

CHANCE EVENTS IN CAREER DEVELOPMENT:
FACTORS INFLUENCING THE PERCEPTION OF
THE IMPACT OF CHANCE

By

JOSEPH DUNNIGAN

Bachelor of Arts in Psychology
Kent State University
Kent, OH
2000

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
May, 2011

CHANCE EVENTS IN CAREER DEVELOPMENT:
FACTORS INFLUENCING THE PERCEPTION OF
THE IMPACT OF CHANCE

Dissertation Approved:

Dr. Donald L. Boswell

Dissertation Adviser

Dr. Alfred F. Carlozzi

Dr. John S. Romans

Dr. David Yellin

Outside Committee Member

Dr. Mark E. Payton

Dean of the Graduate College

ACKNOWLEDGMENTS

I would like to thank many people who were instrumental in supporting me through this process. First off I would like to acknowledge my committee who assisted in shaping my ideas into a dissertation. I thank Dr. Don Boswell for his unwavering support and infinite patience over the years that I worked on this. I would also like to thank the staff of the Student Counseling Center who also provided a great deal of encouragement and emotional support. In particular I thank Dr. Suzanne Burks and Dr. Jason White for giving me the time and motivation to finish.

I would like to thank Dr. Camille DeBelle for sparking my interest in career counseling and the work of Dr. John Krumboltz for being such an inspiration to me. Special thanks also go out to Aarond Graham whose help was instrumental in getting my data collection to run as smoothly as it did.

Finally I will thank my family for continuing to believe in me and encouraging me to fulfill my dreams. In particular my wife Nikkie has been a constant source of encouragement. With out her love and support (as well as proof reading) I do not think I ever would have completed this.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION.....	1
Chance.....	2
Chance and Career Counseling.....	3
Research Questions.....	6
II. REVIEW OF LITERATURE.....	8
History of Career Counseling.....	8
Empirical Research on Chance and Career Decision Making.....	17
Locus of Control and Chance.....	22
III. METHODS.....	26
Participants.....	26
Instrumentation.....	26
Demographic Information Sheet.....	26
List of Decision Making Influencers.....	28
Locus of Control of Behaviour.....	29
Career Vignette.....	30
Career Development Questions.....	30
Procedure.....	31
Research Design.....	32
IV. RESULTS.....	34
Question 1.....	34
Question 2.....	35
Question 3.....	36
Post Hoc Analysis.....	37

Chapter	Page
V. DISCUSSION	40
Limitations	44
Future Research	45
REFERENCES	47
APPENDICES	52
A: Demographic Information Sheet.....	53
B: Career Vignette	56
C: List of Decision Making Influencers.....	59
D: Locus of Control of Behaviour Scale.....	62
E: Career Development Questions.....	64
F: Informed Consent Form.....	66
G: Email Solicitation.....	69

LIST OF TABLES

Table	Page
1: Demographic Variables	27
2: Demographic Variables and Identification of Chance.....	35
3: Identification of Chance in Others and Self.....	36
4: Locus of Control and Identification of Chance	37
5: Frequencies and Percentages of Chance Factors	38

CHAPTER I

INTRODUCTION

The world of work is a constantly changing environment. Due to numerous factors such as advancements in technology and changes in the economy there is a growing sense of uncertainty in the job market and an increased sense of instability (Rae, 2008). One only has to look at increasing unemployment rates to see that the world of work is not as stable as it once was. Even in times of relative stability, it is still common that occupations which have been traditionally secure and promising career choices routinely become obsolete, or job markets become flooded with potential employees (Baumgardner, 1982). These aspects of the world of work can be fear inducing for workers and students making life long career decisions. To successfully manage the new demands of the world of work students and workers are required to be increasingly adaptable and flexible.

In contrast to these present-day realities of the world of work, career counseling has traditionally operated under the assumption that career decision making is a linear, rational process. This rational style of thinking has shaped the direction of the field of career and vocational counseling (Heppner, Multon, Gysbers, Ellis and Zook, 1998). As far back as the work of Parson (1909), it has been the belief and practice among career

counselors that if a client can understand their interests, skills, abilities and interweave them with the knowledge of the world of work they should be able to make a rational decision about what career is best for them. In many ways these theories and practices of career development have not kept up with the contextual and multidisciplinary approaches that challenge the notions of a linear stage-like development (Vondracek, Lerner & Shulenberg, 1983; Krantz, 1998).

Career counseling is not the only discipline that has adopted a potentially inaccurate view of development (Friedland, 1992). Across disciplines there is a growing body of literature that challenges linear progressions in development; whether it is in talent development, cultural identity or career development the traditional views are being challenged and theorists as well as researchers have made strides to develop a more real-world framework. A central theme to a number of these theories is the role that chance and unplanned events play in development (Guindon & Hanna, 2002).

Chance

Over the years, theories that explore the role of chance have appeared in many disciplines including social psychology, mathematics and anthropology. Although not always called the same thing (serendipity, uncontrolled events, unplanned, happenstance and non-predictable), chance has gained recognition as an important influence in contextual models (Krumboltz, 1998). Laypersons can easily appreciate that chance factors play a role in everyday life, shaping decisions and paths from the mundane to the profound (Caplow, 1954; Bright et al, 2009). Exploring chance factors in a methodical and scientific manner is problematic in that many would prefer to treat the uncontrolled

as nuisance variables, or ignore them altogether (Osipow, 1973; Guindon & Hanna, 2002). However, some would argue that the most influential factors in life lie in unexplained domains (Krantz, 1998).

A further barrier towards the inclusion of chance is the difficulty of integrating rational and deterministic views of the world with the reality that many of our decisions are based on factors outside of our control or understanding. According to Krantz (1998) it may be too upsetting for individuals to believe that decisions as important as their career path may be outside of their control.

Chance and Career Counseling

In career counseling, clinicians can foster and possess an appreciation that individuals do not always make career decisions in a rational and methodological manner and to some degree may even make decisions based on emotion or intuition (Phillips, 1994; Osipow, 1973). Many have questioned the idea that a completely rational and linear model would be possible or even desirable. (Miller, 1983; Krumboltz, 1998). Gergen (1977) stated that new theories were needed to would allow for “logical deviations due to novel conditions”. According to Gelatt (1982) it may even be beneficial to be uncertain about career goals as it can lead to new discoveries and opportunities. Some theorists would go so far as to caution students and young people against making career decisions based upon current conditions as jobs can become obsolete quickly. Even with testing and formal evaluation, factors of the unknown may be more influential than the known.

While certainly relevant to other areas of counseling psychology, the exploration of chance has been relegated almost exclusively to career counseling. In recent years the influence and perception of chance on career decision making has become a common theme. The earliest example of this recognition came from Miller and Form (1951; p. 451) who stated in a single passage of their work that “many occupational choices are made accidentally.” However in the entire work, this is the only mention of the phenomenon of chance and there is no discussion as to the impact or rationale for its inclusion. Later in 1954, Caplow observed that chance is commonly accepted by laymen to explain vocational choices. However, it can be difficult for clinicians to include chance in their work, even though a number of theorists and counselors have been able to attest to chance playing a role in their own career decision paths (Caplow, 1954; Brayfield, 1964; Crites, 1969).

Protean and boundaryless theories may provide insight into the role of chance on career development. These theories propose that a greater flexibility in career development and decision making can lead to an individual who is more responsive to the demands of the world of work. The protean careerist is one who is able to transfer and repack their knowledge and skills and change from one work environment to another (Hall, 2004). There is an increased emphasis on flexibility, the value of freedom, intrinsic rewards and continuous learning. Similar to the protean careerist, the Boundaryless career is described as one in which the individual is able to seek work and career opportunities beyond the scope of one employer (Sullivan & Arthur, 2006). Both of these theories view career decision making in a more fluid and dynamic manner; suggesting that individuals

would benefit from being able to take advantage of planned and unplanned opportunities as they present themselves.

As theories have developed, the role that chance can play has broadened to include encounters with other people, natural disasters, opportunities and job market changes. Out of these developments there are a number of options available for discussing chance with clients, but no real understanding of how it is best integrated with services. To date there is no real consensus as to the impact of chance as few empirical studies have been conducted and it is unclear as to whether or not all people view the influence of chance in the same manner. For the purpose of this study I will refer to chance in career as defined by Betsworth and Hansen (1996: p. 97): “Events that were not planned or predictable, but that had a significant influence on (your) career”.

One variable that has appeared in the literature on chance in career counseling has been locus of control (Denga, 1984). It has been theorized that a person with an internal locus of control (belief that they have control over what happens) would be less likely to attribute career decisions to chance occurrences, and vice versa for those with an external locus. In research, the results have been mixed, Denga (1984) found no relationship between locus of control and chance; however, more recently Bright et al. (2005) found a moderate relationship.

Other research has generally found that participants are able to identify the influence of chance events on their career decision making. Hart et al. (1971) found in a study of 60 men that the careers of skilled and semi-skilled workers were reported to be more influenced by chance than professional workers. Betsworth and Hansen (1996)

found that 58% of men and 68% of women indicated chance influenced their career decisions. Qualitative research by Williams et al. (1998) found that all 13 female participants identified at least one influential chance event in their career history. A later study from Scott and Hatalla (1990) found that 60% of college-educated women believed their careers were significantly impacted by chance factors.

The current study will attempt to expand upon previous research by measuring participants self report of chance events in their past, recognition of chance events in others and the relationship of locus of control. The participants' report of chance occurrences will be assessed in three ways. Participants' identification of chance occurrences in their own past will be assessed through direct and indirect questions as well as identification of chance occurrences in a fictional characters career history. For the purposes of this study the categories will be referred to henceforth as "direct chance in self", "indirect chance in self" and "chance in others".

It is hoped that by combining these factors a clearer picture will emerge of the perceived influence of chance on individuals and its relationship to locus of control. This study will attempt to answer the following three questions:

- 1) Is there a relationship between demographic differences (gender, age, education level, SES, or job satisfaction) in recognition and/or identification of chance occurrences in career development in self (directly and indirectly) and others?
- 2) Is there a relationship between the ability to recognize chance occurrences in others and the identification of chance influencers (directly and indirectly) in the participant's past?

3) Is there a relationship between locus of control and the recognition/identification of chance occurrences in self (directly and indirectly) and others?

.

CHAPTER II

REVIEW OF THE LITERATURE

To understand the role of chance in career development theories it is important to understand the theoretical underpinnings of the field. In career counseling there have been three major theoretical movements, each one adding a different perspective and level of understanding to career development (Guidon & Hanna, 2002). Trait and Factor, Developmental and Social Learning theories each seek to explain how people make career decisions and to develop means to better assist those who are exploring their career decisions or are unsure of their career path. As a testament to the relevance of these theories all three are still widely used and researched by counselors.

The earliest of the three, Trait and Factor theory, attempted to identify and categorize the traits of individuals in order to match them with the requirements of various occupations (Parsons, 1909). Traits are defined as characteristics of an individual that can be measured through testing while factors are characteristics required for successful job performance (Williamson, 1965). The overarching proposition of Trait and Factor theory is that if one was able to understand the traits of an individual and factors necessary to operate successfully in an occupation, it was possible to create a match between the two.

The most widely used and studied Trait and Factor theory was developed and refined by John Holland (1966, 1997). According to Holland career choices and decision making are expressions of an individual's personality. In his work to further analyze and categorize personalities and work environments Holland developed six typologies that would describe both.

These six typologies are Realistic, Investigative, Artistic, Social, Enterprising and Conventional. Holland proposed individuals naturally develop a personal orientation that can be described by a combination of these six interest typologies (Holland, 1997). Individual and work environment typologies typically will yield two or three identified types ranging from the most to the least influential. This typology combination influences an individual towards careers that have the best match with their typologies. The goal of this approach was to find congruence; or match between an individual's typologies and the typologies of the work environment. Since individuals tend to gravitate towards work environments that are congruent with their typology, it is believed the individual's career path will remain stable over time.

One limitation of trait and factor theory is the lack of emphasis on how individuals develop their typologies and even steps one could take to address difficulties should they arise in the career development process. Due to the emphasis on identifying and categorizing similarities between people and work environments, there is little insight into how this development occurred.

Developmental theories of career sought to further the understanding of how an individual's career decision making developed over the lifespan as well as identifying

challenges encountered (Super, 1957). It was believed that if a counselor had access to information about age, values and personality characteristics, they would be able to predict that person's career concerns and what steps would be necessary to correct them.

Donald Super's Life Span theory (1957) provides a longitudinal view of the different roles, tasks and obstacles an individual may experience throughout their career development. Donald Super (1990) proposed that career development takes place across one's entire life-span and can be divided into five stages; Growth (4-to-13); Exploration (14-to-24); Establishment (25-to-44); Maintenance (45-65); and Disengagement (65 and over). He furthered that not everyone progresses through these stages at fixed ages or in the same fashion, and that within each stage are tasks whose mastery allows people to function successfully within that stage while preparing them to move on to the next task.

Super's belief was that people develop and acquire their self-view based on their abilities, personality and life roles (Super, 1990). Occupations that allow for expression of their self-concept are preferred to ones that may be viewed as stifling or in contrast to their values. The lifespan aspect of his theory emphasizes the influence of different factors such as self esteem, responsibilities and motivations that impact career decision at different times during employment. The question that is not as fully addressed is how and why career decisions are made. To answer this questions career counseling had to understand what factors influence choices and how they could be predicted and controlled for.

The third approach to career counseling, Social Learning Theory, sought to explain why people make certain career decisions and choices (Bandura, 1997).

Bandura's work helped to illustrate that individual's personalities and career development grow from their learning experiences more than from their heredity or conscious thought processes (Bandura, 1997). This theory places a greater emphasis on the social learning that individuals experience and how their environment may or may not reinforce their views on what careers may be desirable or appropriate for them. Bandura renamed his theory Social Cognitive Theory to better encompass the further developments of the theory.

He proposed a Triadic Reciprocal Interaction System that defined the interaction of the environment, personal factors and actual behavior. Each of the three factors could affect and be affected by the other two and the entire system was regulated by the individual's cognitive structures and perceptions to determine individual behavior (Bandura, 1998). Bandura believed that this system could be used to assist counselors and individuals in understanding how their career decisions were influenced by the person and their environment.

A key concept of Social Cognitive Theory is observational learning which refers to the learning that occurs when individuals observe and imitate other's behavior. According to Bandura there are four processes influenced by the observer's behavior following exposure to models: Attention, Retention, Motor Reproduction and Motivation (Bandura, 1986).

The first component, attention, is when individuals learn by perceiving and attending to the significant features of the modeled behavior. This way they can then later reproduce that behavior. Retention refers to how the information is coded into long term

memory so it can later be retrieved. Motor reproduction occurs when the observer reproduces the model's behavior and, or develops the necessary abilities to reproduce the behavior. The final component of motivation refers to the expected positive reinforcement the observer believes they will receive for performing the behavior. In a simplified example, if a child sees an adult receive praise for drawing a picture and attends to the behavior, he or she will retain aspects of the behavior and reward so that they can later reproduce the behavior expecting a similar form of reinforcement.

Observational learning is also believed to be related to an individual's self-efficacy; indicating that how well one manages difficult tasks will regulate their behaviors. In particular, if an individual does not believe they can reproduce the behavior observed it is unlikely they will move through the four component processes. This can be directly tied to chance by considering that for an individual to take advantage of a chance occurrence or encounter, it is necessary to be able to take in the necessary information and produce a response necessary to take advantage of the opportunity.

Alfred Bandura directly discussed chance in an article entitled "The Psychology of Chance Encounters and Life Paths" (Bandura, 1982). In this article, Bandura states that psychological theories have long neglected the fundamental issues of what determines people's life paths, he further notes that chance plays a prominent role in shaping the course of human lives (Bandura, 1998). Bandura focused his attention on interpersonal chance encounters which he defined as "unintentional meeting of persons unfamiliar to each other that occur due to chance" (Bandura, 1982). According to Bandura individuals seek certain types of experiences, but what is obtained is decided by chance and this can

play heavily into our selection of significant others; marriage, friendships and partnerships.

While it is not possible to predict chance events, it may be possible to predict the impact of the events by understanding the personal and social determinants (Bandura, 1998). Personal determinants include entry skills, emotional ties, values and personal standards. The social determinants include milieu rewards, symbolic environment and information management, milieu reach and closedness and psychological closedness.

Entry skills indicate that an individual must have at least some of the personal resources needed to be accepted by the new person and to sustain a continued relationship. Chance meetings are more likely to affect life courses when individuals feel emotional ties to one another and like or gain satisfaction from them. When values and personal standards are similar for individuals, the encounter can be more influential and are predicted to be longer lasting than ones in which the values clash. Values and standards act as an internal source of guidance and help to manage the how impactful the chance encounter may be.

Social determinants impact chance encounters through milieu rewards; the benefits a group provides. According to Bandura (1982) these rewards play a crucial role in determining whether chance encounters will link individuals enduringly to one group over another. Becoming the member of a group allows an individual to gain new rewards and to be part of a larger system that can provide a sense of meaning and connectedness. Chance encounters can have the greatest impact if the milieu is closed and provides a clearer sense of meaning and purpose.

In terms of closedness, chance encounters have the greatest potential when dealing with a closed milieu in which individuals firmly hold onto beliefs because they serve valuable functions; give structure, direction and purpose in life. When the milieu is closed it is viewed as being more endearing and influential, which can lead to a person feeling more connected early on to the group or individual they have encountered. Bandura's theory was used to explain relationships that were viewed as both positive (marriage) and negative (joining a cult) and to illustrate the impact that an unplanned meeting can have upon an individual's life which would also impact the career opportunities available to an individual.

One of the more prominent Social Cognitive theorists to integrate chance into career decision making has been John Krumboltz. Krumboltz's Social Learning Theory attempts to answer questions of why career decisions are made by examining four factors; Genetic Endowment, Environmental Conditions, Learning Experiences and Task-Approach Skills (Mitchell, Levin & Krumboltz, 1999; Krumboltz, 1979).

Genetic Endowment is the inherited aspects of an individual that are not learned, or what they are born with. The greater an individual's innate genetic abilities, the more likely they will be able to respond to learning and teaching. In addition, the theory proposes that some individuals may be more disposed towards certain fields such as the arts or athletics based on their specific genetic endowment.

Conversely, environmental factors are ones generally viewed as being outside of an individual's control and can be directly equated with chance factors (Krumboltz, 1998). These can include, but are not limited to social, cultural, economic, political and

cultural factors. It is believed that anyone of these factors, or a combination, can have a significant impact on the availability of career choices as well as influence or even dictate the direction of career decision making.

Like Bandura's theory, learning is a key factor of this model as an individual's career preferences are viewed as resulting from their prior learning experiences (Krumboltz, 1979). It is the combined effect of all previous learning through instrumental and associative means that provide the tools and experience for decision making (Mitchell, Levin & Krumboltz, 1999). Because of the life-long learning aspect of this theory, each person will have had a unique set of learning experiences that developed their views of career and the world of work.

The final factor, task approach skills, are those that an individual utilizes when they need to solve a problem or make a decision. It is believed that the interaction of genetic endowment, environmental factors and learning experiences translate into the skills a person uses in observing, approaching and ultimately addressing the needs of a task (such as making a career decision) placed in front of them.

A later addition to Krumboltz's Social Learning Theory is the theory of Planned Happenstance (Krumboltz, 1998; Mitchell, Levin & Krumboltz, 1999). Planned Happenstance is the recognition that many events outside of a person's control can influence their lives and career decisions. However, rather than accepting that factors are outside of an individual's control; planned happenstance offers a method for identifying and generating chance events. Planned Happenstance also attempts to suggest what steps

an individual may take in order to act upon the chance events in a way that is beneficial to them.

The two main points of the planned happenstance theory are that the exploration of career options will generate opportunities and that the development of specific skills will assist individuals and taking advantage of the chance opportunities. The theory of Planned Happenstance is viewed as a positive one in that it replaces typically negative terms like “indecision” with “open-mindedness” and views career development as a more subjective and explorative process. According to Planned Happenstance, for an individual to be able to fully utilize chance in their career decision making they needed to develop five skills; Curiosity, Persistence, Flexibility, Optimism and Risk Taking (Mitchell, Levin and Krumboltz, 1999).

The five skills work in a linear fashion and help to provide a structure by which clinicians and clients recognize and exploit chance events for their benefit. Curiosity can allow an individual to explore new learning opportunities and thus increase the likelihood that a beneficial chance event will occur. Persistence can assist the career decision maker in continuing to exert effort despite any setbacks that may occur along the way.

Persistence is also tied to flexibility in that individuals who are more adaptable to circumstances are less likely to become stuck or feel that they may not be able to go any further. Optimism allows the learner to view new career opportunities as possible and attainable. Change for individuals is most likely when they are dissatisfied with their present condition, have knowledge of a better alternative and are optimistic that the alternative is attainable. The final skill of risk taking acknowledges that with chance occurrences and factors outside of our control there is the risk, or possibility that what an

individual ultimately receives may not be what they wanted or intended. The learner must be able to weigh the potential risks and benefits in the face of the other four skills.

The goal of a counselor utilizing this theory would be to normalize happenstance events for their clients and assist them in the development of the five skills necessary to transform happenstance events into opportunities (Krumboltz, 2009). While the theoretical framework of Planned Happenstance takes a major step towards a formalized inclusion of chance factors in career counseling, there has been little empirical data to validate the theory or the role of chance factors in career decision making.

A recent addition to the discussion of chance in career counseling has been proposed by Bright and Pryor (2005) and places chance within the framework of chaos theory. The Chaos Theory of Career Counseling suggests that the indeterministic nature of chance can, and does coexist with the deterministic nature of career counseling. This approach is fairly new, but it is an attempt to bridge the gap between scientific disciplines and career counseling.

The following section will attempt to summarize the previous research findings related to chance factors and career decision making. A number published works are theoretical or narrative in nature and have been discussed in the introduction. The empirical work exploring the impact of and attempting to define chance will lay the groundwork for the current research.

Empirical Research on Chance and Career Decision Making

The earliest empirical study of chance factors and career decision making was by Roe and Baruch (1967). Of the 30 men and women questioned in the study few indicated

their recent occupational decisions had been planned. Many reported their occupational choices were made due to factors outside of their control such as economics, environmental or social forces. Further, they found that a number of people labeled chance encounters with other people or the accidental discovery of attractive alternatives as influencers. This finding would seem to support Bandura's assertion that interpersonal chance encounters impact career decisions and development (Bandura, 1982). Although the number of participants for this study was small, it did demonstrate that individuals could identify and label forces outside of their control that influenced previous career choice as would have been predicted by Osipow (1973). However the "contingencies" and "chance encounters" are not well defined and make it difficult to make determinations of the decision making process between the individual and the chance factors.

Roe and Baruch (1967) found that chance encounters will be viewed as influential if the individual is sensitive to their meaning. However, if an individual was unaware of a chance occurrence then they were unlikely to recognize or see it as having an influence. This would seem to relate to Planned Happenstances emphasis on curiosity in that if there is no awareness of the opportunity an individual is unable to take advantage of it (Mitchell, Levin & Krumboltz, 1999).

Salomone and Slaney (1981) found that non-college degreed workers viewed chance as affecting their careers, but that they were more likely to view their vocational decisions as being rationally made. The published results were from a larger study that surveyed 917 non-college degreed participants and included data from two of the four booklets they had completed. The first booklet contained open-ended questions about the

participants' personal and vocational background and instructed them to provide information about the specific factors that influenced their career decisions. The second booklet was a series of 27 questions that assessed the degree to which chance (unplanned) and contingency (planned) factors influenced career decisions.

From the study, the contingency factors of education level, vocational training opportunities, financial responsibility to others, awareness of skills and abilities were endorsed more often than other items. Chance factors such as unexpected personal events and unexpected information about job openings were also endorsed by many of the participants, but not as often as the aforementioned contingency factors. According to their results, Salomone and Slaney posited that chance factors may create vocational options, but for career possibilities to be realized people must act upon the chance opportunities (Salomone & Slaney, 1981). Similar to the theory of planned happenstance, it appears that chance factors can create a possibility, but it is a person's ability to act on these or not that makes them meaningful (Krumboltz, 1998).

In 1990, Scott and Hatalla surveyed 94 women who graduated from college between 1959 and 1964 regarding the influence of selected chance and contingency factors upon their career patterns since graduation utilizing The List of Decision Making Influencers developed by Salomone and Slaney (1981). The results suggested that contingency factors were more likely to be reported as an influencer on career patterns than the chance factors. However, the chance factor of "unexpected personal events" was endorsed by many participants as being influential. The study did not provide demographic information such as race, or income so it is limited in its generalizability.

The results do suggest that it is important to consider both the predictable aspects of career as well as those outside of one's control.

Betsworth and Hansen (1996) conducted a study in which older adults were asked whether or not chance events influenced their career decisions. The purpose of this study was to develop categories to describe chance events that influence career decisions. If participants answered affirmatively to the question, they were then asked to describe the event. The study consisted of 237 college graduates with a mean age of 72 (age range between 52 and 88). Of the participants, 62.9% of male and 54.7% of female respondents indicated that a chance occurrence influenced their career pattern. Overall, two thirds of the participants believed that their careers were influenced by chance events and were able to identify such an event

Out of this study, 11 categories of chance events were found. These included 1) professional or personal connections, 2) unexpected advancement, 3) right place, right time, 4) influence of marriage and family, 5) encouragement of others, 6) influences of previous work/volunteer experiences, 7) military experiences, 8) temporary position became permanent, 9) obstacles in original career path, 10) influence of historical events and 11) unexpected exposure to interest area (Betsworth & Hansen; 1996). Of the 11 categories the first three (professional or personal connections, unexpected advancement and right place, right time) were endorsed more often, indicating that some chance factors were viewed as more influential and occurring more often than others. This study is valuable in that it provided information on how chance was viewed by individuals and that chance is seen as an important influencer in career development.

Miller, Wadsworth and Springer (1991) attempted to create an instrument to measure chance receptivity and self-concept. However, they were unable to find a relationship between self-esteem and willingness to take advantage of chance situations. They believed that the scale was not sensitive enough to yield significant results. According to the researchers, chance has largely been neglected as a research problem, “although simple observation attests to its importance” (Miller, Wadsworth & Springer, 1991).

William et al. (1998) conducted a qualitative study of prominent women in counseling psychology (as nominated by others) and chance factors. Thirteen participants were interviewed about the role chance factors played in their career development and decisions. All participants attributed knowledge of skills, interests and abilities as key to their career choices. However, all 13 were able to list at least one key chance event that either changed their career path completely, or altered it with new options, opportunities or increased flexibility.

From the results, the researchers created two categories of chance 1) ones in which another person intervened or 2) ones that were totally random. These two were also then influenced by one of four contextual factors: 1) timing of the event, 2) stage in career development, 3) internal readiness factors and 4) external readiness factors.

Participants who described pre-PhD chance events that impacted their career paths reported greater change and experienced more career pressure following the event. In contrast, those who described post-PhD chance events noted an altered self-concept and little to no career pressure from the event. These results suggest that both chance and

planning were important factors, but that the effect of each could be influenced by other internal and external factors. There are limitations to this study in that the accounts are retrospective, it was done with a very specific population and participants may have been primed to think about chance due to the nature of the study. However, it still provides useful information about the ways in which chance occurrences can impact individuals in different ways.

Hart, Rayner and Christensen (1971) found that 60 men in varying occupational categories reported they found their jobs entirely by chance. Of particular interest in this result was a difference between the attribution of chance and the education level of the participant. It was found that men with a higher education level were less likely to attribute career decisions to chance than those who were semi-skilled. One explanation for this discrepancy is that men with higher education are more likely to attribute their decisions to good planning and their ability to control their career path and decision making.

Empirical research about chance factors in career counseling has provided mixed results, however in virtually all of the studies there was at least some indication that participants acknowledged some impact of chance on their career decision making. What was not always assessed was the specific factors, if any, that would moderate whether or not a person could identify the impact of chance factors (Denga, 1984).

Locus of Control and Chance

It should be no surprise that locus of control has been linked with the study of chance events in career. Locus of control is defined as an individual's belief about what

causes the positive and negative events in their lives (Rotter, 1966). Chance factors by definition relate to issues of control and therefore it has been theorized that locus of control would influence how individuals perceive and report the influence of chance events in their career development. According to locus of control theory, individuals who believe that situations are under their own control are described as having an internal locus of control; while individuals who believe situations are under the control or chance or powerful others are described as having an external locus of control (Rotter, 1966). It has been suggested by theorists that individuals with an external locus of control would be more likely to acknowledge the impact of chance encounters (Denga, 1984, Janzen and Boersma, 1976).

Denga (1984) found that among 200 male high school students, those with an external locus of control were more likely to believe that chance and good luck would influence their career choices, whereas those with an internal locus of control believed careers were selected upon intrinsic values. Subsequent studies have found mixed results when it comes to the influence of locus of control and chance events.

In 2005 Bright, Pryor and Harpham conducted two studies investigating chance factors. In the first study 772 high school and university students completed a survey on career decision making, 61.9% of which cited chance events as having an impact on their career decisions making. The same factors discovered by Betsworth and Hansen (1996) were used and all were endorsed to varying degrees. The following categories were endorsed by the participants: personal or work relationship (44%), previous work or social experience (60%), barriers to your previous career plan (36%), injury or health problem (11%), unintended exposure to a type of work or activity that you found

interesting (43%), exposure to a type of work or activity that you did not enjoy (33%), a major change of residence over which you had little control (11%) and any other unplanned event (10%). Bright et al found no differences in the reporting of chance events based on age or grade level. The majority of the sample reported the influence of chance events, and some reported multiple chance influences on their career decision making.

In the second study, 97 undergraduate students (ages 16-42) and a group of 40 older students (24-50 years) were surveyed (Bright, Pryor & Harpham, 2005). The participants were given a chance event survey, two questions about the influence of chance events on their career decisions and one direct question regarding the impact of chance on their career decisions. 74% indicated being influenced by chance events to some extent and 16% to a great extent. Only 10% indicated no influence of chance on their career decisions. The researchers found a small significant relationship between chance and external locus of control. The research indicated that as locus of control orientation becomes more external both the significance and impact of the influence of chance events increases. According to Bright, Pryor and Harpham (2005), locus of control accounted for 8-9% of the total variance in reporting of chance events. There were no significant differences between the two groups in reporting any of the chance factors, but the younger participants reported a greater external locus of control.

In 2009 Bright, Pryor, Wing and Rijanto conducted a series of three studies. The studies were designed to learn more about the dimensions of chance occurrences and how participants perceived them in their own lives, as well as when viewed in the stories of others. The overall results indicated that people viewed chance occurrences as both

independent and as concatenated events. Concatenated events were described as occurrences that were part of a string of events that were related to one another. Overall, chance events were more often viewed as concatenated than independent. It was also found that individuals do not recall all types of chance events equally well; highly influential chance encounters that are beyond ones control are more likely to be remembered than any other type of chance events. The research did not find that locus of control influenced the reporting of single and multiple chance events. A moderate correlation was found between locus of control and the number of multiple chance events that produced negative career outcomes. It appears that individuals who are more externally oriented are more likely to report experiencing a series of negative, independent chance events.

The present study will seek to bridge the gap between perceptions of career decision making, personal reports of career decision making and locus of control. By combining these factors it is hoped that the study will yield a greater understand of how individuals view chance factors not only when asked explicitly about their own experiences, but also when viewing the career decisions of others. This will be accomplished by participants providing answers to a questionnaire about their own career development, responding to questions about a fictional character's career development history and then a direct question about whether or not participants believe chance has impacted their career.

CHAPTER III

METHODS

Participants

Participants for this study were solicited from a listing of full time permanent employees at Oklahoma State University. There were 431 returned surveys of which 141 (32.9%) were male and 287 (67.1%) were female, with 3 not reporting gender. The mean age for the sample was 41.9 with a range from 21 to 78. The sample was largely Caucasian (87.4%) and the median household income was between “\$51,000 and \$70,000”. The reported median level of education for the sample was “some post-graduate” education and the median career satisfaction level was “satisfied”.

Instrumentation:

Demographic Information Sheet

The demographic information sheet (see appendix A) developed for this study required participants to indicate their gender, race, age, education level, satisfaction with career, and income. The demographic information sheet was designed to provide contextual information about the participants that may be used to see which variables, if any, moderate a participant’s response to the instruments.

Table 1

Demographic Variables

Category	# of Respondents	% of Respondents
Gender		
Male	141	32.7
Female	287	66.6
Unreported	3	.7
Race/Ethnicity		
White/Anglo	368	87.4
Black/African American	10	2.3
Hispanic/Latino	8	1.9
Asian American	6	1.4
American Indian	22	5.2
Other	7	1.7
Education		
High School	6	1.4
Some College	38	8.9
College Graduate	96	22.5
Some Post Graduate	43	10.1
Graduate Degree	243	57.0
Job Satisfaction		
Very Unsatisfied	23	5.4
Unsatisfied	30	6.9
Neutral	60	13.9
Satisfied	206	48.6
Very Satisfied	105	24.8
Income		

Under \$15,000	2	.5
\$15,000-30,000	48	11.3
\$31,000-50,000	109	25.6
\$51,000-70,000	77	18.1
\$71,000-90,000	70	16.5
Over \$90,000	119	28.0

The List of Decision-Making Influencers; Salomone & Slaney 1981

The List of Decision making Influencers (see appendix C) is a 27 item Likert-type questionnaire of factors that might influence a person’s career decisions. The instrument contains two subscales that measure contingency (controllable) and chance (uncontrollable) factors. Of the 27 items; 17 are designated as contingency factors and 10 are designated as chance factors. Participants read each item and then responded as to whether they felt the impact of the factor was “None”, “Some”, or “Great”.

In the initial use of the List of Decision Making Influencers, it was found that non-professional workers viewed chance factors as impactful on their careers, but that they were more likely to view their decisions as being rationally made (Salomone & Slaney, 1981). The greatest influencer reported (39.4% of men and 31.7% of women) was the perceived financial responsibility to themselves and others.

Scott and Hatalla (1990) used this instrument to investigate the role of chance factors in the career patterns of college-educated women. Their study again found that contingency factors were viewed as more influential. However, they also found that a

significant proportion of respondents indicated that “Unexpected Personal Events” were influential in their career decisions.

No reliability or validity data were presented for either study utilizing the List of Decision Making Influencers. Following data collection a Cronbach’s Alpha was conducted and both the chance and contingency factors subscales were found to have acceptable reliability; .694 and .758 respectively.

This instrument is used to assess for chance occurrences in a participants past by indirect means as the factors are not explicitly labeled as chance or non-chance. Therefore the results of this instrument will be used for the “indirect chance in self” category.

Locus of Control of Behaviour Scale (LCB Scale); Craig, Franklin, and Andrews, 1984

The LCB Scale (see appendix D) is a 17 item Likert-type instrument designed to measure a person’s perception of control over their behavior. Each item has a six-point scale with answers ranging from strongly disagree (0) to strongly agree (5). Higher scores indicate externality and lower scores indicate internality. The scale is based on Rotter’s (1966) theory of locus of control and is scored in the same direction as Rotter’s I-E Scale.

The psychometric characteristics of the LCB scale were reviewed by Craig et al. (1984) and were demonstrated to have satisfactory internal reliability and to be stable over time in the absence of treatment. Test-retest reliability coefficients of .90 were reported for one week intervals and .73 for six months. It was reported to have acceptable internal reliability and convergent validity was established by comparing the LCB Scale with results from the Rotter’s I-E scale. The LCB Scale was selected for this study due to

the ease of use and administration and that it was previously used by Bright et al. (2005) in career counseling research.

Career Vignette

Participants were given a vignette (see appendix B) to read and then asked to respond to a series of questions. The vignette is a narrative describing a fictional character's career decision making history. The narrative was intentionally written to be gender neutral in an effort to reduce gender bias. The vignette contains a combination of four contingency and four chance factors as defined by the Salomone and Slaney (1981) List of Decision-Making Influencers. This instrument was developed solely for the purpose of this study. In an effort to establish face validity, the vignette and questions were rated by other professionals for their relevance to the research questions prior to use and were given approval.

After reading the vignette, participants were asked to rate the extent they felt each factor influenced the character's career development using a 5 point Likert-type scale (1= Not at all to 5= Very). This vignette and question was designed to assess two factors: 1) whether or not the participants are able to recognize chance and non-chance factors in another person's career history and 2) how influential they viewed the chance factors. The results of this instrument will be used for the "chance in others" category.

Career Development Questions

The final instrument was a series of three direct questions regarding the participant's belief about their career development (see appendix E). Participants were asked to respond using a Likert-type scale (1= Not at all to 5= Very) to each of the

questions. The first question is related to the definition of chance events as proposed by Betsworth and Hansen (1996: p. 97). Chance events are defined as “events that were not planned or predictable, but that had a significant influence on [your] career.” In an effort to prevent a bias towards answering the previous instruments this question was asked following the other instruments as it is the first item to directly discuss chance.

The second question, “To what extent do you feel your career decisions have been planned and intentional?” was designed to assess if participants view their previous career decisions as planned, in comparison to question one responses. The final question, “To what extent do you feel your future career decisions are under your control?” was designed to assess if participants view their potential future decisions as being under their control.

Following data collection, a Chronbach’s Alpha was conducted to determine the reliability of the three questions. Reliability was low at .046, and it was decided to only include the first question in the final analysis rather than combining the scores from the three questions.

The Career Development Questions were used to assess for chance occurrences in a participants past by direct means as the questions directly ask about chance. The results of this instrument will be used for the “direct chance in self” category.

Procedure

The survey was posted to Oklahoma State University’s Front Page server and voluntary participation was solicited through an email invitation (see appendix G). The email requested participation in the study and provided information on an incentive;

random drawing for a \$100 gift card. A link within the body of the email directed participants to the informed consent (see appendix F). If the participants agreed to be part of the study they were directed to a page containing the instruments. The Demographic Information Sheet, Career Vignette, List of Decision-Making Influencers, Locus of Control of Behaviour Scale and Career Decision Questions were all completed on-line. Data collection lasted for 30 days.

Research Design

The results of the instruments were analyzed to answer the three research questions in the following manner. Question 1 (Is there a relationship between demographic differences in recognition and/or identification of chance occurrences in career development in self and others?) was assessed through a series of multiple correlations with individual demographic variables and chance events as reported by the participants (List of Decision-Making Influencers and Career Development Questions) and viewed in others (Vignette).

Question 2 (Is there a relationship between the ability to recognize chance occurrences in others and the identification of chance influencers in the participant's past?) was assessed by conducting a multiple correlation to determine if the recognition of chance in others (Vignette) was related to the recognition of chance in self (List of Decision-Making Influencers and Career Development Questions).

Question 3 (Is there a relationship between locus of control and the recognition/identification of chance occurrences in self and others?) was assessed through multiple correlations between the LCB Scale and recognition of chance events in self

(List of Decision-Making Influencers and Career Development Questions) and others
(Vignette).

CHAPTER IV

RESULTS

Question 1

In order to answer the first research question a series of multiple correlation analyses were conducted. More specifically, multiple correlational analyses were conducted between the demographic variables (Gender, Age, Education Level, Job Satisfaction and Income Level) and identification of chance in self (directly and indirectly) and identification of chance in others.

No significant relationship was found between the set of demographic variables and the direct identification of chance in self ($R=.142$, $p=.131$). Results of the multiple correlation analysis between the set of demographic variables and indirect identification of chance in self was significant ($R=.284$, $p=.000$). Also, results of the multiple correlation of the demographic variables and the identification of chance in others was significant ($R=.240$, $p=.000$). In other words, demographic variables accounted for only 5.7 percent of the variance of directly identifying chance in self.

In order to further assess the relationship between each of the demographic variables and the identification of chance in self (direct and indirect) and others a series of Pearson Correlations were conducted. Table 2 presents the results of these analyses.

Table 2

Pearson Correlations between demographic Variables and Identification of Chance

	Indirect Chance in Self	Direct Chance in Self	Chance in Others
Gender	.174**	.032	.168**
Age	-.025	.009	.135**
Education Level	-.146**	.063	.070
Job Satisfaction	-.102*	-.088	.068
Income Level	-.215**	-.043	.020

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

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

As can be seen from Table 2 there were significant correlations between Indirect Chance in Self and gender, education level, job satisfaction and income level. There were no significant correlations between direct identification of chance in self and the demographic variables. There were two significant correlations between the identification of chance in others and the demographic variables: gender and age.

Question 2

To answer the second research question, a multiple correlation analysis was conducted between the identification of chance in others and the identification of chance in self (direct and indirect). A significant relationship was found between the identification of chance in others and in self ($R=.326$, $p=.000$). In other words, the

identification of chance in self, measured both directly and indirectly, together accounted for approximately 10.6 percent of the variance in identification of chance in others. In order to further assess the relationship between the identification of chance in self and others, Pearson Correlations were conducted between each of the individual components of identification of chance in self (direct and indirect) and identification in others. Table 3 presents the results of these analyses.

Table 3

Pearson Correlation between the identification of chance in others and self (indirect and direct)

	Indirect Chance in Self	Direct Chance in Self
Chance in Others	.326**	.117*

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

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

As can be seen from Table 3 there were significant correlations between both the indirect and direct identification of chance in self and others. However there was a stronger relationship between indirect identification of chance in self and others than direct chance in self.

Question 3

A series of multiple correlation analyses were conducted to answer the third research question. Multiple correlation analyses were conducted between the Locus of Control of Behaviour (LCB) Scale and the identification of chance in self (direct and indirect) and others. A significant relationship was found between the LCB scale and the identification of chance in self (direct and indirect) and others ($R=.210, p=.001$).

In order to further assess the relationship between the LCB scale and the identification of chance in self (direct and indirect) and others, a Pearson Correlation was conducted. Table 4 presents the results of this analysis.

Table 4

Pearson Correlations between LCB Scale and Identification of Chance

	Indirect Chance in Self	Direct Chance in Self	Chance in Others
LCB Scale	.190**	.123*	.019

** . Correlation is significant at the 0.01 level (1-tailed).

* . Correlation is significant at the 0.05 level (1-tailed).

As can be seen from Table 4, there were significant correlations between indirect and direct identification of chance in self and the LCB Scale. However, there was not a significant relationship between the identification of chance in others and the LCB-Scale. Both indirect and direct identification of chance in self were significantly related to locus of control; however, they only accounted for 4.4% of the total variance. Indirect identification of chance accounted for more of the variance in participant’s locus of control scores (2%) than direct (1.5%).

Post Hoc Analysis

A post hoc analysis was done regarding the prevalence of participants reporting chance factors in their past. In response to the Career Decision Questions 302, or 70.8% of the participants directly reported that chance had either “some” or a “great” impact on their past career decision making. When asked indirectly through the List of Decision Making Influencers, 387 participants or 93.7% positively endorsed at least one or more

chance factors in their past career decision making (see table 5). The results of the List of Decision Making Influencers showed that seven out of the ten factors labeled as chance were endorsed as having “some” or a “great” influence for over 30% of the respondents. These factors included; “national or local economic situations” (63.6%), “unexpected information about job openings” (69.2%), “level of unemployment in my community” (33.9%), “unexpected information about schooling or training” (30.7%), “receiving unexpected financial support” (34.9%), “unexpected personal events” (65.6%) and “other unexpected or unpredictable events” (59.5%). The three chance factors not commonly endorsed were “having to serve in the military” (5.0%), “strikes” (2.6%) and “local floods, disasters, etc.” (4.0%).

Table 5
Frequencies and percentages of chance factors

Chance Items	<u>Amount of Influence</u>					
	<u>None</u>		<u>Some</u>		<u>Great</u>	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
National or Economic Situations	155	36.4%	185	43.4%	86	20.2%
Having To Serve in the Military	401	95.0%	11	2.6%	10	2.4%
Strikes	414	97.4%	8	1.9%	3	.7%
Local Disasters, Floods, etc.	409	96.0%	12	2.8%	5	1.2%
Unexpected information about job openings	131	30.8%	153	36.0%	141	33.2%

Level of unemployment in my community	281	66.1%	110	25.9%	34	8.0%
Unexpected information about schooling or training	293	69.3%	91	21.5%	39	9.2%
Receiving unexpected financial support	276	65.1%	102	24.1%	46	10.8%
Unexpected personal events in my life	146	34.4%	159	37.4%	120	28.2%
Other unexpected or unpredictable events	172	40.5%	179	42.1%	74	17.4%

CHAPTER V

DISCUSSION

The results from this study would suggest that the identification and recognition of chance is influenced by the participant's demographic variables and locus of control. It also appears that the ability to recognize chance in a participant's past is related to their ability to recognize it in others. In terms of the three initial research questions significant results were found in each case; their implications and limitations will be discussed below.

Of particular interest is the number of respondents who identified at least some degree of chance influence in their past career decision making. In the study, 302 or 70.8% of the participants directly reported that chance had either some influence or was very influential in their past career decision making. When asked indirectly regarding chance influencers, 387 participants or 93.7% positively endorsed at least one or more chance factor in their past career decision making. The results of the List of Decision Making Influencers showed that seven out of the ten factors labeled as chance were endorsed as having "some" or a "great" influence for over 30% of the respondents. These numbers indicate that the majority of participant are able to identify influential chance factors in their past, similar to other studies that have demonstrated high

prevalence rates (Hart et al., 1971; Scott and Hatalla, 1990; Betsworth & Hansen, 1996; Williams et al., 1998; Bright, Pryor & Harpham, 2005; Bright et al, 2009).

In an effort to further investigate the factors that could influence participant's identification of chance occurrences, the demographic questionnaire solicited information regarding gender, age, education level, job satisfaction, and income. No significant relationship was found between the direct identification of chance in self and the above demographic variables. There was a significant relationship between demographic variables and how participants responded to the Career Vignette (identification of chance in others) and the List of Decision Making Influencers (indirect identification of chance in self). However, the demographic variables only accounted for 8% and 5.7% of the variance respectively. So while there were statistically significant differences, the clinical significance may not be impactful.

When analyzed further a number of correlations were found between the individual demographic variables and the participant's identification of chance in self and others. Still, no significant relationship was present for the direct identification of chance in self. Four demographic variables had a significant relationship to the indirect identification of chance in self and two variables were related to the identification of chance in others. Gender was a significant factor in that female participants were more likely to identify chance occurrences in self and in others than male participants. This fits with previous research by Scott and Hatalla (1990) and William et al (1998) which has suggested that women are more likely to identify chance occurrences. Age was also significantly related to the identification of chance in others; indicating that the older a participant was the more likely they were to identify the chance influencers in another

person; but not in themselves. Conversely; education level, job satisfaction and income level were all negatively correlated with the indirect identification of chance in self. This would imply that as education level, job satisfaction and income level increase, the participants were less likely to recognize and identify chance occurrences in their own past. This is consistent with previous results from Hart et al. (1971) who found that as training level increased the attribution of chance decreased. Also, attribution theory which would suggest that as an individual's experience or prestige (education, age, income, etc.) increase they would be less likely to attribute their decisions to factors outside of their own control (Weiner, 1982).

The study also attempted to determine if there was a relationship between the participant's identification of chance in self and in others. Results of this analysis were significant and the identification of chance in self-accounted for 10.6% of the variance of identification of chance in others. Further analysis indicated both indirect and direct identification of chance in self were significantly related to the identification of chance in others, suggesting that as the more a participant was able to identify chance in their own past, the more likely they were to identify it in another person. In the analysis; indirect identification accounted for more of the variance which suggests that indirect identification of chance in self has a stronger relationship to the identification of chance occurrences in others. As previously discussed demographic variables are related to the identification of chance and it is possible that when asked directly, the members may not be as willing or able to identify chance in their own past than if they are asked general questions about their career decisions without the label of chance. By the same token, the questions in the vignette never specifically discussed chance; therefore, if any barrier was

present towards directly assessing chance to the other person it would not have been present. Future research may benefit from participants not only being asked to identify the impact of chance and non-chance factors, but to also be specifically asked if they felt that chance factors played a role in the character's career development. This could potentially illuminate any differences between direct and indirect identification of chance in another person.

It is also possible that some variables labeled as chance factors may not be considered by the participants to be outside of their control. This potential difference in the perception of chance factors could confound the results when discussing the recognition and identification of chance factors in a participant's past. Further, in clinical settings, this could lead to a possible discrepancy between what a clinician and client considers chance factors. An additional factor could be potential resistance for some individuals to attribute chance as it would imply less control over their decision making.

Craig et al's (1984) Locus of Control of Behaviour Scale was used to assess participant's locus of control and the results were then compared to the responses from the Career Vignette, List of Decision Making Influencers and Career Decision Questions. It makes logical sense that a person with an external locus of control would identify more career influencers as being outside of their control than those with an internal locus of control; and the current results appear to support that position although the relationship is not likely to be of clinical significance. Overall there was a significant positive relationship between the identification of chance and locus of control. The results indicated that the more external a participant's locus of control, the more likely they were to identify and recognize chance occurrences. Both indirect and direct identification of

chance in self were significantly related to locus of control; however, they only accounted for 4.4% of the total variance. Indirect identification of chance accounted for more of the variance in participant's locus of control scores (2%) than direct (1.5%). Interestingly though, when the three chance instruments were looked at individually, the identification of chance in others was not significantly related to locus of control. It could be suggested that individual's with an external locus of control may view others as having more control over their lives; which could account for the lack of a relationship between locus of control and the identification of chance in others (Weiner, 1982).

Previous research into the relationship between locus of control and chance has produced mixed results. Bright et al (2009) found only a moderate relationship between an external locus of control and the identification of chance factors. Denga (1984) found no relationship between chance and locus of control. The current results seem to be in line with the findings of Bright et al; the relationship is statistically significant, but the practical application relating locus of control to exploring the role of chance in career counseling may not be impactful.

Limitations

The population used for this study and some of the survey materials used could pose issues. The participants were solicited from employees at a state university, and only those who were considered full-time and in permanent positions were included. Due to the selection criteria, the participant's education and income levels were higher than the national averages (U.S. Bureau of Labor Statistics, 2010). The majority of participants reported having completed some post graduate work with a mean income between

\$51,000 and \$70,000. As was previously discussed, both education and income appear to have an impact on the identification of chance, so it is likely that the results would be different if data were collected from a more representative sample. More specifically, when you restrict the range of a variable, correlations are likely to attenuate.

Also, at the time of the data collection, the current unemployment rates were at 9.2% nationally and 6.5% in the state of Oklahoma (U.S. Bureau of Labor Statistics, 2010). All of the participants in this study were full-time employees, meaning that the responses of unemployed workers were not included in the data collection. It is likely that differences would be present for participants who are unemployed, under-employed, retired and those not in the workforce.

It is also possible that there could be cultural or regional differences which could influence responses. One example of this would be the racial/ethnic make-up of the survey sample in which Caucasians accounted for 87% of the respondents; compared estimates of 75-80% of the national population (American Community Survey, 2009).

An important limitation from the survey material is that there were few questions dedicated to the direct identification of chance in self. Because of this, the reliability of the instrument is weak and therefore could be a factor in the relationship between direct identification of chance in self and the other factors.

Future Research

Further research could benefit from obtaining a more diverse population in terms of employment categories (primarily the unemployed, retired, underemployed and those not part of the workforce) as well as racial and ethnic diversity. Future research could

attempt to further refine the manner in which individuals identify the role of chance in their previous career decision making through qualitative means. This study and others like it have established that chance factors influence career decision making, but getting more data regarding how they are impacted and the extent of the impact will be important for gaining a greater understanding of the role of chance.

Overall the results from this study suggest that the majority of participants are able to recognize and identify chance occurrences in their own past. However, the degree to which they are identifying them may be influenced by the demographics of the participant. It also appears that the ability to recognize chance in others is related to recognition of chance in the participant's past and their locus of control.

It seems clear that from the previous and current research that chance does play an influential role in people's career decisions. However, there appear to be many individual differences that mediate how they will identify chance in themselves and others. These differences could make it difficult for clinicians to make decisions about when and how to best introduce the concept of chance and its impact on career decision making. Some suggestions based on the current research would be that as most individuals are able to identify chance in their past, it would reason that in career counseling settings clients may be open to discussing chance factors as they relate to career decision making. Clients may benefit from the normalization of factors being outside of their control and learning methods for maximizing their ability to respond to opportunities and challenges. It is hoped that through further research and discussion chance factors can be integrated into career counseling in an effort to normalize decision making as well as provide a realistic perspective on the role of planning.

REFERENCES

- American Community Survey (2009). *ACS briefs: Allegany County, N.Y.*
- Bandura, A. (1982). The psychology of chance encounters and life paths. *American Psychologist*, 37, 747–755.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman
- Bandura, A. (1998). Exploration of fortuitous determinants of life paths. *Psychological Inquiry*, 9, 95–99.
- Baumgardner, S. R. (1982). Coping with disillusionment, abstract images, and uncertainty in career decision making. *Personnel & Guidance Journal*, 61(4), 213-217.
- Betsworth, D. G., Hanson, J. C. (1996). The categorization of serendipitous career development events, *Journal of Career Assessment*, 4(1), 91–98.
- Brayfield, A.H., (1964). Research on vocational guidance: Status and prospect. Part I: A critical examination of research issues. In: Borow, H., Editor, , 1964. *Man in a world of work*, Houghton Mifflin, Boston.
- Bright, J. E., Pryor, R. G., Harpham, L. (2005) The role of chance events in career decision making. *Journal of Vocational Behavior*, 66(3), 561-576.

- Bright, J. E., Pryor, R.G., Chan, E. W., Rijanto, J. (2009) Chance events in career development: Influence, control and multiplicity. *Journal of Vocational Behavior*, 75(1), 14-25.
- Caplow, T., (1954). In: *The sociology of work*, Univ. of Minnesota Press, Minneapolis.
- Craig, A. R., Franklin, J. A., Andrews, G. (1984) A scale to measure locus of control of behaviour, *British Journal of Medical Psychology*, 57 (2), 173–180.
- Crites, J. O. (1969). Vocational psychology. New York: McGraw-Hill.
- Denga, D. I. (1984) Locus of control and its relationship to occupational choice behaviour. *International Review of Applied Psychology*, 33(3), 371-379.
- Friedland, N. (1992). On luck and chance: Need for control as a mediator of the attribution of events to luck. *Journal of Behavioral Decision Making*, 5(4), 267-282.
- Gelatt, H. B. (1989). Positive uncertainty: A new decision-making framework for counseling. *Journal of Counseling Psychology*, 36(2), 252-256.
- Gergen, K. J. (1977). On taking dialectics seriously, *Personality and Social Psychology Bulletin*, 3 (4), 714-718.
- Guindon, M.H.; Hanna, F.J.(2002) Coincidence, happenstance, serendipity, fate, or the hand of god: Case studies in synchronicity, *Career Development Quarterly*, 50, 195–209.
- Hall, D.T. (2004). The protean career: A quarter-century journey. *Journal of Vocational Behavior*, 65, 1-13.
- Hart, D. H., Rayner, K., Christensen, E. R., (1971). Planning, preparation and chance in occupational entry. *Journal of Vocational Behavior*, 1, 279–285.

- Heppner, M. J., Multon, K. D., Gysbers, N. C., Ellis, C. A., & Zook, C. E. (1998). The relationship of trainee self-efficacy to the process and outcome of career counseling. *Journal of Counseling Psychology, 45*, 393–402.
- Holland, J.L. (1966). *The psychology of vocational choice*. Waltham, MA: Blaisdell.
- Holland, J.L. (1997). *Making vocational choices: A theory of vocational personalities and work environments* (3rd ed.). Odessa, FL: Psychological Assessment Resources.
- Janzen, H. L., Boersma, F. J. (1976). Locus of control and its relationship to moral development. *Alberta Journal of Educational Research, 22*(3), 237-244.
- Krantz, D.L. (1998). Taming change: Social science and everyday narratives. *Psychological Inquiry, 9*, 87–94.
- Krumboltz, J. D. (1979). A social learning theory of career decision making. In A. M. Mitchell, G. B. Jones, & J. D. Krumboltz (Eds.), *Social learning and career decision making* (22-44). Cranston, RI: The Carroll Press.
- Krumboltz, J. D. (1998) Serendipity is not serendipitous, *Journal of Counseling Psychology, 4*, 390–392.
- Krumboltz, John D. (2009). The Happenstance Learning Theory. *Journal of Career Assessment, 17*(2),135-154.
- Miller, D. C., & Form, W. H. (1951). *Industrial sociology*. New York: Harper & Bros.
- Miller, M. J. (1983) The role of happenstance in career choice, *Vocational Guidance Quarterly, 32* (1), 16–20.
- Miller, M. J., Wadsworth, E. R., Springer, T. P. (1991). Chance receptivity as a function of self-concept: An exploratory study. *Perceptual and Motor Skills, 72*(1), 291-295.
- Mitchell, K. E., Levin, A. S., Krumboltz, J. D. (1999). Planned happenstance:

- Constructing unexpected career opportunities, *Journal of Counseling and Development*, 77(2), 115–125.
- Osipow, S. H. (1973). *Theories of career development* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.
- Parson, F. (1909). *Choosing a Vocation*. Boston: Houghton Mifflin.
- Phillips, S. D., (1994). Convergence in career development theories: Implications for science and practice. Savikas, Mark L. (Ed.); Lent, Robert William (Ed.); 155-163. Palo Alto, CA, US: CPP Books, 1994. ix, 294 pp.
- Rae, D. (2008). Riding out the storm: graduates, enterprise and careers in turbulent economic times, *Education + Training*, 50 (8/9), 748 – 763.
- Roe, A., Baruch, R. (1967) Occupational changes in the adult years, *Personnel Administration*, 30(4), 26–32.
- Rotter, J.B. (1966) Generalized expectancies for internal versus external control of reinforcement, *Psychological Monographs (General and Applied)*, 80(1), 1–28.
- Salomone, P. R., & Slaney, R. B. (1981). The influence of chance and contingency factors on the vocational choice process of non-professional workers. *Journal of Vocational Behavior*, 19, 25-35.
- Scott, J., Hatalla, J. (1990) The influence of chance and contingency factors on career patterns of college-educated women. *The Career Development Quarterly*, 39(1), 18-30.
- Sullivan, S.E., Arthur, M.B. (2006). The evolution of the boundaryless career concept: Examining physical and psychological mobility. *Journal of Vocational Behavior*, 69, 19-29.

- Super D. E. (1990). A Life-span, life-space approach to career development. In D. Brown, L. Brooks, & Assoc. (Eds.), *Career choice and development: Applying contemporary theories to practice* (2nd ed. 197-261).
- Super, D.E., 1957. In: *The psychology of careers*, Harper & Row, New York.
- U.S. Department of Labor, 1965. In: *Dictionary of occupational titles*, U.S. Govt. Printing Office, Washington, D.C.
- U. S. Bureau of Labor Statistics. (2010). *Employment Situation Summary: Washington; D.C.*
- Vondracek, F.W., Lerner, R. M., Schulenberg, J. E. (1983) The concept of development in vocational theory and intervention. *Journal of Vocational Behavior*, 23(2), 179-202.
- Weiner, B. (1982) An attribution theory of motivation and emotion. *Series in Clinical & Community Psychology: Achievement, Stress, & Anxiety*, 223-245.
- Williams, E. G. (1965). *Vocational Counseling*. New York: McGraw-Hill
- Williams, E. N., Soeprapto, E., Like, K., Touradji, P., Hess, S., Hill, C. E. (1998) Perceptions of serendipity: Career paths of prominent academic woman in counseling psychology, *Journal of Counseling Psychology*,45(4), 379–389.

APPENDICES

APPENDIX A
DEMOGRAPHIC INFORMATION SHEET

Demographic Information Sheet

Please check the response that best fits you:

1. What is your gender?

_____ a. Male (01)

_____ b. Female (02)

2. What is your age? _____

3. What is your race/ethnicity?

_____ a. White/Anglo (01)

_____ b. Black/African American (02)

_____ c. Hispanic/Latino(03)

_____ d. Asian American (04)

_____ e. American Indian (05)

_____ f. Other _____ (06)

4. What is your level of completed education?

_____ a. High School (01)

_____ b. Some College (02)

_____ c. College Graduate (03)

_____ d. Some Post Graduate (04)

_____ e. Graduate Degree (05)

5. What is your employment category (or closest match) at Oklahoma State University?

_____ a. Executive, Administrative or Managerial (01)

_____ b. Accounting and Finance (02)

_____ c. Administrative support (03)

_____ d. Security (Police) (04)

_____ e. Medical (05)

_____ f. Technical/Paraprofessional (06)

_____g. Information Technology (07)

_____h. Athletic (08)

_____i. Faculty/Instructor (09)

_____j. Service/Maintenance (10)

_____k. Skilled Craft/Trades (11)

_____l. Other_____ (12)

6. How satisfied are you with your current employment?

_____a. Very Unsatisfied (01)

_____d. Satisfied (04)

_____b. Unsatisfied (02)

_____e. Very Satisfied (05)

_____c. Neutral(03)

7. What is the approximate level of your total household income?

_____a) under \$15,000 (01)

_____d) \$51,000-70,000 (04)

_____b) \$15,000-30,000 (02)

_____e) \$71,000-90,000 (05)

_____c) \$31,000-50,000 (03)

_____f) over \$90,000 (06)

APPENDIX B
CAREER VIGNETTE

Directions: Please read the following vignette and respond to the questions below.

Jaime is 37 years old and Vice President of Sales for a paper manufacturer. While a junior majoring in Human Relations; Jaime's father passed away unexpectedly. After the death, Jaime had to leave school and return home to care for a younger sibling.

Unemployment levels were high when Jaime moved home. Jaime took a job as an office assistant and maintained this position for the next few years. While Jaime's work was not personally satisfying, or one in which advancement could be made, the income was enough to make ends meet.

Through a conversation with a friend, Jaime learned of a paper manufacturing company in the area that was looking for managers. Jaime decided to apply, and was hired on full time. For the first two years of employment, Jaime's managerial skills developed and the extra income made it possible to attend night classes. Near the end of the second year of employment in the new position, Jaime finished a bachelor's degree in Human Relations.

During Jaime's third year of employment, the Vice President of Sales took an early retirement. Jaime's education and work experience were sufficient for the job description. Jaime submitted an application for the newly opened position and was promoted to Vice President of Sales. Jaime has maintained this position for the last 10 years and plans to retire with the company.

How influential do you feel the following factors were on Jaime's career path?

Rate:

1	2	3	4	5
None	Not much	Neutral	Some	Very

- 1) _____ Education level
- 2) _____ *Unexpected personal events
- 3) _____ *Family Demands
- 4) _____ Work Experience
- 5) _____ *National or Local Economic Factors
- 6) _____ Having enough money for schooling or training
- 7) _____ Awareness of skills and abilities
- 8) _____ *Getting unexpected information about job openings

*Chance Factors

APPENDIX C
THE LIST OF DECISION-MAKING INFLUENCERS
SALOMONE & SLANEY, 1981

The List of Decision-Making Influencers

Salomone & Slaney, 1981

Directions: Please rate the following factors as to what extent each may have influenced your career choices:

-
- 1) None 2)Some 3) Great
1. ____ National or local economic situations
 2. ____ My father's occupation
 3. ____ My educational level
 4. ____ Having to serve in the military
 5. ____ My sex
 6. ____ My ethnic or racial background
 7. ____ Strikes
 8. ____ My social standing
 9. ____ My vocational training opportunities
 10. ____ My religious background
 11. ____ Local disasters-floods, hurricanes, etc.
 12. ____ My financial responsibilities to others
 13. ____ Having enough money for my schooling or training
 14. ____ Getting unexpected information about job openings
 15. ____ Being aware of vocational opportunities
 16. ____ The level of unemployment in my community
 17. ____ My physical capacities or limitations
 18. ____ Unexpected information about schooling or training
 19. ____ Being aware of my own intelligence level
 20. ____ Receiving unexpected financial support
 21. ____ Family, community, or cultural influences on me

22. ____ Being aware of occupations open or not open to me
23. ____ Being aware of my skills and abilities
24. ____ My physical or mental health
25. ____ Unexpected personal events in my life
26. ____ Other personal qualities about me
27. ____ Other unexpected or unpredictable events

APPENDIX D

LOCUS OF CONTROL OF BEHAVIOUR SCALE

CRAIGE ET AL, 1984

Locus of Control of Behaviour Scale*

Directions: Below are a number of statements about how various topics affect your personal beliefs. There are no right or wrong answers. For every item there are a large number of people who agree or disagree. Could you please put in the appropriate space the choice you believe to be true?

Answer all the questions.

0	1	2	3	4	5
Strongly disagree	Generally disagree	Somewhat disagree	Somewhat agree	Generally agree	Strongly agree

1. ___ I can anticipate difficulties and take action to avoid them
2. ___ A great deal of what happens to me is probably just a matter of chance
3. ___ Everyone knows that luck or chance determine one's future
4. ___ I can control my problem(s) only if I have outside support
5. ___ When I make plans, I am almost certain that I can make them work
6. ___ My problem(s) will dominate me all my life
7. ___ My mistakes and problems are my responsibility to deal with
8. ___ Becoming a success is a matter of hard work, luck has little or nothing to do with it.
9. ___ My life is controlled by outside actions and events.
10. ___ People are victims of circumstance beyond their control.
11. ___ To continually manage my problems I need professional help
12. ___ When I am under stress, the tightness in my muscles is due to things outside my control.
13. ___ I believe a person can really be a master of his fate.
14. ___ It is impossible to control my irregular and fast breathing when I am having difficulties.
15. ___ I understand why my problem(s) varies so much form one occasion to the next.
16. ___ I am confident of being able to deal successfully with future problems.
17. ___ In my case maintaining control over my problem(s) is due mostly to luck

APPENDIX E
CAREER DEVELOPMENT QUESTIONS

***Definition:** Chance Career Events are defined as those that were not planned or predictable but that had a significant influence on your career.

1) To what extent do you feel chance career events have influenced your career decisions?

1	2	3	4	5
Not at all	Not much	Neutral	Some	Very

1) To what extent do you feel your career decisions have been planned and intentional?

1	2	3	4	5
Not at all	Not much	Neutral	Some	Very

1) To what extent do you feel your future career decisions are under your control?

1	2	3	4	5
Not at all	Not much	Neutral	Some	Very

* Betsworth & Hansen, 1996

APPENDIX F
INFORMED CONSENT FORM

Informed Consent Form

For participation in a research investigation

Conducted under the auspices of Oklahoma State University

This study is entitled **An Investigation of Career Decision Making Factors**. The principal investigator is Joseph Dunnigan BA, under the supervision of Don Boswell, PhD: dissertation advisor.

This is a web-based study that will gather information about the kinds of experiences you have had throughout your life that have influenced your career decisions. You will be asked to complete the attached demographic information sheet and questionnaires. The demographic information sheet and questionnaires will provide information about your background, education and employment history as well as how you view the history of others. It is expected that it will take approximately 20 to 30 minutes to complete the questionnaires.

This form is designed to obtain your consent to participate in this research project. Participation and data collection for this study will occur only during the fall semester of 2010 and the results will be reported in aggregate form. The data will be collected through this online survey and your identity and IP address will not be obtained or recorded to ensure your privacy. The on-line survey was constructed using Microsoft Office FrontPage 2003 and is hosted on the Oklahoma State University FrontPage server. Data from the study will be stored on the Oklahoma State University FrontPage server until data collection ends, approximately 30 days after collection begins. During that time the data will be password protected and will only be accessed by the primary investigator; Joseph Dunnigan. The campus server administrator and college server administrator have record of the password, but do not access the data unless in the event of a server error. After the data collection period has ended the data will be downloaded and erased from the server. The data will be stored on password protected drive in the office of the primary investigator for up to a period of 5 years after which time it will be erased. Potential benefit to society includes a greater understanding of how individuals make career decisions. There are no anticipated risks that are greater than would be encountered in your daily life.

An incentive will be provided for participation in this study in the form of a drawing for one (1) \$100 gift card from the University Bookstore. If you would like to participate in the drawing at the end of the survey an email address will be provided and you will be asked to provide your name and a phone number you can be reached at. This information will be sent to a secure email address that is only accessible by the primary investigator

and the email will not be connected to your survey results. The drawing will be held one week following the end of data collection (approximately October 7th, 2010).

Contacts:

For answers to pertinent questions about the research you may contact Joseph Dunnigan (joseph.dunnigan@okstate.com), or Dr. Don Boswell (405 744- 9454; boswell@okstate.edu). If you have questions about your rights as a research volunteer, you may contact the Oklahoma State University Institutional Review Board (IRB) Chair, Dr. Shelia Kennison, 219 Cordell North, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu.

Participant Rights:

Your participation in this research is voluntary. You can discontinue the survey at any time without penalty. However to be eligible for the drawing you will need to complete the survey.

Consent:

I have read and fully understand this consent form. I understand that my participation is voluntary and that there is no penalty for refusal to participate. By clicking below, I am indicating that I freely and voluntarily agree to participate in this study and I also acknowledge that I am at least 18 years of age.

It is recommended that you print a copy of this consent page for your records before you begin the study by clicking below.

APPENDIX G
EMAIL SOLICITATION

Subject:

Research Invitation: Factors in Career Decision Making and Drawing for a \$100 gift card

Body:

Dear OSU Faculty and Staff,

Greetings, my name is Joseph Dunnigan and I am a doctoral candidate in Counseling Psychology. I would greatly appreciate your help with my Ph.D. dissertation entitled: **An Investigation of Career Decision Making Factors**. As part of this research study, I am requesting that you answer a few questions about your background, attitudes and career history.

The purpose of this study is to learn more about what factors influence career paths and decision making.

As an added incentive I am offering one (1) \$100 gift card to the University Bookstore that will be given away to one (1) participant who completes this survey in a random drawing. After completion of the survey you will be given directions on how to be entered into the drawing should you wish to participate.

If you are interested in participating in this study please click the link below to view the informed consent form.

<http://frontpage.okstate.edu/coe/josephdunnigan/>

Sincerely,

Joseph Dunnigan
Clinical Counselor
Student Counseling Center
001 North Cordell
Oklahoma State University
Stillwater, OK 74078
(405) 744-5472

Oklahoma State University Institutional Review Board

Date: Wednesday, August 25, 2010
IRB Application No ED10111
Proposal Title: An Investigation of Career Decision Making Factors

Reviewed and Exempt
Processed as:

Status Recommended by Reviewer(s): Approved Protocol Expires: 8/24/2011

Principal

Investigator(s):

Joseph Dunnigan
1806 W. 18th Ct.
Stillwater, OK 74074

Donald Boswell
406 Willard
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

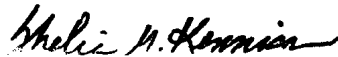
The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,



Shelia Kennison, Chair
Institutional Review Board

VITA

Joseph R. Dunnigan

Candidate for the Degree of

Doctor of Philosophy

Thesis: CHANCE EVENTS IN CAREER DEVELOPMENT: FACTORS
INFLUENCING THE PERCEPTION OF THE IMPACT OF CHANCE

Major Field: Counseling Psychology

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Counseling Psychology at Oklahoma State University, Stillwater, Oklahoma in May, 2011.

Completed the requirements for the Bachelor of Arts in Psychology at Kent State University, Kent, Ohio in 2000.

Experience:

Senior Clinical Counselor- Oklahoma State University
May, 2008 to present

Safe Families Program Supervisor- North Care Community Mental Health
December, 2006 to January, 2008

Intern Counselor- Grand Valley State University
July, 2005 to July, 2006

Professional Memberships:

American Psychological Association

Name: Joseph Dunnigan

Date of Degree: May, 2011

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: CHANCE EVENTS IN CAREER DEVELOPMENT: FACTORS
INFLUENCING THE PERCEPTION OF THE IMPACT OF CHANCE

Pages in Study: 70

Candidate for the Degree of Doctorate of Philosophy

Major Field: Counseling Psychology

Scope and Method of Study:

This study investigates how individuals perceive the impact of chance occurrences in their own career history as well as the career history of others. Participants responded to five instruments including a Demographic Information Sheet, List of Decision Making Influencers, Career Vignette with a fictional character's career history, Locus of Control of Behaviour Scale and Career Development Questions.

Findings and Conclusions:

Results from the study indicate that the majority of participants were able to identify at least one chance occurrence that influenced their career decisions. Participant's demographic factors including gender, age, education level, job satisfaction and income level appeared to influence the recognition of chance. A positive correlation was found between participant's ability to identify chance in their own career history and identify chance in another's history. It was also found that an external locus of control was positively correlated with a participant's ability to recognize chance occurrences in themselves and others. These results provide further clarification as to the role that chance occurrences play in career development.

ADVISER'S APPROVAL: Dr. Donald L. Boswell
