk-takers in a “relative” manner. This type of division produced results that are not

as easily comparable to other studies, but did provide valuable information describing the subjects.

Summary

Research on risk-taking has been conducted in the areas of psychology, business, and more recently, education. Researchers agree that the risk construct is multidimensional but have diverse opinions on the difficulty of measuring risk and on the generalizability of research results. Various dimensions of the risk construct have been identified including those relating to money, reputation, and satisfaction. The difference between risk-taking in personal situations and in professional situations has also been addressed.

Organizations including businesses and educational institutions appear to go through a life cycle; the growth part of the cycle includes innovation and risk-taking. Maturity leads to decline unless innovation and risk-taking are reintroduced. Leaders are particularly important in establishing organizational cultures that encourage risk-taking. Leadership qualities that foster risk-taking include tolerance of mistakes, flexibility, collaboration, self-confidence, trust, communication, creativity, tolerance of chaos, delegation, and empowerment.

Factors that discourage risk-taking include fear of punishment, centralization, pessimism and cynical attitudes, too many tasks required of one job description, lack of time, lack of trust, and lack of support. Factors which encourage risk-taking include lack of punishment for failure, institutional support, delegation of responsibility, trust, free time, rewarding accomplishment, decentralization, collaboration, and communication.

Although it has its critics, the Choice Dilemmas Questionnaire has been used extensively to measure risk-taking propensity for nearly 40 years. The

CDQ and other instruments have been utilized to determine the relationship between risk-taking propensity and age, gender, number of dependents, the opinions of others, values, professional status, longevity of employment, academic discipline, educational level, and income. A review of the risk-taking propensity literature which dealt with one or more demographic factors of particular interest in education is summarized in Table 2.

Table 2

Literature Summary: Relationship of Various Factors to Risk-Taking Behavior

Factor	Relationship to Risk-Taking Behavior	
	Significant	Non-Significant
Age	Risk-taking decreased with age (Korchin & Basowitz, 1956, 1957).	If "no choice" option withheld, no significant difference (Botwinick, 1969).
	Risk-taking decreased with age (Wallach & Kogan, 1961).	Between 30-60 yrs, no significant difference (Masters & Meier, 1990).
	If given "no choice" option, risk-taking decreased with age (Botwinick, 1966).	
	Risk-taking decreased with age (Vroom & Pahl, 1971).	
	If given "no choice" option, risk-taking decreased with age (Calhoun & Hutchison, 1981).	
	Risk-taking decreased with age (MacCrimmon & Wehrung, 1986).	
	For 60 yrs & over, risk-taking decreased with age (Bailey, 1991).	
Gender	Varied according to subject matter (Wallach & Kogan, 1959).	No significant difference (Wallach & Mabli, 1970).
	Males greater financial risk-takers (Bailey, 1991).	No significant difference (Schell & Bonin, 1989).
		No significant difference (Masters & Meier, 1990).

(table continues)

Table 2 (continued)

Factor	Relationship to Risk-Taking Behavior	
	Significant	Non-Significant
Prof Status	Faculty more risky than staff (Masters & Meier, 1990).	
Length of Service	Risk-taking decreased with seniority (MacCrimmon & Wehrung, 1986).	
	Risk-taking increased with low employee turnover (Wardlow <i>et al.</i> , 1992).	
	Risk-taking decreased with length of time in career (Macmillan, 1993).	
	Risk-taking decreased with length of time in group (Kouzes & Posner, 1995).	
Academic Discipline	Nursing and arts & sciences faculty greater risk-takers than education faculty (Masters & Meier, 1990).	
Education Level	Risk-taking increased with advanced degrees (MacCrimmon & Wehrung, 1986).	No significant difference (Bailey, 1991).
	Risk-taking increased with education level (Masters & Meier, 1990).	

Chapter III

Method

This research project was undertaken to address issues related to risk-taking in educational institutions. The overall purposes of this study were to explore dimensions of the risk construct, identify factors related to risk-taking in an educational environment, and study propensity to take risks among employees at a large, urban, multicampus community college.

Selection of the Academic Institution for the Study

In order to study risk-taking in education, it was necessary to choose an academic institution for the project, preferably one which had some tendency toward risk-taking. Because of their mission which obligates them to meet the needs of the community, community colleges are inherently more accustomed to change, innovation and taking risks than other sectors of higher education (Cohen & Brawer, 1982; Commission on the Future of Community Colleges, 1988; Gleazer, 1961; Lorenzo & Blanzky, 1988; Thornton, 1966; Vaughn, 1995). Therefore, a community college, particularly a multicampus community college located in an urban area, was a logical choice for this study. The community college selected for this research project is named throughout this paper as LUMCC, an acronym for large, urban, multicampus community college.

Subjects

The subjects for this study were full-time faculty, administrators, and academic department heads employed by LUMCC who chose to respond to a survey consisting of seven demographic questions and an instrument which

measured risk-taking propensity. The demographic questions assessed age, gender, current professional status, length of service at current professional status, academic discipline, highest degree earned, and campus location.

The professional status categories of interest were faculty, administrator, and academic department head. Since the position of academic department head is categorized as faculty at some institutions and as administrator at others, academic department heads were grouped separately, allowing for more accurate comparisons with future studies. Job titles which were classified by LUMCC as faculty positions and those classified as administrative positions are listed in Appendix A. Employees classified as staff were omitted from this study.

Instrument

The Choice Dilemmas Questionnaire (CDQ) was selected as the instrument for this study. However, in the opinion of this researcher, the original CDQ developed in 1959 by Wallach and Kogan required modification before it could be used in this project for four reasons. First, the original version included certain details such as salary information that were obviously outdated and would weaken the credibility of the situations in the instrument unless updated. Second, the original CDQ was not balanced according to dimensions of the risk construct: three situations dealt with money; four with satisfaction, happiness or health; and five with reputation. Third, five of the original items dealt with risky choices in personal situations, and the remaining seven dealt with risky choices in professional situations. In order to properly address research question one which dealt with the relationship between personal and professional risk-taking, the number of personal situations and the number of professional situations in

the instrument should be equal. Fourth, all the central characters in the original situations were male, raising the concern that female subjects might not identify closely enough with the characters, thus making the results for females less valid. The results of Kogan and Dorros (1978) underscored this concern since they found that female central characters elicited a more risky response from both female and male subjects than did male central characters. Although their result may in part be decade-dependent and the same result may not be duplicated in the 1990's, this researcher decided to avoid the problem by making the central characters genderless. Permission to modify the CDQ was obtained from Holt, Rinehart and Winston, Inc., Orlando, Florida, Permissions Department.

To address these four concerns, the 12 situations in the original CDQ were updated to reflect current conditions and modified to make the central characters genderless, and 8 new situations were added. The resulting instrument consisted of 20 items, 10 based on personal risk and 10 based on professional risk, which included situations involving the money, reputation, and satisfaction dimensions of the risk construct. The 20-item instrument was field-tested in a pilot study and was subsequently shortened to 12 items for use in the research study (see Pilot Study section).

Although the odds response scale used in the original CDQ was considered by some researchers to be ambiguous (Boster & Hale, 1989; Reingen, 1976), the odds-type of scale was retained for this research project. However, the method of scoring was changed so that the most risky approach scored the highest (6 points) and the most cautious approach scored the lowest (1 point). The number of points associated with each response on the odds scale is summarized in Table 3.

Table 3

Scoring Method for the Odds Response Scale

Response	Points
1 in 10	6
3 in 10	5
5 in 10	4
7 in 10	3
9 in 10	2
Don't choose risky alternative	1

The 20-item CDQ and a proposal of the research project were submitted to the Florida International University Research Committee and permission was granted to conduct the research on human subjects.

Pilot Test of the Instrument

A pre-pilot session was held with four academic department heads from LUMCC prior to the pilot test. They were asked to answer 10 items from the CDQ using the odds response scale. In a discussion following completion of the items, the four indicated that the situations were clearly presented and the odds response scale was not confusing. Although this pre-pilot session gave valuable information for conducting the pilot test, it was unfortunate that the pre-pilot was conducted at LUMCC, since the participation of the four department heads meant that they could not be included in the research study. However, at

the time of the pre-pilot, the location of the research study had not yet been determined.

The updated and modified CDQ was pilot-tested at a community college which shared common characteristics with LUMCC. The pilot-test institution was an urban, multicampus community college located in the southeastern United States; however it was a larger college than LUMCC. Two versions of the CDQ instrument were tested: version one (the short pilot) consisted of the 12 items from the original CDQ, although updated and modified; and version two (the long pilot) consisted of version one plus the 8 new items written by this researcher. A total of 13 subjects participated in the pilot test: in the first session, 6 faculty members and 2 administrators completed the short pilot instrument; and in the second session, 1 faculty member and 4 administrators completed the long pilot instrument.

After completing the instrument, the subjects participated in a structured discussion (Fowler, 1993). During the discussion, pilot test subjects stated that instructions were clear, the items were understandable, and the response scale was not confusing. However, they were of the opinion that the 20-item version was too long.

Since the short pilot and the first 12 items of the long pilot were identical, the instruments completed by all 13 subjects were used to compute a reliability for the 12-item version. Using Cronbach's alpha, the reliability of the updated, modified, original 12-item CDQ (the short pilot instrument) was determined to be .55. This value was higher than the split-half reliability of .53 for young men reported by Wallach and Kogan (1961) for the original CDQ, computed using the Spearman-Brown formula, but lower than their reliabilities of .63 for young

women and .80 for older men and women. The reliability of the long pilot instrument using Cronbach's alpha was .81.

Information from the pilot test was used to create a better instrument by maximizing reliability, verifying validity, and reducing the number of items to keep the time needed for completion within the recommended 30 minutes (Fowler, 1993). In order to address validity, the questions were categorized based on which risk dimension was involved in each of the situations.

The resulting instrument, named the Bolton Choice Dilemmas Questionnaire (BCDQ), consisted of 12 situations (6 from the original CDQ--although modified and updated--and 6 newly written by this researcher) and scored a reliability of .88 using Cronbach's alpha. The instrument contained two questions in each of six categories based on three risk dimensions: professional money, professional reputation, professional satisfaction, personal money, personal reputation, and personal satisfaction. The balanced sample of item content was consistent with the recommendations of Jackson, Hourany, and Vidmar (1972) and MacCrimmon and Wehrung (1986), and the two questions per category met the recommendations of Fowler (1993).

Each of the situations in the 12-item BCDQ is summarized as follows, and the risk dimension category is indicated for each. Because decisions in the area of health were thought to be quality of life dilemmas, situations involving health or physical well-being were placed in the satisfaction category. The entire survey, consisting of 7 demographic questions and the 12-item BCDQ, can be found in Appendix B.

1. A computer specialist has the choice between staying with a secure, but lower paying job, or signing on with a new company with an uncertain future for higher pay and a potential share in the ownership. (professional money)
2. An accountant was just diagnosed with a heart condition and has the choice between no medical intervention and severely limiting favorite pursuits, or undergoing an operation that would either completely relieve the condition or prove fatal. (personal satisfaction)
3. A competent chess player is in a match with the top-favored competitor and could play traditionally, or try a clever maneuver that could bring quick victory if not discovered or quick defeat if found out. (personal reputation)
4. A soldier is in a prisoner-of-war camp and has the choice of remaining in the camp and doing hard physical labor with barely enough food, or attempting escape, which could result in execution if caught. (personal satisfaction)
5. A business owner has the choice of continuing to operate the business, or running for political office on a minority party ticket which would require using personal funds for campaigning and enduring attacks in a hot campaign. (professional reputation)
6. A research scientist has been given a five-year appointment and could work on a series of short-term projects with easier solutions, or a difficult long-term project which would contribute significantly to the field if successful, but have little to show for the five years if not. (professional reputation)

7. An electrician has the choice between a smaller job which has been offered or waiting to find out if a larger job will be awarded, thus losing the smaller job offer. (professional money)
8. A public defender has the choice of asking to be excused from a controversial murder case in which political pressure is being applied for conviction, or working for an acquittal for a defendant believed to be innocent by finding the real murderer.
(professional satisfaction)
9. A marketing analyst has the choice of accepting a promotion, or quitting and writing a novel. (professional satisfaction)
10. A couple has the choice of staying in their current neighborhood and realizing a steady profit, or moving to a dream house in an area with an unknown future regarding property values. (personal money)
11. A salesperson has the choice of volunteering for a fund-raiser organized poorly as in the past, or chairing the fund-raiser and implementing some new ideas, which if unsuccessful, would cause a loss of funding and a loss of face. (personal reputation)
12. A stamp collector has the choice of keeping the collection intact and realizing a steady profit, or selling some of the collection and investing in antique glassware with the potential but not the promise of a large gain. (personal money)

Research Design

This research study was designed to address the following research questions:

1. What is the relationship between risk-taking propensity in personal situations and risk-taking propensity in professional situations for faculty, administrators, and academic department heads?
2. Are there significant differences in propensity to take risks among high, moderate, and low risk-takers based on professional status?
3. Are the factors age, gender, current professional status, length of service at current professional status, academic discipline, highest degree earned, and campus location significant predictors of membership in high, moderate, and low risk-taker groups?

The overall research design for this project was descriptive. Descriptive research is conducted to gather information about existing attitudes, opinions, situations, or procedures. The descriptive researcher does not manipulate variables, but measures the current status of the topic of interest. Data are collected by questionnaires, interviews, or observations and the variables in question are then tested for significant relationships (Gay, 1996).

Appropriate data analysis methods were selected to answer each research question. Research question one was addressed by the correlation method, wherein two variables are measured for each subject and the scores for those variables are correlated. A correlation coefficient between 0.00 and +1.00 or between 0.00 and -1.00 is obtained which indicates the degree to which the two variables are related (Gay, 1996). In this study the two variables were 1) the score on the six items of the BCDQ that dealt with personal

situations and 2) the score on the six items of the BCDQ that dealt with professional situations.

Research question two dealt with the possible interaction between professional status and the level of risk-taking propensity, a relationship which was tested by utilizing the factorial ANOVA method (Gay, 1996). The independent variables were professional status (faculty, administrator, academic department head) and risk propensity category (high risk-taker, moderate risk-taker, low risk-taker). The dependent variable was the risk-taking propensity of the subjects as assessed by the 12-item BCDQ (RTP score).

In research question three, the ability of seven demographic factors to predict membership in risk propensity categories was tested. The independent variables (the seven factors) were age, gender, current professional status, length of service at current professional status, academic discipline, highest degree earned, and campus location; and the dependent variable was risk propensity category (high risk-taker, moderate risk-taker, low risk-taker). A discriminant analysis was the method chosen in order to test the effectiveness of the seven independent variables in predicting group membership in the categories of the dependent variable (Kerlinger, 1986).

Procedures

Permission to conduct this research study at LUMCC was obtained from the Office of the President, from the Provosts of each campus, and from the Office of Institutional Research. Mailing labels of the names of all full-time faculty, administrators, and academic department heads employed at LUMCC (a total of 511 names) were obtained from Information Services. The labels were reviewed for currency, and the names of those who had retired, had

resigned, had taken a sabbatical, or were otherwise ineligible were removed. In all, 24 of the 511 labels were not usable, resulting in a net mailing of 487 names.

A survey document consisting of the 12-item BCDQ and 7 demographic questions relating to age, gender, current professional status, length of service at current professional status, academic discipline, highest degree earned, and campus location was sent with a cover letter and instructions via the intercampus mail to faculty, administrators, and academic department heads. Subjects were asked to record answers to the survey questions and return them within two weeks.

In order to protect the privacy of the subjects, the survey materials were designed to allow for anonymous return. The survey packet included a self-addressed intercampus mail envelope which the subject was instructed to use for the return of the survey. Each survey document itself and the envelope used for its return were not marked in any way to connect them to a particular subject. The survey packet also included a postcard to be mailed back separately from the survey (Fowler, 1993). The postcard indicated the name of the subject and reported that the subject had sent back the survey in the intercampus mail envelope. Subjects who had returned postcards were not sent reminder notices.

Response Rate

Three weeks after the initial request, 229 (47.0%) of the 487 surveys had been returned. At that time, a reminder notice was sent to those faculty, administrators, and academic department heads who had not yet responded. This reminder notice resulted in 51 (10.5%) additional returns. Ten weeks after

the initial request, a last reminder was sent to non-respondents with instructions and another copy of the survey. The last reminder produced 45 (9.2%) more returns. In all, 325 of the 487 surveys were returned resulting in a 66.7% response rate. Table 4 shows the response rate by professional status.

Table 4

Response Rate by Professional Status

Professional Status	Survey Return Information						
	Total Labels		Surveys Mailed		Surveys Returned		Response Rate
	n	%	n	%	n	%	%
Faculty	357	69.9	342	70.2	223	68.6	65.2
Admin	115	22.5	112	23.0	87	26.8	77.7
Dept Hds	39	7.6	33	6.8	15	4.6	45.4
Total	511	100.0	487	100.0	325	100.0	66.7

The 66.7% return was lower than the preferred response rate of 75%, but within the common response rate range of 60-75% (Fowler, 1993). In this research project, more timely reminders may have improved the rate of return. Fowler (1993) recommended that the first reminder be sent only 10 days after the initial request and that the last reminder be sent 10 days after that.

Although the response rate was within the common range, the omission of data from non-responders could have biased the sample and the conclusions drawn from that sample. According to Fowler (1993), those with a particular interest in the subject matter are more likely to return a survey. MacCrimmon and Wehrung (1986) conjectured that survey recipients who were particularly risk-averse may choose not to respond to a survey about risk-taking because of their cautious nature, and those who were high risk-takers may be too busy taking risks to respond. Anonymity may have been a factor for non-responders in this study: some subjects indicated to this researcher that they chose not to complete the survey because they felt they could be identified by answers to the demographic questions.

It is important to note that the response rate for the faculty (65.2%) and administrator (77.7%) groups was similar to the total sample response rate (66.7%), but the rate for the academic department head group (45.4%) was substantially lower. Because of the low response rate, results for the department head group should be viewed with caution.

Chapter IV

Results

This research project was undertaken to explore dimensions of the risk construct, identify factors related to risk-taking in an educational environment, and study propensity to take risks among employees at an educational institution. A survey document consisting of 7 demographic questions and the 12-item BCDQ was mailed to faculty, administrators, and academic department heads at a large, urban, multicampus community college. The responses to the survey document were analyzed and yielded a demographic profile of the subjects; a reliability coefficient for the BCDQ; a measure of the risk-taking propensity of the subjects; information about the relationship between personal and professional risk-taking; a division of subjects into high, moderate, and low risk-taker categories; a test for interaction effects between professional status and risk propensity category; and an assessment of a model for predicting risk category membership using demographic factors.

Demographic Profile of Subjects

Demographic data were collected regarding age, gender, current professional status, length of service at current professional status, academic discipline, highest degree earned, and campus location. Table 5 shows age and gender by professional status. A majority (75%) of the 325 subjects reported ages between 40 and 59 years old, making the sample relatively homogeneous for this factor. Males and females were evenly represented: 48% of the subjects were female and 52% were male.

Table 5

Age and Gender of Subjects by Professional Status

Factor	Professional Status							
	Faculty		Administrators		Dept Heads		Total	
	n	%	n	%	n	%	n	%
Age								
20-39	32	14.3	12	13.8	1	6.7	45	13.8
40-49	87	39.0	38	43.7	7	46.7	132	40.6
50-59	81	36.3	26	29.9	6	40.0	113	34.8
60 & over	23	10.3	11	12.6	1	6.7	35	10.8
Total	223	99.9	87	100.0	15	100.1	325	100.0
Gender								
Female	110	49.3	43	49.4	4	26.7	157	48.3
Male	113	50.7	44	50.6	11	73.3	168	51.7
Total	223	100.0	87	100.0	15	100.0	325	100.0

Subjects were asked to report the number of full-time years served at current professional status to the nearest half year. The raw data reported by the subjects were grouped into length of service categories labeled short-timer (0-3 years), mid-timer (3.5-16 years), and long-timer (16.5 years and over). The ranges for the length of service categories were selected based on the frequency distribution of the number of years reported: approximately 25% of the 325 responses fell into the 0-3 year range (n=79), 50% fell into the 3.5 -16

year range (n=161), and 25% fell into the 16.5 year and over range (n=81).

Table 6 shows length of service by professional status.

Table 6

Length of Service of Subjects by Professional Status

Factor	Professional Status							
	Faculty		Administrators		Dept Heads		Total	
	n	%	n	%	n	%	n	%
<hr/>								
Length of Service								
Short-timer	45	20.2	31	35.6	3	20.0	79	24.3
Mid-timer	109	48.9	42	48.3	10	66.7	161	49.5
Long-timer	66	29.6	13	14.9	2	13.3	81	24.9
No response	3	1.3	1	1.1	0	0.0	4	1.2
Total	223	100.0	87	99.9	15	100.0	325	99.9

Note. Short-timers served 0-3 years; mid-timers served 3.5-16 years; long timers served 16.5 years and over.

Faculty and academic department heads were asked to report academic discipline; administrators were asked to omit that item. For purposes of data analysis, administrators as a group were placed in the discipline category "Administration." Table 7 lists academic discipline by professional status. Although all disciplines were represented in the total sample, the distribution across disciplines was not equal, resulting in several small groups. To compare group size in the study sample in relation to the total number of faculty in each discipline at LUMCC, Table 8 lists the response rate by academic discipline.

Table 7

Academic Discipline of Subjects by Professional Status

Factor	Professional Status							
	Faculty		Administrators ^a		Dept Heads		Total	
	n	%	n	%	n	%	n	%
Acad Discipline								
Eng/Lit/Jour	25	11.2	--	--	2	13.3	27	8.3
For Lang/ESL	9	4.0	--	--	1	6.7	10	3.1
Spch/Comm	4	1.8	--	--	0	0.0	4	1.2
Reading	5	2.2	--	--	0	0.0	5	1.5
Library Sci	7	3.1	--	--	0	0.0	7	2.2
Fine Arts	10	4.5	--	--	2	13.3	12	3.7
Social Sci	12	5.4	--	--	0	0.0	12	3.7
Behav Sci	20	9.0	--	--	0	0.0	20	6.2
Phil/Religion	2	0.9	--	--	0	0.0	2	0.6
Math	26	11.7	--	--	2	13.3	28	8.6
Natural Sci	31	13.9	--	--	1	6.7	32	9.8
Health Sci	24	10.8	--	--	4	26.7	28	8.6
Wellness/PE	10	4.5	--	--	0	0.0	10	3.1
Comp Sci/Off	11	4.9	--	--	1	6.7	12	3.7
Engin/Archit	4	1.8	--	--	0	0.0	4	1.2
Aviation	4	1.8	--	--	1	6.7	5	1.5
Business	15	6.7	--	--	1	6.7	16	4.9
Crim Justice	3	1.3	--	--	0	0.0	3	0.9
Administration	--	--	87	100.0	--	--	87	26.8
No response	1	0.4	0	0.0	0	0.0	1	0.3
Total	223	99.9	87	100.0	15	100.1	325	99.9

^a Administrators were asked to omit the academic discipline item.

Table 8

Response Rate of Faculty by Academic Discipline

Academic Discipline	Survey Return Information		
	Surveys Mailed n	Surveys Returned n	Response Rate %
Eng/Lit/Journ	50	25	50.0
For Lang/ESL	15	9	60.0
Spch/Comm	7	4	57.1
Reading	8	5	62.5
Library Sci	9	7	77.8
Fine Arts	18	10	55.6
Social Sci	14	12	85.7
Behav Sci	35	20	57.1
Phil/Religion	5	2	40.0
Math	36	26	72.2
Natural Sci	39	31	79.5
Health Sci	36	24	66.7
Wellness/PE	10	10	100.0
Comp Sci/Off	14	11	78.6
Engin/Archit	9	4	44.4
Aviation	6	4	66.7
Business	24	15	62.5
Crim Justice	7	3	42.9
No response	--	1	--
Total	342	223	65.2

Highest degree earned by professional status is listed in Table 9. Over 88% of the subjects held postgraduate degrees: subjects who had earned doctorates comprised nearly 27% of the sample, and those who had earned master's degrees comprised almost 62% of the sample.

Table 9

Highest Degree Earned by Subjects by Professional Status

Factor	Professional Status							
	Faculty		Administrators		Dept Heads		Total	
	n	%	n	%	n	%	n	%
Highest Degree								
Doctorate	58	26.0	23	26.4	5	33.3	86	26.5
Master's	156	70.0	37	42.5	8	53.3	201	61.8
Baccalaureate	6	2.7	22	25.3	2	13.3	30	9.2
Associate	2	0.9	2	2.3	0	0.0	4	1.2
Other	1	0.4	2	2.3	0	0.0	3	0.9
No response	0	0.0	1	1.1	0	0.0	1	0.3
Total	223	100.0	87	99.9	15	99.9	325	99.9

The campus location reported by subjects is shown in Table 10. The distribution of the respondents among the campuses was not equal (North 27%, Central 41%, South 19%, Downtown Center 11%); however, it was similar to the total number of faculty, administrators, and academic department heads at each of the campus locations (North 25%, Central 45%, South 18%, Downtown Center 12%).

Table 10

Campus Location of Subjects by Professional Status

Factor	Professional Status							
	Faculty		Administrators		Dept Heads		Total	
	n	%	n	%	n	%	n	%
Campus Location								
North	69	30.9	12	13.8	7	46.7	88	27.1
Central	101	45.3	29	33.3	3	20.0	133	40.9
South	47	21.1	10	11.5	4	26.7	61	18.8
Downtown	5	2.2	32	36.8	0	0.0	37	11.4
Other	0	0.0	3	3.4	1	6.7	4	1.2
No response	1	0.4	1	1.1	0	0.0	2	0.6
Total	223	99.9	87	99.9	15	100.1	325	100.0

Reliability of BCDQ

Of the 325 subjects who responded to the survey, 311 completed all 12 items of the BCDQ. Using Cronbach's alpha on the responses from these 311 surveys, the reliability of the BCDQ was .60. This reliability value was substantially lower than what was expected based on the pilot test data ($\alpha = .88$) and lower than the desired reliability minimum of 0.70 (Gay, 1996). However, the reliability of the BCDQ in this study was comparable to the split-half reliability coefficient of .53 for young men and .63 for young women reported by Wallach and Kogan (1961) for the original CDQ, computed using the Spearman-Brown formula; but was lower than the .80 reported by the same researchers for older men and women. It was also similar to the test-retest

reliability of .62 for four selected CDQ questions reported by Mayer (1985), and to the Cronbach's alpha value of .62 for 10 items of a revised CDQ reported by Schell and Bonin (1989). Reliability values for instruments that fall below .70 can raise concerns about the reliability of results. However, homogeneity of a sample can affect the measurement of reliability, such that an instrument could be more reliable than its coefficient would indicate. The effect of homogeneity should be considered when viewing reliability data.

Descriptive Statistics: Risk-Taking Propensity Data

Items on the BCDQ were scored on a six-point scale such that the most risky response for each item was assigned six points, and the most cautious response was assigned one point. The responses to the 12 items of the BCDQ were averaged and recorded for each subject as an individual risk-taking propensity score (RTP score). In addition, responses to the six personal situations were averaged to obtain a personal RTP score, and responses to the six professional situations were averaged to obtain a professional RTP score. Thus, possible RTP scores ranged from 6.00 (most risky) to 1.00 (most cautious).

Mean RTP scores and standard deviations were obtained for the sample of 325 subjects based on the demographic factors assessed in the survey, some of which were regrouped to facilitate data analysis. The seven factors included:

- 1) age (20-39 years, 40-49 years, 50-59 years, 60 years and over);
- 2) gender (female, male);
- 3) current professional status (faculty, administrator, academic department head);

- 4) length of service (short-timer serving 0-3 years, mid-timer serving 3.5-16 years, long-timer serving 16.5 years and over);
- 5) academic discipline (Aviation, Criminal Justice, Business, Fine Arts, Speech/Communications, Natural Science, Administration, Behavioral Science, Health Science, Computer Science/Office Technology, Wellness/Physical Education, English/Literature/Journalism, Foreign Language/ESL, Mathematics, Social Science, Reading, Engineering/Architecture, Library Science, Philosophy/Religion);
- 6) highest degree earned (Doctorate, Master's Degree, Baccalaureate, Associate, Other); and
- 7) campus location (North Campus, Central Campus, South Campus, Downtown Center, Other).

Table 11 presents mean RTP scores and standard deviations for subjects by demographic factors.

Table 11

Mean RTP Scores and Standard Deviations for Subjects by Demographic Factors Based on a Scale from 1 (lowest risk-taking) to 6 (highest risk-taking)

Factor	n=325	Personal RTP Score		Professional RTP Score		Total RTP Score	
		Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Age							
20-39	45	3.89	.73	3.67	.66	3.78	.56
40-49	132	3.80	.72	3.80	.73	3.80	.62
50-59	113	3.84	.70	3.79	.74	3.81	.56
60 & over	35	3.48	.83	3.56	.68	3.52	.63
Gender							
Female	157	3.75	.74	3.75	.71	3.75	.60
Male	168	3.83	.73	3.75	.73	3.79	.59
Prof Status							
Faculty	223	3.77	.76	3.75	.73	3.76	.61
Admin	87	3.88	.68	3.77	.70	3.83	.57
Dept Hd	15	3.64	.68	3.63	.76	3.64	.55
Length of Service							
Short-timer	79	3.88	.68	3.77	.74	3.82	.57
Mid-Timer	161	3.78	.73	3.80	.72	3.78	.61
Long-Timer	81	3.75	.78	3.63	.71	3.69	.58
No response	4	3.71	1.10	4.08	.44	3.90	.57

(table continues)

Table 11 (continued)

Factor	n=325	Personal RTP Score		Professional RTP Score		Total RTP Score	
		Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Acad Discipline							
Aviation	5	4.03	.36	4.40	.42	4.21	.25
Crim Justice	3	4.44	.35	3.67	1.00	4.06	.34
Business	16	3.92	.69	3.99	.89	3.95	.61
Fine Arts	12	4.01	.78	3.86	.66	3.94	.61
Spch/Comm	4	4.00	.47	3.88	.80	3.94	.46
Natural Sci	32	4.05	.62	3.82	.71	3.93	.58
Administration	87	3.88	.68	3.77	.70	3.83	.57
Behav Sci	20	3.85	.84	3.80	.76	3.83	.69
Health Sci	28	3.77	.72	3.76	.62	3.77	.57
Comp Sci/Off	12	3.58	.84	3.87	.83	3.72	.53
Wellness/PE	10	3.82	.60	3.56	.49	3.69	.43
Eng/Lit/Journ	27	3.64	.79	3.67	.72	3.66	.57
For Lang/ESL	10	3.48	.76	3.82	.84	3.65	.64
Math	28	3.64	.79	3.58	.80	3.61	.69
Social Sci	12	3.56	.48	3.60	.79	3.58	.59
Reading	5	3.63	.90	3.40	.65	3.52	.67
Engin/Archit	4	3.58	.65	3.38	.42	3.48	.34
Library Sci	7	3.14	1.17	3.68	.86	3.40	.83
Phil/Religion	2	2.92	1.30	3.42	.12	3.17	.59
No response	1	3.33	--	2.83	--	3.08	--

Note. Discipline categories are listed from highest total RTP score to lowest.

(table continues)

Table 11 (continued)

Factor	n=325	Personal RTP Score		Professional RTP Score		Total RTP Score	
		Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Highest Degree							
Doctorate	86	3.78	.73	3.77	.73	3.77	.57
Master's	201	3.80	.73	3.77	.71	3.78	.59
Baccalaureate	30	3.88	.81	3.54	.78	3.71	.68
Associate	4	3.04	.90	3.79	1.03	3.42	.88
Other	3	4.00	.44	3.94	.75	3.97	.57
No response	1	4.00	--	4.17	--	4.08	--
Campus Location							
North	88	3.84	.78	3.76	.72	3.80	.60
Central	133	3.74	.71	3.74	.69	3.74	.56
South	61	3.76	.68	3.81	.71	3.78	.58
Downtown	37	3.91	.77	3.66	.83	3.78	.71
Other	4	3.63	.55	3.50	1.03	3.56	.75
No response	2	4.67	.94	4.50	.47	4.58	.71
Total Sample	325	3.79	.73	3.75	.72	3.77	.60

Research Question One: What is the relationship between risk-taking propensity in personal situations and risk-taking propensity in professional situations for faculty, administrators, and academic department heads?

The main focus of this research project was to study risk-taking propensity in a professional, not a personal, environment; but it was of interest

to learn if a propensity to take personal risks also was indicative of a propensity to take professional risks. If the two risk propensities are related, the validity of the BCDQ (which contained a balance of personal and professional items) as a measure of propensity to take risks in a professional environment would be supported.

In order to answer research question one, mean risk-taking propensity scores for the six personal situations and for the six professional situations were computed for each subject, and a Pearson r correlation coefficient for the personal RTP scores and the professional RTP scores was obtained for the total sample, $r = .34$ ($p < .005$). This result indicated a significant relationship between propensity for personal risk-taking and propensity for professional risk-taking. While there is a statistically significant correlation between these risk-taking propensities, it is not necessarily of practical significance. More specifically, only 11.6% (r^2) of the total variance can be accounted for by the relationship between the propensity for personal risk-taking and the propensity for professional risk-taking. In other words, knowing the propensity to take risks in one area accounts for about 12% of the variance in risk-taking propensity in the other. As such, about 88% of the variance in risk-taking propensity in these subjects is not related to their risk-taking propensity in personal or professional areas.

To further address research question one, separate Pearson r correlation coefficients were computed for the mean scores for personal situations and for professional situations by professional status. The correlation coefficient for faculty was .34 and for administrators was .38. Both coefficients were significant at the $p < .005$ level. However, only 11.6% of the variance for faculty and 14.4% of the variance for administrators can be accounted for by the relationship

between the propensities for personal and for professional risk-taking. The correlation coefficient for academic department heads was .17 and was not significant. Correlation coefficient data are presented in Table 12.

Table 12

Correlation Coefficients for Personal Situations and Professional Situations

Total Sample n=325	Professional Status		
	Faculty n=223	Administrators n=87	Dept Hds n=15
.34**	.34**	.38**	.17

** $p < .005$

Research Question Two: Are there significant differences in propensity to take risks among high, moderate, and low risk-takers based on professional status?

In order to gain information about the distribution of risk-takers at LUMCC, one of the objectives of this study was to identify subjects as high risk-takers, moderate risk-takers, or low risk-takers. Once subjects were categorized, it was possible to investigate differences in their propensity to take risks by professional status group.

The responses to the 12-item BCDQ were scored such that the most risky choice for each item received 6 points and the most cautious choice received 1 point. If the responses for all 12 items were summed for each subject, the highest possible score using this method would be 72 and the lowest possible

score would be 12. The actual summed scores for the subjects in this study ranged from 18-63 points.

In order to address research question two, “absolute” risk propensity categories were created by dividing the response range of 12-72 points into equal thirds. The high risk-taker category ranged from 53-72 points; the moderate risk-taker category, from 33-52 points; and the low risk-taker category, from 12-32 points. Since 14 of the 325 subjects did not complete all 12 items of the BCDQ, they were omitted from the analysis. Using these ranges to categorize the remaining 311 subjects, 44 high risk-takers, 255 moderate risk-takers, and 12 low risk-takers were identified.

Frequencies, mean RTP scores, and standard deviations for the three risk categories are shown in Table 13 for the total sample as well as for faculty, administrators, and academic department heads .

Table 13

Absolute Risk Categories: Descriptive Statistics

Risk Category	Frequency		RTP Score	
	n	%	Mean	Std Dev
Total Sample				
High Risk-Taker	44	13.5	4.65	.24
Moderate Risk-Taker	255	78.5	3.67	.44
Low Risk-Taker	12	3.7	2.43	.35
Incomplete response	14	4.3	3.95	.54
Total	325	100.0	3.77	.60
Faculty				
High Risk-Taker	33	14.8	4.63	.24
Moderate Risk-Taker	174	78.0	3.64	.46
Low Risk-Taker	6	2.7	2.29	.45
Incomplete response	10	4.5	3.84	.54
Total	223	100.0	3.76	.61

(table continues)

Table 13 (continued)

Risk Category	Frequency		RTP Score	
	n	%	Mean	Std Dev
Administrators				
High Risk-Taker	10	11.5	4.73	.21
Moderate Risk-Taker	68	78.2	3.76	.39
Low Risk-Taker	5	5.7	2.57	.14
Incomplete response	4	4.6	4.23	.49
Total	87	100.0	3.83	.57
Academic Dept Heads				
High Risk-Taker	1	6.7	4.67	--
Moderate Risk-Taker	13	86.7	3.64	.42
Low Risk-Taker	1	6.7	2.58	--
Total	15	100.1	3.64	.55

In order to discover any significant differences or interaction effects among faculty, administrators, and academic department heads with regard to risk category, a simple 3 X 3 factorial ANOVA was performed. The independent variables were professional status (faculty, administrator, academic department head) and risk propensity category (high risk-taker, moderate risk-taker, and low risk-taker), and the dependent variable was RTP score. The factorial ANOVA demonstrated no significant interaction effects between risk propensity category

and professional status. As expected, the main effect of risk propensity category was significant at the $p < .005$ level, but no main effect of professional status was observed.

Research Question Three: Are the factors age, gender, current professional status, length of service at current professional status, academic discipline, highest degree earned, and campus location significant predictors of membership in high, moderate, and low risk-taker groups?

One of the purposes of this study was to develop a model that could be useful in predicting the propensity to take risks among employees in educational institutions. Seven demographic factors were selected to help construct the model, and seven questions relating to these factors were included in the survey instrument. The seven factors were as follows:

- 1) age (20-39 years, 40-49 years, 50-59 years, 60 years and over);
- 2) gender (female, male);
- 3) current professional status (faculty, administrator, academic department head);
- 4) length of service (short-timer serving 0-3 years, mid-timer serving 3.5-16 years, long-timer serving 16.5 years and over);
- 5) academic discipline (Aviation, Criminal Justice, Business, Fine Arts, Speech/Communications, Natural Science, Administration, Behavioral Science, Health Science, Computer Science/Office Technology, Wellness/Physical Education, English/Literature/Journalism, Foreign Language/ESL, Mathematics, Social Science, Reading, Engineering/Architecture, Library Science, Philosophy/Religion);

- 6) highest degree earned (Doctorate, Master's Degree, Baccalaureate, Associate, Other); and
- 7) campus location (North Campus, Central Campus, South Campus, Downtown Center, Other).

The objective was to determine the ability of these seven factors to predict membership in risk propensity categories (high risk-taker, moderate risk-taker, low risk-taker). In order to define the three risk propensity categories, the responses to the 12-item BCDQ were summed for each subject, the most risky choice for each item receiving 6 points and the most cautious choice receiving 1 point. Using this method, the highest possible score would be 72 and the lowest possible score would be 12. The three risk propensity categories were created by dividing the response range of 12-72 points into equal thirds: the high risk-taker category ranged from 53-72 points; the moderate risk-taker category, from 33-52 points; and the low risk-taker category, from 12-32 points. Using these ranges, 44 high risk-takers, 255 moderate risk-takers, and 12 low risk-takers were identified.

In order to determine the ability of the seven factors to predict membership in the three risk propensity categories, a discriminant analysis was performed. The seven factors were the independent variables which were entered together into the analysis, and risk propensity category was the dependent variable. Discriminant analysis was selected as the appropriate statistical method since the dependent variable was ordinal and the objective was to classify subjects into groups (Kerlinger, 1986).

Table 14 shows the results of the discriminant analysis. Of the 44 individuals previously categorized as high risk-takers, 26 were correctly placed in the high risk-taker group using the 7 factors as predictors. Likewise, of the

255 moderate risk-takers, 91 were correctly placed; and of the 12 low risk-takers, 7 were correctly placed. As represented on the diagonal axis of Table 14, the seven factor model correctly placed a total of 124 out of 311 subjects (39.9% of the cases) into their appropriate risk propensity categories. Since there were three risk propensity categories, the prior probability of membership in any group by chance was .33.

Table 14

Discriminant Analysis of Seven Factors as Predictors of Membership in Risk Propensity Categories

Actual Risk Category	n	Predicted Risk Category					
		High		Moderate		Low	
		n	%	n	%	n	%
High	44	26	59.1	13	29.5	5	11.4
Moderate	255	94	36.9	91	35.7	70	27.5
Low	12	2	16.7	3	25.0	7	58.3
Total	311	122	---	107	---	82	---

Note. Subjects correctly categorized by the analysis are indicated in bold.

Summary

This research was undertaken to explore dimensions of the risk construct, identify factors related to risk-taking in education, and study risk propensity among employees at a community college. Risk-taking propensity (RTP) was measured by the 12-item BCDQ, which consisted of personal and

professional risk-related situations balanced for the money, reputation, and satisfaction dimensions of the risk construct. Scoring ranged from 1.00 (most cautious) to 6.00 (most risky). The reliability of the BCDQ computed from the pilot study data was .88 and from the research study data was .60.

Surveys including the BCDQ and seven demographic questions relating to age, gender, professional status, length of service, academic discipline, highest degree, and campus location were sent to faculty, administrators, and academic department heads. Responses to the demographic questions showed that 75% of the subjects were between the ages of 40 and 59; 48% were females and 52% males; 50% had served from 3.5-16 years; and over 88% held master's or doctorates.

Total RTP scores, and personal and professional subscores, were computed by averaging responses to applicable items of the BCDQ. The mean total RTP score for the entire sample was 3.77, the mean personal RTP score was 3.79, and the mean professional RTP score was 3.75. RTP scores were similar within and among the demographic groups, with the possible exception of academic discipline which had a total RTP score range from 3.17 to 4.21. Group sizes within the 18 academic disciplines (omitting administration) ranged from 2 to 32 subjects.

The relationship between propensity to take personal risks and propensity to take professional risks was tested by computing Pearson r correlation coefficients for the total sample ($r = .34$), faculty ($r = .34$), administrators ($r = .38$), and department heads ($r = .17$). The relationships for the total sample, faculty, and administrators were statistically significant ($p < .005$).

Subjects were placed into risk propensity categories by dividing the response scale into thirds. Using this method, 44 high, 255 moderate, and 12 low risk-takers were identified. A 3 X 3 factorial ANOVA revealed no interaction effects between professional status and risk category with regard to RTP score.

Discriminant analysis of the seven factors was performed to determine their effectiveness as predictors of membership in the three risk categories. The analysis correctly placed 124 out of 311 subjects (39.9%). The prior probability for correct placement by chance was 33.3%.

Chapter V

Discussion, Conclusions, and Recommendations

Although change has always been a part of the human condition, the rate of change has increased so much in recent decades that society is faced with monumental social, environmental, and technological challenges. These challenges are made more formidable by ignorance, and can be resolved at least in part by education. However, just when a fully functioning educational system is most needed, that system appears to be in decline as evidenced by a drop in standardized test scores, the under-preparedness of entering college students, and the lack of employability skills in the work force.

In order to meet society's need, education must make changes, innovate, and try new approaches. Innovation in educational institutions requires risk-taking on the part of administrators and faculty. Historically, educators have functioned as perpetuators of the culture and therefore tend not to be radical change agents, making innovation and risk-taking somewhat foreign behaviors. This research project attempted to study risk-taking in the sector of higher education most accustomed to change, the community college.

Research on risk-taking has been conducted in the areas of psychology, business, and more recently, education. Researchers agree that the risk construct is multidimensional but have diverse opinions on the difficulty of measuring risk and on the generalizability of research results. Various dimensions of the risk construct have been identified including those relating to money, reputation, and satisfaction. Differences between risk-taking in personal situations and in professional situations have also been addressed.

Organizations including businesses and educational institutions appear to go through a life cycle; the growth part of the cycle includes innovation and risk-taking. Maturity leads to decline unless innovation and risk-taking are reintroduced. Leaders are particularly important in establishing organizational cultures that encourage risk-taking. Leadership qualities that foster risk-taking include tolerance of mistakes, flexibility, collaboration, self-confidence, trust, communication, creativity, tolerance of chaos, delegation, and empowerment.

Factors that discourage risk-taking include fear of punishment, centralization, pessimism and cynical attitudes, too many tasks required of one job description, lack of time, lack of trust, and lack of support. Factors which encourage risk-taking include lack of punishment for failure, institutional support, delegation of responsibility, trust, free time, rewarding accomplishment, decentralization, collaboration, and communication.

Although it has its critics, the Choice Dilemmas Questionnaire, developed by Wallach and Kogan in 1959, has been used extensively to measure risk-taking propensity for nearly 40 years. The CDQ and other instruments have been utilized to determine the relationship between risk-taking propensity and various factors such as age, gender, number of dependents, the opinions of others, values, professional status, longevity of employment, academic discipline, educational level, and income. Notably, risk-taking propensity has been found to decrease with age and longevity of employment, and to increase with educational level. Faculty demonstrated greater risk-taking than staff, and nursing and arts and sciences faculty were found to be greater risk-takers than education faculty. Most studies have reported no differences between genders.

This research project was undertaken to address issues related to risk-taking in educational institutions. The overall purposes of this study were to explore dimensions of the risk construct, identify factors related to risk-taking in an educational environment, and study propensity to take risks among employees at a large, urban, multicampus community college. Information gained in studies such as this could be used to plan training and professional development activities for individuals and groups within educational institutions. Increased and improved risk-taking as well as active acceptance of change would be the desired result.

Three research questions were addressed in this project.

1. What is the relationship between risk-taking propensity in personal situations and risk-taking propensity in professional situations for faculty, administrators, and academic department heads?
2. Are there significant differences in propensity to take risks among high, moderate, and low risk-takers based on professional status?
3. Are the factors age, gender, current professional status, length of service at current professional status, academic discipline, highest degree earned, and campus location significant predictors of membership in high, moderate, and low risk-taker groups?

A large, urban, multicampus community college (LUMCC) was chosen as the academic institution for the study. The CDQ was modified and pilot-tested for use as a measure of risk-taking propensity. The resulting BCDQ demonstrated a reliability coefficient of .88 in the pilot study, but only .60 in the research study. A survey consisting of 7 demographic questions and the 12-item BCDQ was mailed to 487 full-time faculty, administrators, and academic

department heads. A total of 325 surveys were returned, resulting in a 66.7% response rate.

Discussion of Results: Demographic Factors

Age and gender. At LUMCC, over 75% of the subjects reported ages of 40-59 years, making the sample relatively homogeneous for middle age. The gender breakdown for the sample was nearly equal (females, 48%; males, 52%), making gender a controlled-for factor. These percentages were very similar to the national profile for community college employees: in 1993, nearly 73% of community college faculty were between 40 and 59 years old (Phillippe, 1997); and in 1991, 47% of public community college faculty and administrators were women (Phillippe, 1995). Therefore, with respect to age and gender, LUMCC appeared to conform to national norms.

Professional status. At LUMCC, faculty members comprised nearly 69% of the sample, administrators comprised nearly 27%, and academic department heads comprised less than 5%. Because of the small sample size for the department head category (n=15), all data for this group was reviewed with caution. The administrator to faculty ratio at LUMCC (omitting department heads) was .39. This value was directly comparable to the administrator to faculty ratio (.38) at public community colleges nationwide in 1991 (Phillippe, 1995), again making LUMCC a “typical” community college with regard to this factor.

Length of service. Subjects were asked to report the number of full-time years served at current professional status to the nearest half year. Based on that information, the distribution was divided so that approximately 25% of the subjects were categorized as short-timers (having served 0-3 years),

approximately 50% were categorized as mid-timers (having served 3.5-16 years), and approximately 25% were categorized as long-timers (having served 16.5 years and over).

Although it was expected that surveys returned in late January and early February would include a half year in the number of full-time years reported, most listed whole-numbered years of service. The surveys that were returned as late as mid-April reported whole numbers for the number of full-time years served, as was expected. The misreporting of the half year in the early returns could have introduced error into this factor, but in the opinion of this researcher, an error of 0.5 years would have a negligible effect on the results. The two-and-one-half month lag time between the late January and mid-April returns could also have introduced some error, although, according to Fowler (1993), mail surveys often take two months to complete.

Some respondents may have misinterpreted “years at current professional status” to mean “years at current job title.” For example, an employee could have changed positions within administrative ranks and reported the number of years at the new position; however, for the purposes of this study, the total years at administrative status including previous administrative positions should have been reported. Other misinterpretations of this factor could have included reporting total years spent at LUMCC regardless of status, total years in education-related positions, or total years in an academic-related career.

The length of service categories created from the raw data for this variable were based solely on the frequency distribution of the variable. Perhaps some other method of grouping would more closely match actual

behaviors of new hires versus more seasoned employees. Conclusions regarding this factor should be made with these issues in mind.

Academic discipline. Faculty and academic department heads were asked to declare academic discipline; administrators were asked to omit that item and were arbitrarily placed in a separate discipline category named “Administration.”

The discipline list appeared to include adequate choices: most subjects were able to select an appropriate discipline from the list provided. However, some subjects, particularly academic department heads, may have selected a discipline more reflective of departmental configuration at LUMCC, rather than their own field of study. This mis-selection could have introduced error into the academic discipline factor. Some disciplines had less than 10 subjects, making small sample size an important consideration. However, even the smallest sample size (Philosophy/Religion, $n=2$) represented 40% of the faculty in that discipline at LUMCC.

Highest degree earned. The sample was relatively homogeneous for highest degree earned: over 88% of all respondents held postgraduate degrees, making differences due to this factor difficult to detect. Among national community college faculty in 1993, 16% held doctorates, 65% held master’s degrees, and 12% held baccalaureates (Phillippe, 1997). At LUMCC, 26% of the faculty held doctorates, 70% held master’s degrees, and only 3% held baccalaureates. At least for the faculty subsample, LUMCC exceeded the national average for postgraduate degrees.

Campus location. The distribution of the respondents among the campuses was similar to the total number of faculty, administrators, and

academic department heads at each of the campus locations, giving credibility to the sample as a representation of the whole college.

Discussion of Results: Descriptive Statistics

Risk-taking propensity in faculty, administrators, and academic department heads was measured using the BCDQ, and mean RTP scores were obtained for all seven demographic factor groups. The means for the RTP scores within the demographic factor groups were remarkably homogeneous: there appeared to be no major differences within age, gender, professional status, length of service, highest degree earned, or campus location groups for the total sample. For example, on a six-point scale (6 points = the highest risk-taking propensity; 1 point = the lowest risk-taking propensity), the mean RTP score for the total sample was 3.77, for faculty was 3.76, for administrators was 3.83, and for academic department heads was 3.64. The demographic factor "academic discipline" showed more heterogeneity, but the number of groups (19) within this factor would inherently provide a wider range of means. Means of RTP scores for the six personal situations and for the six professional situations were also computed for all demographic factors. Again, no major differences were apparent within the factor groups.

This result was not expected, since other researchers have found significant relationships between some of the factors in this study and risk-taking propensity. A brief discussion of each of the seven factors addressed in this study follows.

Age. Other researchers have found that risk-taking propensity decreased with age (Korchin & Basowitz, 1956; Korchin & Basowitz, 1957; MacCrimmon & Wehrung, 1986; Wallach & Kogan, 1961). Calhoun and

Hutchison (1981) also found that cautiousness increased with age, but attributed it to a tendency among the elderly to avoid making a choice or decision at all. In contrast, Masters and Meier (1990) studied faculty and staff employed at an academic institution and found that faculty ranging in ages from 30-60 years all exhibited similar risk-taking propensities, which they described as “moderate.” The findings of Masters and Meier were similar to the results at LUMCC: no difference was noted in risk propensity with age.

The two sets of contrasting results could be due to the age range of the subjects involved. In the five studies cited that found a significant decrease with age, the younger subjects were college students and the older subjects were retired; the ages ranged widely from 20-70 years. In the study by Masters and Meier, the age range was only 30-60 years; and in this LUMCC study, 75% of the subjects were 40-59 years old. The subjects in both of these studies which found no difference with age were mainly middle-aged.

Another reason for the unexpected, non-significant results pertaining to age groups could be that the community college environment is risk-encouraging, enough so that the expected decrease with age was not realized. The risk-encouraging environment was not influential enough to completely counteract the expected trend and cause an increase of risk propensity with age, but perhaps was enough to make no difference with age. However, this reasoning may not explain the non-significant results of Masters and Meier (1990), since their study took place at a university which, according to this premise, would not have the same risk-encouraging environment as the community college.

Gender. As in this study, other researchers have found no significant difference in risk-taking propensity with respect to gender (Botwinick, 1966;

Kogan & Dorros, 1978; Masters & Meier, 1990; Schell & Bonin, 1989; Wallach & Mabli, 1970). However, Bailey (1991), who studied only the financial dimension of risk-taking, found that males were significantly greater financial risk-takers than females. It is possible that further gender differences would be discovered if other dimensions of risk, in addition to the financial dimension, were studied separately.

Professional status. Very few studies have been conducted relating risk-taking propensity to professional status. Although their study did not include administrators, Masters and Meier (1990) found that university faculty were significantly greater risk-takers than staff. The LUMCC research project did not include staff, but the risk-taking propensities of faculty, administrators, and academic department heads were found to be nearly identical. Although the results from the two studies are intriguing, they are not directly comparable.

Length of service. Several researchers have found that cautiousness increased with longevity of employment (Kouzes & Posner, 1995; MacCrimmon & Wehrung, 1986; Macmillan, 1993). In contrast, the risk-taking propensities of short-timers, mid-timers, and long-timers at LUMCC were very similar.

The inconsistency between the LUMCC results and the research reviewed in the literature may be due to the professional sector studied: Kouzes and Posner (1995) and MacCrimmon and Wehrung (1986) focused their research on leaders and executives in the business world, and Macmillan (1993) studied secondary school principals. The LUMCC project assessed risk-taking propensity at a community college, the sector of higher education thought to be most accustomed to change. The fact that length of service did not significantly increase cautiousness, as would be expected from other studies, supports the contention that the community college culture encourages risk-

taking. This finding is consistent with the results of Wardlow, Swanson, & Migler (1992) who conducted a qualitative interview study on 15 exemplary institutions which offered vocational programs including 2 high schools, 5 secondary vocational centers, 5 postsecondary technical colleges or institutes, and 3 community colleges. Their results connected the exemplary nature of the institutions with innovation and low employee turnover.

Academic discipline. Although comparing risk-taking propensity of faculty from various academic disciplines was not the main focus of their study, Masters and Meier (1990) found that education faculty were less apt to take risks than arts and science or nursing faculty. In the LUMCC study, there was a considerable range in risk-taking propensities viewed by academic discipline: total RTP scores ranged from 3.17 (Philosophy/Religion) to 4.21 (Aviation). This data suggested the possibility that academic discipline impacted upon risk-taking propensity. It is tempting to superimpose preconceived stereotypes of the disciplines onto the relative order of the total RTP scores: for example, aviation and criminal justice faculty scored as the most risky and library science faculty scored as relatively cautious. However, the ability to draw conclusions was limited by the small sample size for several of the disciplines. On the other hand, it should be noted that even the smallest sample (Philosophy/Religion discipline, n=2) represented 40% of the faculty in that discipline at LUMCC, lending more credibility to the results than the small sample size would indicate.

Highest degree earned. Masters and Meier (1990) and MacCrimmon and Wehrung (1986) reported that subjects with more education were more likely to take risks. In contrast, Bailey (1991) found that educational level was not a significant factor in determining financial risk-taking propensity.

At LUMCC, no real differences in risk-taking propensity were noted among holders of baccalaureate, master's, and doctorate degrees. This result could be due to the homogeneity of the sample for postgraduate degrees: over 88% of the subjects held master's or doctorates, a profile not unexpected in a higher education environment. (Faculty teaching in most curricula are required to have at least a master's degree; however, the minimum credential for faculty in technical fields may be a baccalaureate degree and in some cases an associate degree.) Another factor could have contributed to the similarity of RTP scores: all of the subjects, regardless of degree, were immersed in an education-intense environment due to their employment by an academic institution.

Campus location. Although campus location had not been addressed in other research studies, it was of interest to determine if location was a significant factor in determining risk-taking propensity. The lack of any differences again underscored the homogeneity of the study sample with respect to this characteristic.

Homogeneity would be consistent with a strong district influence and regular communication among campuses. However, LUMCC has been taking steps over the last several years for less district influence and more campus autonomy by implementing campus-based management in many areas. This strategy would tend to increase heterogeneity. On the other hand, several characteristics of LUMCC's culture would have the opposite effect and promote the homogeneity observed in the results. For example, approximately 10 years ago, the Provosts of each campus were reassigned to a different campus location, in a version of "musical administrators" that encouraged more common subcultures and less intercampus competition. The Provosts meet weekly with

the District President and Vice Presidents to make decisions about the mission and future directions of the college. Standing college committees meet regularly and are membered by faculty, administrators, academic department heads, and staff from all campus locations, stimulating intercampus communication. Curriculum decisions are made collegewide and involve discipline faculty from all campuses coming together to discuss the issues. The results of the study would suggest that, at this time, the forces encouraging homogeneity among the campuses at LUMCC are stronger than those encouraging the opposite.

Other considerations. A few subjects indicated to this researcher that they had enjoyed discussing various aspects of each situation in the BCDQ with their co-workers (in the instructions distributed with the survey, subjects were *not* asked to refrain from discussing the situations in the BCDQ with their colleagues). Several researchers have studied the effect of group discussion on risk-taking propensity and have found that individuals may change their responses to CDQ-type situations after discussion with others (Boster & Hale, 1989; Fischer & Burdeny, 1972; Jesuino, 1986; Mayer, 1985; Shure, Malamuth, & Johnston, 1975; Stoner, 1968; Vidmar & Burdeny, 1971; Wallach & Mabli, 1970). This phenomenon, known as “choice shift,” can change responses in the risky or the cautious direction, depending upon the nature of the CDQ-type situation.

The use of the odds-type response scale in the BCDQ may have increased whatever effect group discussion might have had on the results. Boster and Hale (1989) found that when the odds response scale was used in a CDQ-type instrument, social comparison (subjects comparing their own responses to those of others) was more important in determining choice shift

than persuasive argument. It is unclear how much group discussion actually occurred in this study, and therefore it is unclear how much, if any, effect the choice shift phenomenon had on the results.

Surveys were returned over a two-and-one-half month period, a factor which may have affected the results in an interesting way. One subject indicated to this researcher that he had read over the survey soon after the initial request, but didn't complete and return it until the last reminder. This subject mentioned that the whole exercise was stimulating, and that his responses had changed from the initial reading to the actual completion of the instrument, presumably due to thinking about the topic of risk-taking in the interval. Although of interest, this scenario may only describe the experience of one subject, thus having a negligible effect on the results.

Discussion of Results: Research Question One

The first research question addressed in this study was:

1. What is the relationship between risk-taking propensity in personal situations and risk-taking propensity in professional situations for faculty, administrators, and academic department heads?

The objective of this research question was to assess the relationship between risk-taking propensity in personal situations and in professional situations, and to determine whether or not a propensity to take personal risks was also indicative of a propensity to take professional risks.

The BCDQ was designed to include item content balanced for various dimensions of the risk construct. The 12 situations of the BCDQ assessed risk-taking propensity in both personal and professional situations in which loss of money, reputation, or satisfaction was at stake. Two questions fell into each of

six categories: personal money, personal reputation, personal satisfaction, professional money, professional reputation, and professional satisfaction.

To answer research question one, separate risk-taking propensity scores were obtained for the six personal situations and for the six professional situations for each subject. Correlation coefficients were computed for the total sample ($r = .34$) and for faculty ($r = .34$), administrators ($r = .38$), and academic department heads ($r = .17$). According to Gay (1996), correlation coefficients less than .50 are generally considered to be non-useful, and those in the range of .60 to .70 are considered to be minimally adequate. Although the correlation coefficients for the total sample, and for the faculty and administrator subsamples were relatively low, they were statistically significant. The correlation coefficient for academic department heads was not significant at $\alpha \leq .05$, perhaps due to the small sample size ($n=15$).

With the exception of the department head data, this statistically significant result indicated that the tendency to take risks in personal situations could also be an indicator of the tendency to take risks in professional situations (and vice versa), supporting the validity of the BCDQ to measure risk-taking propensity. This result could also be consistent with the idea that risk is a broad personality trait, that the risk construct is measurable though multidimensional, that the tendency to take risks is generalizable across situations and types of risks, that the BCDQ has some validity as a measure for the risk construct, and that results from the BCDQ can be used to draw generalized conclusions about risk-taking propensity in professional situations.

However, although the results were statistically significant, the practical significance is questionable due to the low correlation coefficients and the resultant small r^2 values. For example, only 11.6% of the variance between the

variables for the total sample was accounted for by the relationship between the propensities to take personal risks and professional risks. According to Gay (1996), if a relationship between variables is studied for purposes of prediction, then a higher correlation coefficient is required and practical significance is more important than statistical significance. In this study, prediction was involved: the relationship between personal and professional risk-taking propensity was of interest in order to see if propensity in one of the areas was also indicative of propensity in the other. Practical significance would appear to be more important in this case. Therefore, it may be appropriate to seriously consider asking only professionally-related questions to assess professional risk-taking in future studies.

Discussion of Results: Research Question Two

The second research question addressed in this study was:

2. Are there significant differences in propensity to take risks among high, moderate, and low risk-takers based on professional status?

The objective of this research question was to determine the number of high, moderate, and low risk-takers in the LUMCC sample and to discover any significant differences in risk-taking propensity among faculty, administrators, and academic department heads with regard to risk category.

Other researchers have divided their subjects into three risk categories: high risk-takers, moderate risk-takers, and low risk-takers. The categories were based either on a division of the response scale into equal thirds resulting in an “absolute” definition of high, moderate, and low risk-takers (Fischer & Burdeny, 1972), or on a division of the frequency distribution of subjects into approximately equal thirds resulting in a “relative” definition of high, moderate,

and low risk-takers (MacCrimmon & Wehrung, 1986; Saha & Krishna, 1991; Wallach & Mabli, 1970). Dividing the response scale into thirds would most likely result in unequal numbers of subjects in each of the risk categories, while dividing the frequency distribution of subjects into thirds would result in approximately equal numbers in each of the risk categories. For this study, the division of the subjects into absolute rather than relative risk categories was chosen for two reasons: 1) the absolute category divisions and the number of subjects placed into each category are not functions of the sample itself, but are consistently defined; and 2) the results of absolute category divisions are directly comparable to other studies.

In order to create absolute risk categories for this study, the possible response range of 12-72 points was divided into equal thirds and subjects were placed into risk propensity categories based on that division. Using this method to categorize the 325 subjects in this study, 44 high risk-takers, 255 moderate risk-takers, and 12 low risk-takers were identified. Due to incomplete responses, 14 subjects were not categorized.

Moore and Gergen (1985) divided subjects into five absolute risk categories. The low risk taker was described as one who focuses mainly on the potential loss associated with the risk; the moderately low risk taker focuses on the loss but also considers the potential gain; the moderate risk taker focuses equally on the loss and the gain; the moderately high risk taker focuses on the gain but also considers the loss; and the high risk taker focuses mainly on the potential gain. They noted that an organization would need a majority of moderate to high risk-takers among their employees in order to effect change and innovation.

It would appear that since this study included nearly 300 individuals in the high and moderate risk-taker categories, LUMCC as an institution could be expected to encourage risk-taking. However, this conclusion should be viewed within the following context: the mean RTP score for the high risk-taker group was 4.65, a value very near the minimum to qualify for that group (4.42); and the mean RTP score for the moderate risk-taker group was 3.67, a value very near the middle of the moderate range (3.54). Although the moderate risk-takers were very much in the middle and the high risk-takers were on the low end of high, this result is consistent with the premise that the community college is a sector of higher education that is accustomed to change and that the community college culture encourages risk-taking.

The 3 X 3 factorial ANOVA, which tested the relationship between the independent variables professional status and risk category and the dependent variable RTP score, showed no interaction effects. The main effect of risk category on RTP score was expected, since the raw data used to compute the RTP score was the same raw data used to define risk categories. The insignificant results from the factorial ANOVA emphasized the homogeneity of the LUMCC study sample.

Discussion of Results: Research Question Three

The third research question addressed in this study was:

3. Are the factors age, gender, current professional status, length of service at current professional status, academic discipline, highest degree earned, and campus location significant predictors of membership in high, moderate, and low risk-taker groups?

The objective of this research question was to develop a model that could be useful in predicting the propensity to take risks among employees in educational institutions. Seven demographic factors were chosen to construct the model: age, gender, current professional status, length of service at current professional status, academic discipline, highest degree earned, and campus location.

In order to determine the ability of the seven factors to predict membership in risk propensity categories (high risk-taker, moderate risk-taker, low risk-taker), a discriminant analysis was performed. The seven factors were the independent variables, and risk propensity category was the dependent variable. A placement rate of 70% or above would lend confidence to the model as a predictor of risk category.

The discriminant analysis of the seven-factor model correctly placed only 124 out of 311 subjects (39.9% of the cases) into the appropriate risk propensity category. Since there were three risk propensity categories, the prior probability of membership in any group by chance was .33. The low placement rate achieved by the seven-factor model improved on chance by only seven percentage points, a statistically unsatisfying result.

Therefore, the demographic factors chosen for this study were not useful in predicting membership of faculty, administrators, and academic department heads at LUMCC in risk propensity categories. It is possible that risk category membership cannot be predicted by using any factors, but it is more likely that this project simply did not test the appropriate factors.

This result was in part unexpected, since other researchers have reported that at least three of the factors used in this study as part of the model were significantly related to risk propensity. Risk-taking propensity has been

found to decrease with age (Calhoun & Hutchison, 1981; Korchin & Basowitz, 1956; Korchin & Basowitz, 1957; MacCrimmon & Wehrung, 1986; Wallach & Kogan, 1961) and length of service (Kouzes & Posner, 1995; MacCrimmon & Wehrung, 1986; Macmillan, 1993), and to increase with level of education (MacCrimmon & Wehrung, 1986; Masters & Meier, 1990). Based on these previous studies, it was expected that age, length of service, and highest degree earned could be significant predictors in the model. The homogeneity of the sample could account for the lack of significance of these three factors. In addition, for the age and length of service factors, the community college culture could be part of the explanation. Perhaps the community college environment is a risk-encouraging one, enough to counteract the expected decrease in risk propensity with age and length of service, resulting in the inability of these two factors to function as significant predictors in the model.

The research by Masters and Meier (1990) suggested that academic discipline may play a role in predicting risk category, as did the results from this LUMCC project. However, neither study was designed to focus on academic discipline, and therefore results from both studies were inconclusive with regard to this factor. In addition, small discipline group size was a concern in this study; the possibility of inaccurate data among the LUMCC disciplines may have contributed to the lack of participation by this factor in the model.

The review of the literature did not yield a clear expectation for the effects of the remaining three factors (gender, professional status, campus location) on risk-taking propensity. Most researchers have found no significant difference between genders with respect to general risk-taking propensity (Botwinick, 1966; Kogan & Dorros, 1978; Masters & Meier, 1990; Schell & Bonin, 1989; Wallach & Mabli, 1970); however, Bailey (1991) did note that males were

greater financial risk-takers. It was possible that, under the research conditions at LUMCC, gender may have had an effect. Only one report was found in the literature that related professional status to risk-taking: Masters and Meier (1990) found that faculty were more risky than staff. Since that study did not include administrators (and the LUMCC study did not include staff), it was difficult to anticipate the effect of professional status in the LUMCC study. No information about campus location and risk-taking was found in the literature, again making it difficult to predict any relationships.

Conclusions

Demographically, the faculty, administrators, and academic department heads at LUMCC were a relatively homogeneous group: a majority of subjects were 40-59 years old, had served at LUMCC for 3.5-16 years, and held master's or doctorate degrees. LUMCC's profile was similar to the national average for age and gender, but was above average for number of postgraduate degrees. Consequently, results from this study may be at least somewhat generalizable to other community colleges across the nation.

Results indicated that faculty, administrators, and academic department heads employed at LUMCC were also a relatively homogeneous group with regard to risk-taking propensity by age, gender, professional status, length of service, highest degree earned, and campus location. Academic discipline showed a wider range of RTP scores which suggested some interesting relationships, but conclusions could not be drawn due to small sample sizes. This homogeneity was observed in total RTP scores as well as in personal RTP scores and professional RTP scores. Because of this consistency, all three professional status groups within the college could be expected to benefit in

similar ways from training efforts in the areas of change, innovation, and risk-taking. Staff members were not included in this study; but in retrospect, collecting data on all status groups within the college would have provided a more complete risk profile for the institution.

The age and length of service factors in particular bear further attention. The expected tendency toward caution with increasing age and length of service was not observed in the RTP scores; it is tempting to speculate that it could be due to the risk-encouraging culture presumed to be inherent in the community college sector. If so, the risk-encouraging environment at LUMCC counteracted the natural tendency toward caution with age and length of service, producing the non-significant result. Perhaps LUMCC's environment had an effect, but only enough to produce no significance and not enough to completely reverse the natural trend and produce an increase.

The BCDQ, with its updated situations, genderless central characters, balance of personal and professional situations, and balance of items dealing with the money, reputation, and satisfaction dimensions of risk, appeared to be an adequate measuring instrument for the multidimensional risk construct. Although the reliability coefficient for the BCDQ was low, it may have been affected by the homogeneity of the sample, perhaps making the BCDQ appear to be less reliable than it actually is. Nevertheless, analyzing the BCDQ further to improve or verify its reliability and validity would make it a stronger instrument, more useful in making comparisons among future studies. Due consideration should be given to the use of only professionally-related situations to assess professional risk-taking.

Dividing the total sample into absolute risk-taking categories produced approximately 14% high risk-takers and 79% moderate risk-takers. The large

number of high and moderate risk-takers at LUMCC would lend support to the concept that LUMCC could successfully effect change and innovation, and that the community college environment is a risk-encouraging one. Placing faculty, administrators, and academic department heads separately into absolute risk categories identified approximately the same percentages in each risk category by professional status. This fact, and the lack of any interaction effects among faculty, administrators, and academic department heads with respect to risk category, again underscored the homogeneity of the LUMCC sample.

The seven demographic factors chosen for this study were not useful in predicting membership of faculty, administrators, and academic department heads at LUMCC in risk propensity categories. It is possible that a model for predicting risk propensity category cannot be developed by using any factors, but it is more likely that this project simply did not test the appropriate factors.

Recommendations for Practice

The research results suggest the following recommendations:

1. The large number of high and moderate risk-takers at LUMCC would indicate that this institution has the potential to successfully effect change and innovation. Leaders at LUMCC could actively encourage more risk-taking among employees, and could expect positive results.
2. Faculty, administrators, and academic department heads at LUMCC are a relatively homogeneous group with regard to risk-taking propensity. Because of this homogeneity, all groups could be expected to benefit in similar ways from training in topics related to change, innovation, and risk-taking. LUMCC could

consider including topics related to risk-taking in the training curricula for faculty, administrators, and academic department heads.

3. LUMCC could consider assessing the risk-taking propensity of staff members in order to have a complete risk profile for the institution, and including staff members in any risk-taking training workshops.

The literature review suggests the following recommendations:

1. All organizations, including community colleges, appear to go through a life cycle. In order to avoid the decline phase and remain indefinitely in the growth and renewal phases, LUMCC could work to make innovation and risk-taking an integral and official part of the culture (Lorenzo & Blanzky, 1988).
2. Institutional leaders play a major role in creating the institutional culture. Risk-encouraging cultures are more easily established if members of the top leadership in an institution are committed to the concept. In order to encourage risk-taking, top administrators at LUMCC would need to act as change agents. LUMCC could make a special effort to train leaders at all levels to more effectively encourage risk-taking and innovation (Baskett & Dixon, 1992; Bogotch, Brooks, Riedlinger, & MacPhee, 1992; Kouzes & Posner, 1995; Miller & Toulouse, 1986; Phelan, 1996; Riggs & Sykes, 1993; Schwandt, 1996; Virginia Commission on the University of the Twenty-First Century, 1989; Wardlow, Swanson, & Migler, 1992; Wendel, Hoke, & Joekel, 1994).

3. Giving adequate time and funding for creative projects to faculty, administrators, academic department heads, and staff would help to encourage a risk-taking culture at LUMCC (Chiodo, 1989; Moore & Gergen, 1985; Schwandt, 1996; Wardlow, Swanson, & Migler, 1992).
4. LUMCC could review the job descriptions of all administrators and staff members. Employees with a wide diversity of tasks probably do not have time to think of ways to improve things or to innovate; LUMCC may be well-served to consider reducing the scope of the tasks required of each employee (Bogotch, Brooks, Riedlinger, & MacPhee, 1992; Hemingson & Burroughs, 1994; Watwood, 1996).
5. Leaders at all levels and within all professional status groups at LUMCC who already show a tendency to innovate and take risks could be especially encouraged and rewarded. These core risk-takers could become catalysts to encourage others to do the same (Bogotch, Brooks, Riedlinger, & MacPhee, 1992; Chiodo, 1989; Doyle, 1994; Kouzes & Posner, 1995; Moore & Gergen, 1985; Shapira, 1995; Turk, 1994; Wentworth, 1990).

Recommendations for Future Research

1. In order to avoid the choice shift phenomenon, instructions to subjects in future studies could include a request not to discuss the survey items with others.
2. Instructions for questions relating to demographic information could be made very clear so that data supplied by the subjects would be more accurate.

3. In future studies, a self-rating could be obtained from subjects by asking them the question, "How would you rate yourself as a risk-taker?"
4. Consideration should be given to using personal situations to assess personal risk-taking and professional situations to assess professional risk-taking.
5. The BCDQ, although an adequate instrument for measuring risk-taking propensity, needs to be studied further to evaluate its reliability and validity. A review of the 20-item pilot test version of the instrument is suggested to clarify instructions, standardize the situations according to the decision tree model, reassess risk dimension categories, balance for risk dimension categories, assess level of perceived risk in each situation, and rate items as usually eliciting a risky or cautious response. Another pilot test could be conducted to reevaluate personal risk propensity vs. professional risk propensity and the reliability of the 20-item instrument.
6. Although risk-taking has been studied in psychology-related and business-related research, there is a paucity of research data on the topic of risk-taking in education. More studies are needed on all aspects of risk-taking, so that its proper role in educational institutions can be better understood.
7. It would be of interest to compare RTP values from LUMCC to those from other community colleges, particularly to one or more of the outstanding community colleges having the reputation of being very innovative.

8. Watwood (1996) conducted a qualitative interview study at two community colleges, and determined that one of them was “proactive” and the other was “reactive.” It would be of interest to quantify that perceived difference by administering the BCDQ (or the next version of the BCDQ) to employees at those two community colleges.
9. More complete information about risk-taking at LUMCC could be gathered if a follow-up qualitative study were done to determine the presence or absence of factors that encourage and discourage risk-taking. Factors such as centralization, fear of punishment, communication, and delegation could be examined in the culture and related to the risk-taking propensity of employees.
10. Assessing risk-taking propensity of employees working in various levels of the educational sector might be of interest; for example, comparing elementary faculty and administrators to secondary, vocational, and postsecondary faculty and administrators.
11. Assessing and comparing the RTP values of large, small, public, and private universities might be of interest, as well as comparing them with values from community colleges.
12. Staff should be included in future risk-taking propensity studies in education, along with faculty, administrators, and academic department heads in order to provide a complete risk profile for the employees of an institution.
13. A search for other factors that can assist in significantly predicting risk-taking propensity among employees in higher education

should be undertaken, perhaps with special attention given to academic discipline.

14. It is possible that education is a somewhat homogeneous microenvironment and that risk-taking propensity differences within that microenvironment are difficult to measure and to predict. Measuring risk-taking propensities in other sectors of society (government, retail business, social service, police, tourism, construction, journalism, sales, etc.) and comparing them to education may be of interest.
15. In future studies, the risk-taking propensities of early responders to the survey could be compared to the propensities of late responders.
16. In this study, administrators were grouped with no subdivisions by discipline, area of expertise, or department. In future studies, it would be of interest to subdivide administrators in some way to detect any differences within the larger group.

This research project provided some information on the relationship between personal and professional risk-taking; reported risk propensity values for employees at a community college; and described a method for defining high, moderate, and low risk-taker categories. It was not successful in developing an effective model that could predict an individual's level of risk propensity. The overall contributions of this study were limited; however, the topic of risk-taking in education remains important, timely, and under-researched. Further studies in this area are encouraged, as they would assist the educational sector in meeting the formidable challenges of the future.

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APPENDIX A

Faculty and Administrative Classifications

Faculty Classifications

Discipline Faculty
Counselors
Librarians

Administrative Classifications

Level A

Chief Television Engineer
Clinical Coordinator
College Reachout Coordinator
Financial Analyst
Planetarium Technician
Program Director, Student Affairs
Project Coordinator
Special Events Coordinator
Student Success Program Coordinator
Systems Integrator

Level B

Athletic Coordinator
College Reachout Coordinator
Coordinator of Adolescent Services
Copywriter
Cultural Events Marketing & Development Associate
Nursing Admissions Recruiter
Nursing Sponsorship Recruiter
Planetarium Education Coordinator
Planetarium Producer
Project Director W. I. N. G. S.
Research Associate
Senior Accountant
Telemedia Manager

Administrative Classifications (continued)

Level C

Academic Computing Coordinator
Assistant Director, Planetarium
Assistant Director, Purchasing
Budget officer
Business Manager
Campus Financial Aid Coordinator
Campus Manager, Physical Plant Maintenance
Campus Registration Coordinator
Co-Director, Environmental Education
Computer Operations Manager
Director, Center for Excellence
Disability Services Coordinator
Employment Manager
Human Resources Coordinator
Manager, Financial Services Information Systems
Manager, Physical Plant System
Manager, Student Services Information Systems
Auditorium Facilities Manager
Payroll Officer
Program Development Specialist
Program Manager, Aviation Technology
Project Administrator I
Student Life Coordinator II
Veterans Affairs Coordinator

Level D

Assistant Director, Computer Applications Programming
Assistant Director, Continuing Education
Assistant Director, Student Life
Assistant Director, Systems & Network Technology
Associate Director, Enrollment Management
Associate Director, Library/Administrative Services
Campus Director, Learning Resources Center
Campus Director, Library/Learning Resources Center
Campus Director, Library Services
Director, Bookstores
Director, College Relations
Director, Health & Safety
Director, Instructional Design Technology

Administrative Classifications (continued)

Level D (continued)

- Director, Outreach Programs
- Director, Printing & Graphics
- Director, Recruitment & Resource Development
- Director, Resource Development
- Employee Benefits Manager
- NSF/SSI Project Coordinator
- Project Administrator II

Level E

- Academic Department Head (Director)
- Director, Co-op Education and Experiential Learning
- Director, College Readiness Services
- Director, Criminal Justice Education
- Director, Criminal Justice Training
- Director, Curriculum Services
- Director, Extended Learning
- Director, International Education
- Director, Planetarium
- K-12 Liaison and Director of Special Projects

Level F

- Associate Comptroller
- Director, Bailey Hall
- Director, Continuing Education Health Related Professions
- Director, Economic Development
- Director, Employee Relations
- Director, Enrollment Management
- Director, Facilities Management
- Director, Information Systems
- Director, Institutional Planning and Effectiveness
- Director, Institutional Research
- Director, Purchasing/Materials Management
- Director, Staff Development
- Director, Student Financial Services
- Director, Student Life
- Director, Student Success
- Director, University & College Library

Administrative Classifications (continued)

Level G

- Associate Vice President for Student Affairs
- Associate Vice President, Technical Education
- Comptroller
- Dean, Academic Affairs
- Dean, Business Affairs
- Dean, Student Affairs
- Downtown Center Administrator
- Director, Criminal Justice Institute
- Executive Director, Information and Research Services

Level H

- Executive Director, Health Science Education
- Provost
- Vice President, Academic Affairs
- Vice President, Development
- Vice President, Facilities and College Services
- Vice President, Human, Financial, and Information Resources
- Vice President, Student Affairs

Level I

- President

APPENDIX B

BOLTON CHOICE DILEMMAS QUESTIONNAIRE

PART ONE INSTRUCTIONS:

For items 1-7, please circle the answer that best describes you, or fill in the blank as appropriate.

1. Age:
 - A. 20-29
 - B. 30-39
 - C. 40-49
 - D. 50-59
 - E. 60-69
 - F. 70 and above
2. Gender:
 - A. Female
 - B. Male
3. Current professional status (choose only one):
 - A. Faculty Member
 - B. Administrator
 - C. Academic Department Head
4. Number of full-time years at current professional status at BCC (round to the nearest 1/2 year):
_____ years
5. Academic discipline (to be answered by faculty and academic department heads only; administrators please omit question 5 and go on to question 6):
 - A. English/Literature/Journalism
 - B. Foreign Language/ESL
 - C. Speech/Communications
 - D. Reading
 - E. Library Science
 - F. Fine Arts
 - G. Social Science
 - H. Behavioral Science
 - I. Philosophy/Religion
 - J. Mathematics
 - K. Natural Science
 - L. Health Science
 - M. Wellness/Physical Education
 - N. Computer Science/Office Technology
 - O. Engineering
 - P. Aviation
 - Q. Business
 - R. Criminal Justice
 - S. Other: _____

6. Highest degree earned:
- A. Doctor's Degree
 - B. Master's Degree
 - C. Bachelor's Degree
 - D. Associate's Degree
 - E. Other: _____
7. Location where majority of duties are carried out:
- A. North Campus
 - B. Central Campus
 - C. South Campus
 - D. Downtown Center Campus
 - E. Commercial Blvd
 - F. District Offices
 - G. Other _____

PART TWO INSTRUCTIONS:

On the following pages, you will find a series of situations that are likely to occur in everyday life. The central person in each situation is faced with a choice between two alternative courses of action; one is more desirable and attractive than the other, but it also has less chance of success.

As you read through the situations, you are asked to advise the central person in each, indicating the minimum odds of success you would demand before recommending the more attractive or desirable alternative.

Read each situation carefully before making your decision. There are 12 situations in all. Please do not omit any of them.

1. A computer specialist, who is married and has one child, has been working for a large computer corporation since graduating from college five years ago. The specialist has job security with a modest, though adequate, salary, and liberal pension benefits upon retirement. On the other hand, it is very unlikely that the salary will increase much before retirement. While attending a convention, the specialist is offered a job with a small, newly-founded company which has a highly uncertain future. The new job would pay more to start and would offer the possibility of a share in the ownership if the company survived the competition of the larger firms.

Imagine that you are advising the computer specialist. Listed below are several odds that the new company will prove financially sound.

Please select the lowest odds that you would consider acceptable to make it worthwhile for the computer specialist to take the new job.

The chances that the company will prove financially sound are:

- A. 1 in 10
- B. 3 in 10
- C. 5 in 10
- D. 7 in 10
- E. 9 in 10
- F. Select this option if you think the computer specialist should NOT take the new job no matter what the odds.

2. A 45-year old accountant has recently developed a severe heart ailment diagnosed by a physician. The disease would be sufficiently serious to force the accountant to change many strong life habits----reducing work load, drastically changing diet, and giving up favorite leisure time pursuits. The physician suggests that a delicate medical operation could be attempted which, if successful, would completely relieve the heart condition. But its success could not be assured, and in fact, the operation might prove fatal.

Imagine that you are advising the accountant. Listed below are several odds that the operation will prove successful.

Please select the lowest odds that you would consider acceptable for the operation to be performed.

The chances that the operation will be successful are:

- A. 1 in 10
- B. 3 in 10
- C. 5 in 10
- D. 7 in 10
- E. 9 in 10
- F. Select this option if you think the accountant should NOT have the operation no matter what the odds.

3. A competent chess player, participating in a national chess tournament, draws the top-favored competitor in the tournament as the opponent in an early match. The player has been given a relatively low ranking in view of performance in previous tournaments. During the course of this play with the top-favored competitor, the player notes the possibility of a deceptive though risky maneuver which might bring a quick victory. At the same time, if the attempted maneuver should fail, the player would be left in an exposed position and defeat would almost certainly follow.

Imagine that you are advising the chess player. Listed below are several odds that the player's deceptive maneuver will succeed.

Please select the lowest odds that you would consider acceptable for the risky maneuver in question to be attempted.

The chances that the maneuver will succeed are:

- A. 1 in 10
- B. 3 in 10
- C. 5 in 10
- D. 7 in 10
- E. 9 in 10
- F. Select this option if you think the player should NOT attempt the risky maneuver no matter what the odds.

4. A soldier is captured by the enemy in a war and placed in a prisoner-of-war camp. Conditions in the camp are quite bad, with long hours of hard physical labor and a barely sufficient diet. After spending several months in this camp, the soldier notes the possibility of escape by hiding in a supply truck that shuttles in and out of the camp. Of course, there is no guarantee that the escape would prove successful. Recapture by the enemy could well mean execution.

Imagine that you are advising the soldier. Listed below are several odds of a successful escape from the prisoner-of-war camp.

Please select the lowest odds that you would consider acceptable for an escape to be attempted.

The chances that the escape will succeed are:

- A. 1 in 10
- B. 3 in 10
- C. 5 in 10
- D. 7 in 10
- E. 9 in 10
- F. Select this option if you think the soldier should NOT attempt the escape no matter what the odds.

5. A successful business owner, who has participated in a number of civic activities of considerable value to the community, has been approached by the leaders of a political party to be a possible congressional candidate in the next election. The party is a minority party in the district, though the party has won occasional elections in the past. The owner would like to hold political office, but to do so would involve a serious financial sacrifice, since the party has insufficient campaign funds. The owner would also have to endure the attacks of political opponents in a hot campaign.

Imagine that you are advising the business owner. Listed below are several odds that the owner will win the election.

Please select the lowest odds that you would consider acceptable to make it worthwhile for the owner to run for political office.

The chances that the owner will win the election are:

- A. 1 in 10
- B. 3 in 10
- C. 5 in 10
- D. 7 in 10
- E. 9 in 10
- F. Select this option if you think the owner should NOT run for political office no matter what the odds.

6. A married, 30-year old research scientist has been given a five-year appointment by a major university laboratory. The scientist could work on a difficult, long-term problem which, if a solution could be found, would resolve basic scientific issues in the field and bring high scientific honors. If no solution were found, however, the scientist would have little to show for the five years in the laboratory, and this would make it hard to get a good job afterwards. On the other hand, the scientist could, as most of the other professional associates are doing, work on a series of short-term problems where solutions would be easier to find, but where the problems are of lesser scientific importance.

Imagine that you are advising the scientist. Listed below are several odds that a solution will be found to the difficult, long-term problem.

Please select the lowest odds that you would consider acceptable to make it worthwhile for the scientist to work on the more difficult, long-term problem.

The chances that the scientist will solve the long-term problem are:

- A. 1 in 10
- B. 3 in 10
- C. 5 in 10
- D. 7 in 10
- E. 9 in 10
- F. Select this option if you think the scientist should NOT choose the difficult, long-term problem no matter what the odds.

7. An electrician has just been offered a contract to install the wiring in the homes in a small subdivision. The contract will yield an acceptable profit, but the job must be started within the week and will take approximately 10 weeks to complete. The electrician has also submitted a bid to wire the homes in a large new subdivision. Securing this contract would yield a very large profit. The bid will be awarded in 3 weeks, with the actual work commencing within 5 weeks. Because of the timing, if the smaller job were accepted and started, the electrician would not be able to accept the larger job if awarded. Since the electrician has no assurance of being awarded the larger contract, turning down the smaller job and waiting for the bid results on the larger job could mean no contract at all.

Imagine that you are advising the electrician. Listed below are several odds that the electrician will be awarded the larger contract.

Please select the lowest odds that you would consider acceptable for the electrician to wait for the bid results.

The chances that the electrician will be awarded the larger contract are:

- A. 1 in 10
- B. 3 in 10
- C. 5 in 10
- D. 7 in 10
- E. 9 in 10
- F. Select this option if you think the electrician should NOT wait for the bid results no matter what the odds.

8. A public defender has been assigned a controversial case involving the murder of a member of one of the city's most prominent families. A drifter has been charged with the murder and the state has been asked to provide a defense. Because of political pressure, the district attorney wants a swift conviction of the drifter, and therefore expects the public defender to provide only the necessary minimal defense. However, the public defender believes that the drifter is innocent. The defender could ask to be excused from the case, with no repercussions. If the defender stays on the case and works for an acquittal, the defender's career could be in jeopardy unless the defender could identify someone else as the real murderer.

Imagine that you are advising the public defender. Listed below are several odds that the defender will successfully identify someone else as the real murderer.

Please select the lowest odds that you would consider acceptable for the defender to stay on the case and work for acquittal.

The chances that the defender will successfully identify someone else as the real murderer are:

- A. 1 in 10
- B. 3 in 10
- C. 5 in 10
- D. 7 in 10
- E. 9 in 10
- F. Select this option if you think the defender should NOT stay on the case no matter what the odds.

9. A 35-year-old marketing analyst who is married with two children has just been offered a promotion at work. The analyst enjoys the work, but has a secret ambition to write a novel. Although the analyst has written short stories and poetry as a hobby since college, none of the writing has been published. However, the writing does show talent and creativity. In order to write a novel the analyst would have to quit work (giving up the promotion) and concentrate on writing. The family's savings and spouse's income could support the family at an acceptable, but lower, level if the analyst quit.

Imagine that you are advising the analyst. Listed below are several odds that the analyst will become a published novelist.

Please select the lowest odds that you would consider acceptable for the analyst to quit work and concentrate on writing.

The chances that the analyst would become a published novelist are:

- A. 1 in 10
- B. 3 in 10
- C. 5 in 10
- D. 7 in 10
- E. 9 in 10
- F. Select this option if you think the analyst should NOT quit work no matter what the odds.

10. A couple and their 3 children have lived in a house for 7 years in a moderately priced neighborhood in which the property values are increasing at a slow but steady rate. The house has adequately served the couple's needs, but there are some features missing that would make day-to-day living more pleasant and efficient. The couple has found a home in a new housing development that they feel is just perfect for them and their family's lifestyle. However, since the development is located in a new area, there is no information available about past or future property values.

Imagine that you are advising the couple. Listed below are several odds that the property values in the new housing development will increase at a faster rate than in the couple's existing neighborhood.

Please select the lowest odds that you would consider acceptable for the couple to buy the home in the new housing development.

The chances that the property values will increase at a faster rate are:

- A. 1 in 10
- B. 3 in 10
- C. 5 in 10
- D. 7 in 10
- E. 9 in 10
- F. Select this option if you think the couple should NOT buy the new home no matter what the odds.

11. A salesperson does volunteer work for the local arts council and helps out every year with the fund-raising gala sponsored by the council. In the last few years, attendance at the gala has dropped off and receipts have decreased, and by all indications, that trend would continue this year. The volunteer has some different ideas about putting on the gala that might improve attendance and increase the proceeds. The president of the council, who traditionally chairs the gala committee, is adamantly opposed to the ideas and wants to continue as before. The volunteer's ideas are supported by some of the other council members, who have suggested that the volunteer take over as chairperson of the gala. If the volunteer agrees, and the gala is a success, the volunteer would be congratulated as a hero and the funding for the arts would be greatly increased. However, if the gala fails, the volunteer would lose face and the arts council would experience a funding shortage.

Imagine that you are advising the volunteer. Listed below are several odds that the gala would be a success if the volunteer agreed to chair the gala.

Please select the lowest odds that you would consider acceptable for the volunteer to agree to chair the gala.

The chances that the gala would be a success are:

- A. 1 in 10
- B. 3 in 10
- C. 5 in 10
- D. 7 in 10
- E. 9 in 10
- F. Select this option if you think the volunteer should NOT agree to chair the gala no matter what the odds.

12. A stamp collector prefers to combine hobbies with investments and has amassed an impressive stamp collection. Not only is the stamp collection worth a sizable amount, but its value is increasing steadily. The collector would like to diversify and is considering selling some of the stamps and using the cash to invest in antique glassware. However, the value of antique glassware has changed erratically over the last 10 years and currently can be purchased at a relatively low price. The collector has read some articles that predict that the value of the glassware will quadruple within 10 years. Other articles state the opposite.

Imagine that you are advising the collector. Listed below are several odds that the glassware will quadruple in value.

Please select the lowest odds that you would consider acceptable for the collector to sell some stamps and invest in the glassware.

The chances that the glassware will quadruple in value are:

- A. 1 in 10
- B. 3 in 10
- C. 5 in 10
- D. 7 in 10
- E. 9 in 10
- F. Select this option if you think the collector should NOT invest in the glassware no matter what the odds.

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