A COMPARATIVE STUDY OF THE ENTREPRENEURIAL ORIENTATION
OF SCHOOL PRINCIPALS WITHIN
CHARTER SCHOOLS AND TRADITIONAL PUBLIC SCHOOLS

A dissertation submitted in partial fulfillment of the requirements
For the Doctor of Education in Educational Leadership

by

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Abstract

A COMPARATIVE STUDY OF THE ENTREPRENEURIAL ORIENTATION OF SCHOOL PRINCIPALS WITHIN CHARTER SCHOOLS AND TRADITIONAL PUBLIC SCHOOLS

by

Victor Manuel Torres

Doctor of Education in Educational Leadership

This research compared the entrepreneurial orientation (EO) of principals working within traditional public schools and charter schools. In addition, this study examined school level, primary versus secondary, gender, and years of experience in relation to EO. The study of EO as a construct has emerged over the past 40 years within the business sector and has shown that EO has positive effects that predict the creation of new and innovative products and services. According to Lumpkin and Dess (1996), “entrepreneurial activity or processes may, at times, lead to favorable outcomes on one performance dimension and unfavorable outcomes on a different performance dimension” (p. 153). It is nearly impossible to be proficient in all five areas of EO. Often times those who have a strong sense of innovation excel in one area but may not be strong in the other components of entrepreneurialism (Lumpkin & Dess, 1996). Since the EO construct has been empirically studied for 40 years in the field of business, it stands to reason that incorporating EO research into education may benefit the education field as schools are pressured to be more competitive and innovative. Advocates claim that charter school principals are more entrepreneurial. According to Sobel and King (2008), “school choice programs create an atmosphere of competition, innovation, and risk-
taking within the administrative infrastructure of schools” (p. 429). This quantitative study adapted an EO instrument to measure the EO 403 California school principals within both charter schools and traditional public schools to test this assumption. Results show that principals working within the traditional public schools have a stronger EO then charter school principals, despite many claims to the contrary. In addition, that data indicates that the more years of experience the principal has the lower his or her entrepreneurial orientation.
Chapter 1: Statement of the Problem

This research compared the entrepreneurial orientation (EO) of principals working within traditional public schools and charter schools. In addition, this study also examined how school level (elementary or secondary), gender and years of experience are associated with entrepreneurial orientation.

Researchers within the business sector have conducted numerous studies of the EO of managers and the results have shown to have a positive impact on the company’s “product-market domains and consequently enhance sales growth in the long run” (Lumpkin & Dess, 1996). The field of education has become interested in the entrepreneurial characteristics of educators as schools are expected to be competitive and innovative. The research that has been conducted on one or two components of the entrepreneurial characteristics has shown the positive effects of entrepreneurship within the school setting (Hietanen, Uusiautti, & Maatta, 2014; Sobel & King, 2008). Sobel and King (2008) conducted a study focusing on the entrepreneurial activity being a source of economic growth and how the effects of leading a school utilizing entrepreneurship affect students.

According to Sobel and King (2008), “school choice programs create an atmosphere of competition, innovation, and risk-taking within the administrative infrastructure of schools” (p. 429). In addition, Davis and Molnar (2014), studied strategies that have been used by entrepreneurs operating in the business world and compared them to the approaches that are currently being used by K-12 principals to help manage and run their schools. As a part of their research, they spoke to principals about their ideas of how to utilize entrepreneurship within the school setting and found that
“principals have to be willing to think outside of the traditional institution box and take a risk” (Henry M. Smith, as cited in Davis & Molnar, 2014, para 4). There are many ways in which entrepreneurialism is transforming how principals run schools. Davis and Molnar (2014) state that, “principals’ interest in branding and marketing their schools, and in some cases even their own personas, has grown over time” (para 11). In branding and marketing their schools, these principals are able to become more proactive, competitive and innovative in the ways that they communicate with the community. In comparing business entrepreneurs to public school principals, David and Molar (2014), have found that within the private sector, businesses have more autonomy with how they make decisions, and spend money because unlike public school principals they do not have to answer to any “superintendents, school boards and parents” (David & Molnar, 2014, para. 5).

Smith and Perterson (2006) wrote an article on educational entrepreneurship and described new and innovative ways to deliver education. External and former educators came together to create revolutionized school system that combined both technology and current teaching methods. Their ability to create new and innovative educational models has changed the educational landscape by creating online blending models. For example, Rocketship Education used innovative strategies in how they were able to alter the method for elementary education through a blended learning model that incorporates a rigorous curriculum with embedded on-line instruction and a traditional classroom setting on a daily basis (Schorr & McGriff, 2012). In addition, Khan academy uses innovative instructional strategies within their curriculum to meet the needs of their students. Some of those strategies include, instructional videos, and personalized learning systems. This
has empowered students to learn at their own pace both within and outside of the classroom. In addition, it has changed the way we view online instruction.

Several examples of entrepreneurship in education exist which involve people who work within the system. Many school districts have implemented various educational models that incorporate the use of both virtual online classrooms and the brick and mortar model. For example, Fillmore Unified School District in the county of Ventura, California, has developed a blended model program through the Fillmore Digital Academy, which provides students on-line classes while remaining enrolled in their current school. These students would otherwise not have this opportunity to the rural nature of the district. Another district in California, Palmdale School District, converted and/or built five Schools of Choice, affecting over 25% of their district student population. In 2009, Los Angeles Unified School District (LAUSD) undertook the largest Public School Choice Initiative (PSC) in the country by restructuring approximately 250 persistently low-performing schools. The PSC affected over 300,000 students over a three-year period (LAUSD, PSC 2.0 Report, 2010).

The specific purpose of this research was to conduct a comparative study of charter school principals and traditional public school principals to analyze the differences on the five dimensions of EO - autonomy, innovativeness, risk taking, proactiveness, and competitive aggressiveness - through the theoretical lens of Lumpkin and Dess (2006). Another component of the research focused on the comparison of primary and secondary school principals to determine if there were differences in their EO. The study also examined if gender or years of experience as a principal are related to the EO of principals.
Critics and observers believe charter school principals must be more entrepreneurial because they work autonomously within a growth-oriented organization. Triant (2001) wrote an article on how charter school principals use their freedom and found that charter school principals “are using the freedom granted to them to create schools that would not be possible if the charter law did not exist” (p. 1). Charter school principals that came from traditional public school systems have found that they are able to use their freedom to create new and innovative school environments. This research examined the EO of school site principals who are tasked with leading school sites. In addition, this study provides a base for educational researchers to begin analyzing the EO of principals.

Lumpkin and Dess (1996) conducted research in order to examine the characteristics of successful entrepreneurs within the business sector, yet little to no research has been conducted to develop an EO measure for school principals. To gain insight on these five dimensions as well as the differences between primary and secondary schools principals, the researcher conducted a quantitative research, through the use of a survey inventory tool, to compare the EO of charter and traditional public schools principals. The next section will discuss the problem statement.

**Problem Statement**

After the accountability act came out and it was evident that traditional public schools were failing, charter schools began to emerge. In creating charter schools, there was a sense of competition between charter schools and traditional public schools. Charter schools were created with the idea of creating competition and improving student achievement by establishing new and innovative programs. An assumption of this
argument is that principals within charter schools are more entrepreneurial and more innovative than traditional public schools. According to Deal and Hentschke (2005) who studied the entrepreneurialship of charter school leaders, charter school leaders are “people who are ambitious, optimistic, financially canny, driven by a compelling vision and attracted to a high-risk endeavor by the possibility of success associated with high degrees of autonomy” (p. 35). This research indicates that charter school principals are more autonomous. However, there is a lack of research that directly compares charter school principals and traditional public school principals in relation to the EO construct. The purpose of this research is to investigate whether differences exist in the EO construct of principals within charter and traditional public schools.

Currently, “California has the highest number of charter schools of any state in the country with 1,130 schools serving over 515,000 students as of fall 2013” (California Charter Schools Association 2012, para. 1). In the 2013-2014 school year, an additional 104 new charter schools were opened (California Charter Schools Association, 2012). Many districts use the idea public school choice to raise student achievement. For example, in 2009 the Los Angeles Unified School District chose to implement school choice to solve problems within the traditional public education systems (LAUSD Board Minutes, 2009). The shift to charter schools is a huge loss in student enrollment to traditional public schools. According to Cortines (2009), in the past five years, LAUSD have lost approximately 20,000 students per year to charter school competition. In theory, as more charters are brought into the public system, instructional practices will improve. Comparing the EO of principals within charter and traditional public schools will become relevant in identifying if principals within charter schools are really more entrepreneurial
than traditional public schools.

**Purpose and Significance**

The purpose of this study is to make a first attempt to see if charter school principals do have a stronger EO than traditional school principals, as the charter school movement claims. To achieve this purpose, this study compares the EO characteristics of charter school and traditional public school principals in California. Further research is needed in order to determine if charter schools have indeed brought more entrepreneurial principals into education. Reporting on the EO constructs of principals will fill a void in the current literature in relation to the characteristics of autonomy, innovation, risk-taking, competitive aggressiveness, and pro-activeness among principals.

Within this study, the researcher investigated whether or not charter school principals and traditional public school principals differ on the five dimensions of EO construct (autonomy, innovativeness, risk taking, pro-activeness, and competitive aggressiveness). There are many studies of EO outside the field of education. In fact, EO has been referenced in over 256 scholarly journal articles (Covin & Lumpkin, 2011). The interest in EO appears to be growing at a rapid pace; 109 of the 256 scholarly journal articles have been published between 2008 and 2010 (Covin & Lumpkin, 2011). However, there have not been any studies conducted that directly compare principals of traditional public schools and charter schools. Thus, additional studies are needed to determine the implications in empowering entrepreneurial principals within education. The next section will share the research questions for this study.
**Research Questions**

The fundamental research question this study asks is: Do charter school principals and traditional public school principals differ from each other in the entrepreneurial orientations controlling for gender, experience as a principal and the school level (primary or secondary level). Additional sub questions investigated include:

(a) Do charter school principals and traditional public school principals differ on the five dimensions of entrepreneurial orientation construct (autonomy, innovativeness, risk taking, pro-activeness, and competitive aggressiveness) controlling for gender, experience as a principal and the school level (primary or secondary level)

(b) Are male principals and female principals different from each other in the entrepreneurial orientations?

(c) Are primary principals and secondary principals different from each other in the entrepreneurial orientations?

(d) Do years of experience as a principal have an effect on the entrepreneurial orientation of a principal?

In developing a tool that can measure to see if charter principals have a stronger EO than traditional public school principals, this research is testing the claim that charter school principals are more likely to be entrepreneurial and innovative. Entrepreneurial orientation of principals may provide districts with a tool to predict a school’s success. Subsequent researchers may investigate questions such as: Should districts require principals to obtain entrepreneurial characteristics in order to run a school? Do principals with EO enhance student achievement?
Theoretical Framework

The primary theoretical lens that was used to measure EO within the study is the EO construct of Lumpkin and Dess (1996). Lumpkin and Dess’s (1996) construct of EO is widely accepted in the field of entrepreneurship and referenced by many different researchers. In recent years, researchers have attempted to adapt the EO construct, which was originally developed within the business sector, to the field of education. In a study conducted by Petri (2013), a survey instrument was developed focusing on the EO dimensions of innovation, pro-activeness and risk taking in teachers within charter, private, and traditional public schools in the state of California. This study used the instrument developed by Petri (2013) with modifications to focus on the EO of principals within both charter schools and traditional public schools.

Lumpkin and Dess (1996) described EO as “the dimensions that include a propensity to act autonomously, a willingness to innovate and take risks, a tendency to be aggressive toward competitors, and proactive relative to opportunities” (p. 4). These dimensions refer to the processes, practices, and decision making activities that lead to opening up alternate forms of education or creating innovative ways to deliver existing goods or services (Lumpkin & Dess, 1996). Lumpkin and Dess (1996) also refer to entrepreneurship as entry into a new market or previously established markets. The next section will provide an overview of the research.

Overview of Methodology

This quantitative study employs an EO instrument, which is a 27-item Likert scaled survey that measures principals’ entrepreneurial orientation, that includes
individual values for five constructs: (a) Autonomy, (b) Innovativeness, (c) Pro-
activeness, (d) Risk Taking and (e) Competitive Aggressiveness.

This study invited approximately 7,824 principals within the state of California to
complete the EO instrument on-line. The population was divided into two subgroups:
traditional public school principals and charter school principals.

This research created a body of knowledge within the educational community on
the five dimensions that make up the EO construct. Additionally, this study measured the
pervasiveness and distribution of these factors among principals in charter and traditional
public schools in the state of California, and how these constructs relate to level of
school, gender, and years of experience.

Delimitations

As defined by Mauch and Birch (1993), delimitations are factors that may affect
the study, but are controlled by the researcher. This study invited approximately 7,824
principals, from both traditional public and charter schools within California. This study
utilized the California Department of Education (CDE) list of schools database to solicit
principals within the state. An e-mail request to participate was sent to principals along
with a link to complete the survey. All data was collected anonymously and there was no
method in which to identify principals who have participated in the study. However, the
data analysis considered differences between traditional public schools and charter
schools, genders, and school setting.

Limitations

A limitation is defined, as “a factor that may or will affect the study in an
important way, but is not under control of the researcher” (Roberts, 2012, p. 139). This
study focused on the EO construct and a Likert scaled instrument. However, this instrument was designed to measure the EO of school principals who do not have the same educational background, philosophy, and population of students and staff. Since the instrument for use in evaluating the EO of principals is a comparison of charter schools and traditional public schools, there may be questions about the amount of honesty each principal uses when answering the survey.

Since this study is limited to California, it is questionable whether the findings that are presented within this research can be used to generalize to all principals within traditional public schools and charter schools. Furthermore there may be additional influences outside of the areas of autonomy, innovativeness, pro-activeness, risk-taking, and competitive aggressiveness that contribute to differences in principals in different school settings. However, those factors are outside the scope of this study and such discrepancies will remain unaccounted for and unmeasured within this study. The next section will provide definitions of key terms used.

**Definition of Key Terms**

The following key terms will be used in this study: *educational entrepreneur, entrepreneurial construct, entrepreneurship, charter schools, traditional public schools, and entrepreneurial orientation*. Although each of these terms has several definitions from many different authors, the terms defined here are the definitions that the researcher chose to use in this study. A more in-depth discussion of the terms by key theorists will be discussed in chapter two.

For the purposes of this research, the researcher used the definition of *entrepreneurial construct* based on research conducted by Lumpkin and Dess (1996).
Lumpkin and Dess (1996) defined entrepreneurial construct as having “five dimensions—autonomy, innovativeness, risk taking, pro-activeness, and competitive aggressiveness” (p. 136), which will be explained in more in detail within the literature review in chapter two.

The World Economic Forum defined entrepreneurship as:

“a process that results in creativity, innovation and growth. Innovative entrepreneurs come in all shapes and forms; it benefits are not limited to startups, innovative ventures, and new jobs. Entrepreneurship refers to an individual’s ability to turn ideas into action and is therefore a key competence for all, helping young people to be more creative and self-confident in whatever they undertake” (2009, p. 9).

The California Department of Education (2014) defines Charter schools as “a public school that may provide instruction in any combination of grades (kindergarten through grade twelve)” (para. 2). CDE goes on to say that,

“the law grants chartering authority to county boards of education and the State Board of Education under certain circumstances, such as the appeal of a petition’s denial by a school district governing board or the direct approval of countywide benefit or statewide benefit charter schools. The specific goals and operating procedures for a charter school are detailed in the agreement (the charter) between the authorizing entity and the school’s organizers. Charter status frees the school from many of the state statutes and regulations that apply to school districts” (CDE, 2014).

According to Lumpkin and Dess (1996), entrepreneurial orientation refers to the “processes, practices, and decision-making activities that lead to new entry” (p. 136). The next section will provide the layout and organization of the dissertation.

**Organization of Dissertation**

This study examined the EO constructs of both charter and traditional public school principals. One goal of the study is to refine the Administrators Entrepreneurial Orientation instrument that will measure the EO of the principals so that additional
researchers can increase the scope of inquiry into administrative entrepreneurial characteristics. This dissertation reviewed the literature on innovation in education, school choice programs, and research that investigates the personality characteristics of principals and entrepreneurs. It may be beneficial to look at the literature on school choice through the lens of the constituent who benefits from the program. Thus, the literature review will look at choice programs from the viewpoint of how existing schools utilize entrepreneurial characteristics before segueing into the body of knowledge that examines entrepreneurial characteristics.

The third chapter will elaborate on the methods used to address the research questions in this study. This section will describe the research design, research setting, sample selection, the instruments and procedures used, data collection, and how the data was analyzed.

The fourth chapter will report the results of the study. This section will provide tables and data analysis based on the research questions.

Finally, the last chapter will provide a detailed interpretation and analysis of the results from the study along with implications for practice and recommendations for future research.
Chapter 2: Review of the Literature

The purpose of this research was to conduct a comparative study of the EO of principals within charter schools and traditional public schools within the state of California. The literature review discusses the history of the public school system, defines traditional public schools and charter schools, reviews the beginning of educational accountability, and examines the components of the EO construct and the educational entrepreneur.

History of the Public School System

The U.S. Constitution makes no reference to schools or education. Bankston (2010), states “the absence of any mention of education evidently leaves educational policy, from a constitutional perspective, exclusively in the hands of local or state authorities” (p. 185). When the school system was created, schools were closely identified with local communities and “it probably never occurred to any of the framers of the Constitution that education might be a concern of any higher level of government” (Bankston, 2010, p. 185). However, according to Kefauver (1946), “it is a fact that under the Tenth Amendment of the Constitution of the United States [that] the control of education is a power reserved to the States or to the people” (p. 44). With that said, states do control schools, but the federal government has the right to grant financial assistance to the states to promote general warfare, and this may include education.

In 1958, the first major national education bill, called National Defense Education Act (NDEA), which included $900,000,000 for schools over four years for purposes such as “creating a national curriculum through grants to specific areas of study, funding for testing and counseling of students, and money for teaching training” (Bankston, 2010, p.
186). The federal government also provided money to schools for each student in attendance. Between the years of 1961 and 1981 the amount given to each school site per student rose from $138 to $563 and then increased again in 2005 to $993 per student (Bankston, 2010). However, students must be in school in order for schools to get the money.

**Traditional Public Schools**

The California Department of Education (2014),

“defines a public school as a kindergarten through grade twelve and/or adult educational institution that: Is supported with public funds, is authorized by action of and operated under the oversight of a publicly constituted local or state educational agency to provides educational services to all students enrolled” (para 4).

Public schools are run by local school districts and serve children from grades K-12. A district is funded primarily from state money. In addition, funds are supplemented by federal sources. School boards, whose members are elected by the community, run and operate the local school districts. Teachers are often unionized and protected by tenure. The current public school system serves approximately 50.1 million students nationally that attend both elementary and secondary public schools (CDE, 2014).

Enrollment within the public school system can be very transient and differ because “enrollment changes are largely reflective of demographic changes” (National Center for Education Statistics, 2014). For example, according to CDE (2014), the current public school system serves approximately 50.1 students nationally and by the year 2023 the “total public school enrollment is projected to increase by 5 percent, to 52.1 million students” (National Center for Education Statistics, 2014).
In recent years with the centralization of services by many school districts, there appears to be a lack of resources available to implement meaningful change at the school site level. According to Hess (2013), in a centralized system, resources are pulled together and managed by the central office in order to provide schools with the needed services. Because the central office is tasked to provide such support to the schools sites, the amount of funds distributed to the school sites after such services have been provided may be limited. Although the budgets that the principals receive have some flexibility, the majority of the monies that schools receive are preset and determined by state or districts, hence limiting the flexibility principals have with their site budget. Such limitations have an effect on administrators’ ability to become a true entrepreneur.

**School Accountability**

In 1965 the Johnson Administration’s war on poverty campaign began. As part of War on Poverty, Congress passed the Elementary and Secondary Education Act of 1965 (ESEA). The goal of this act was to help improve education for all students, especially those that came from lower-income families. The law would provide federal funds to support students in grades K-12. The Elementary and Secondary Education Act of 1965 has become the largest source of federal spending within elementary and secondary education. According to New America Foundation (n.d.), “school districts serving lower income students often receive less state and local funding than those serving more affluent children” (para. 2). Since the foundation of ESEA in 1965, the act has been rewritten and reauthorized seven different times. The latest version of the act brought forth our most resent law, the No Child Left Behind (NCLB) Act, that was passed in January of 2002, bringing sweeping changes to school accountability.
The NCLB Act made schools accountable for their academic performances and mandated schools to partake in standardized tests and report their performance scores statewide in order to receive federal funding. Schools that fell below state academic improvement targets were penalized. With the new accountability regulation act, parents were provided more opportunity to choose where their children went to school. Schools of choice “infuse[d] competition within the public sector” and over time the idea of having schools of choice became more appealing to some (Wohlstetter, Malloy, Smith & Hentschke, p. 323). Changes were beginning to rapidly happen within the school system.

**American School System**

After more then two decades of reform, the American school system currently has evolved into a system of high-stakes testing and accountability for student achievement. Since the shift of accountability in the schools has taken place, there has been a focus on student achievement that we have never seen before. According to Lubienski (2003), such reforms have brought many benefits to the public education system such as a focus on individual students subgroups, curriculum alignment, and teacher accountability. However, evidence does not show that it has actually led to more student achievement (NAEP, 2013). Present day reforms have adapted new models of student accountability through the use of technology for student testing and the introduction of new Common Core standards throughout many states. In addition, the accountability movement led to the opening of more charter schools.
Charter Schools

The California Department of Education (2014) defines Charter schools as “a public school that may provide instruction in any combination of grades kindergarten through grade twelve” (para. 2). CDE goes on to say that, “the law grants chartering authority to county boards of education and the State Board of Education under certain circumstances, such as the appeal of a petition’s denial by a school district governing board or the direct approval of countywide benefit or statewide benefit charter schools. The specific goals and operating procedures for a charter school are detailed in the agreement (the charter) between the authorizing entity and the school’s organizers. Charter status frees the school from many of the state statutes and regulations that apply to school districts” (CDE, 2014).

In response to NCLB and the emphasis on school accountability, charter schools were created to create competition for traditional public schools. The first law authorizing charter schools was the state of Minnesota in 1991, (Minn. Stat. ch. 265, article 9, § 3, 1991). The first charter school opened their doors in 1992. Charter schools today serve approximately 1.8 million children in 41 states (National Center for Education Statistics, n.d.). Since the creation of charter schools, researchers have found that this form of competition forces traditional schools to improve their performance and practices to attract and retain students (Zimmer & Buddin, 2009; Wolf, 2011; Davis, 2013). In addition to creating competition, the addition of charter schools within the school systems also allows parents a choice in the type of school they would like their children to attend.

The National Alliance for Charter Schools is an organization in favor of the charter movement expanding and offers background information on charter schools in the nation. National Alliance for Public Charter Schools (n.d.) states that “charter schools are unique public schools that are allowed the freedom to be more innovative while being held accountable for advancing student achievement” (para. 1). National Alliance for
Public Charter schools (n.d.) goes on to say, “the core of the charter school model is the belief that public schools should be held accountable for student learning” (para. 2).

Charter schools are independent organizations that need entrepreneurial leadership to overcome a number of challenges. Charter school regulations differ from state to state. Generally a charter school is granted permission to operate independently from the school district, but they still have to meet the state accountability requirements in order to receive funds. According the Hess (2007), “new charter schools… face enormous difficulties gaining access to venture capital and facilities” (p. 27). Another challenge for charter schools is that “unlike traditional public schools, which depend on the district’s central office for essential goods and services (curriculum and instruction, facilities, administrative support, and funding), charter schools often must amass resources for themselves” (Wohlstetter, Malloy, Smith & Hentschke, 2004, p. 328). However, as charter schools continue to develop and grow, Charter Management Organizations (CMOs), which are non-profits organizations that operate multiple charter schools have developed and have provided more centralized support to small independent charter school throughout the country. Characteristics of charter school principals are viewed as having more autonomy, pro-activeness and being risk takers (Wohlstetter, Malloy, Smith & Hentschke, 2004; Hesss, 2007; Zimmer & Buddin, 2009; Wolf, 2011; Davis, 2013).

**Educational Entrepreneurs**

Deal and Hentschke (2005), wrote an article on the entrepreneurial leaders for charter schools and found that entrepreneurial principals are persistent in their ability to motivate others and do not get discouraged easily. These leaders have strong
philosophies, practical approaches, and pride. Often times these principals are risk takers and exhibit positive characteristics such as ambition, perseverance, decisiveness, and effective communication skills and are self-motivated (Deal & Hentschke, 2005).

Williams (2006) wrote an article analyzing how traditional public school entrepreneurs create change and found that entrepreneurs within the school setting are the kind of administrators that are willing to take issues in the school system out to the public. In addition, these leaders are not afraid to talk about the real barriers and lack of resources that classroom teachers face on a daily basis (Williams, 2006). Entrepreneurial leaders are those who turn innovative ideas into action within the school setting (Williams, 2006). Furthermore, research has also shown that charter and traditional public schools that foster a sense of competition and innovation among the administrators, as well as the teachers, create entrepreneurial characteristics that are naturally imitated by the students within their own personal lives (Sobel & King, 2008).

**Components of the Entrepreneurial Orientation construct**

The study of EO as a construct has progressed and emerged over the past 40 years within the business sector. According to Lumpkin and Dess (1996) there are “five dimensions- [within entrepreneurial orientation such as,] autonomy, innovativeness, risk taking, pro-activeness, and competitive aggressiveness” (p. 136). These dimensions are used in identifying entrepreneurial characteristics.

**Autonomy**

Autonomy refers to the ability to work independently, make decisions, and carrying them through to completion (Kanter, 1983; Lumpkin & Dess, 1996). Based on this definition, autonomy is essential in order for entrepreneurial initiatives to succeed.
Autonomy fosters innovation, promotes new entrepreneurial ventures and increases the competition within different firms and organizations (Brock, 2003). Autonomy allows leadership members to pursue various entrepreneurial activities that are needed to gain freedom and independence within their professional environments.

Yemini, Addi-Raccah and Katarivas (2014), conducted a study about traditional public school principals’ roles within a decentralized system that has a high demand of accountability. These researchers found that autonomy enables school principals to take advantage of opportunities within their school environments to mobilize different resources, encourage the implementation of new initiatives, and lead change in both the school and community (Yemini, Raccah, & Katarivas, 2014).

Triant (2001) conducted a study focusing on how charter school principals utilize autonomy to create innovation within their schools. According to Triant (2001), principals use autonomy in different areas such as, “teacher hiring, budgetary control, instruction and curriculum, organizational design, and accountability” (p. 1). The idea of being able to hire teachers on their own was one of the most important areas to principals (Triant, 2001). Principals who use autonomy have an opportunity to create change in their schools and local communities. Based on this research, we would expect charter school principals to score higher on the EO construct of autonomy.

**Innovativeness**

Innovation and entrepreneurial leadership challenge current organizational practices and lead principals to take risks and engage with new ventures that could possibly result in negative consequences for both the individual and their institution. Yemini, Addi-Raccah and Katarivas (2014), conducted a study with 10 traditional school
principals from Israel with the purpose to define the meaning of entrepreneurship in school settings and examine the conditions that are related with school principal entrepreneurial activities. Within the study the researchers found that “entrepreneurial school principals thus engage in an ongoing process of responding to opportunities to lead change and to instill new norms or institutional structures in innovative ways that challenge existing arrangements or standardized practices” (Yemini, Addit-Raccah & Katarivas, 2014, p. 11). Innovation is an essential influence of entrepreneurship because it adds the characteristic of competiveness among companies and organizations. In adding this form of competition among charter and traditional public school principals, it enables “new ideas, novelty, experimentation, and creative process that may result in new products, services, or technological processes” (Lumpkin & Dess, 1996, p. 142).

Hamzah, Yusof, and Abdullah (2009) conducted a study of secondary school teachers seeking their perceptions of public school principal’s entrepreneurial leadership practices. The results of the study indicated that school principals needed to have an opportunity to develop and practice entrepreneurial leadership characteristics in order to enable the process of school innovation (Hamzah, Yusof & Abdullah, 2009). Applying innovative strategies within a school organization can result in having to take risks.

Risk Taking

Entrepreneurship is having the determination and passion to take risks in order to ensure that the shared vision is met. Instead of asking, “Can we?” the thought process is, “How can we?” According to Silicon Valley venture capitalist John Doerr, “entrepreneurs do more than anyone thinks possible with less than anyone thinks possible” (Tech Crunch, 2010). The idea of utilizing entrepreneurial characteristics
within a school setting is to create unconventional thinkers that are willing to go above and beyond in order to enhance student learning. According to Yemini, Addi-Raccah and Katarivas (2014), “we have found that institutional entrepreneurship is not about an extremely proactive change, but rather involves profound change of the organizational settings and norms” (p. 11). Creating such changes is taking a risk for school leaders. The mindset of an entrepreneur is to think above and beyond normal ideas and expectations. Having the ability to become a risk-taker “involves taking a chance or embarking on a venture even though there is no certainty of a positive or intended result” (Xaba & Malindi, 2010, p. 77). Failure is always an option when being an innovative risk-taker, but when an entrepreneur experiences success, all of the risk taking moments and stresses are no longer important. When executing visions that they have committed to, risk-taking leaders are not held up by funding restrictions. Leaders that are able to become risk takers are pro-active in trying new things or creating change where it is needed.

Pro-activeness

Proactive people look for solutions, show initiative, and take action. Lumpkin and Dess (1996) have found that being pro-active resembles “a leader rather than a follower, because [they have] the foresight to seize new opportunities” (p. 147). Being proactive is an important quality within a school organization because that means your school has an upper hand on new innovative ideas and marketing strategies. Pro-activeness is crucial in the development of EO, providing leaders with the ability to move forward, which results in becoming innovative and exploring new areas. Being proactive reflects a leader’s ability to create changes that are beneficial for the organization rather than react to situations that are problematic. School leaders are those that will create changes that not
only comply with the improvement of academics, “but also take a proactive role to advance initiatives and changes that reflect their own interests and respond to the needs of their particular school” (Yemini, Addi-Raccah & Katarivas, 2014).

Morrison and Cooper (2008; 2009) conducted research on the instructional changes being set forth within schools and analyzed how leadership from the principals linked to change. Morrison and Cooper (2008; 2009), found that

“as the shift of utilizing entrepreneurialship within the school setting arises a major finding is that there appear to be common factors [that] work across effective secondary school principals, in particular an enthusiasm for proactive leadership of changes in school culture involving fundamental shifts in thinking and behavior” (p. 105).

In looking at the pro-activeness and innovative characteristics of principals, Eyal and Inar (2003), described school principal’s pro-activeness as “the willingness to start intrinsically motivated actions, which are not imposed by the authorities” and school innovativeness was described as, “the perceived amount of innovations implemented in school during a given time” (p. 230). The ability to effectively utilize entrepreneurial leadership enables a school’s success in developing both effective teaching and learning environments. In creating these drastic changes, the school leaders have an upper hand in creating a more competitive school environment that allows new programs and rigor to enter the classrooms.

**Competitive Aggressiveness**

According to Lumpkin and Dess (1996), competitive aggressiveness refers to an organizations ability to “directly and intensely challenge its competitors” (p. 148). Creating school choice programs forced principals to become competitive with one another. Research within both charter and traditional public schools has also shown that
schools that foster a sense of competition and innovation among the administrators create entrepreneurial characteristics that are imitated by the students within their own personal lives (Sobel & King, 2008). The goal in utilizing entrepreneurial characteristics within a school setting is to create systematic changes that will result in advancing student achievement.

**Educational Entrepreneur**

Being an effective leader means having the ability to make changes within a current system and think beyond the limitations of current rules and restrictions. Smith and Peterson (2006) examined education utilizing the characteristics of EO and discussed the roles of principals. They discovered that principals are both valuable in schools in reaching new innovative goals and becoming permanent participants in order to ensure the growth of the changes being set forth. They also found that education could be greatly improved by allowing principals to think beyond the current rules and resources in order to execute their own visions and inspire others to follow. Smith and Peterson (2006) go on to say that entrepreneurship within education is a “rare breed of innovator whose characteristics and activities may lead to the transformation—not merely the slight improvement—of the public education system” (p. 2). Allowing principals the opportunity to think outside of the box leads to innovative transformations within the school site.

An entrepreneurial principal possess the characteristic of being a visionary, which is important in identifying innovative opportunities. These leaders are able to make the opportunities come alive by being courageous and expert risk-takers. They create change within the school by having a diverse range of interest and experience that would benefit the school setting (Macke, 2003). “Entrepreneurship in the school organizational sense
implies an entrepreneurial orientation, which relates to seeking out opportunities that improve both the material and instructional conditions” (Xaba & Malindi, 2010, p. 77). In leading an innovative school, educational entrepreneur “principals need to be bold and lead schools towards tackling resource challenges they face” (Xaba & Malindi, 2010, p. 78).

Entrepreneurial leadership is a distinct form of leadership that deals with the challenges and problems of the current school setting (Gupta, MaMillan & Surie, 2004). Utilizing this form of leadership allows leaders to successfully systematize their organization in solving problems by taking developmental steps in creating long term changes and improvement (Chen, 2007; Swiercz & Lydon, 2002). Entrepreneurial leadership is utilized within the school setting as a way of thinking and lifestyle (Kuratko, 2007; Klein & Bullock, 2006; Hytti & O’Gorman, 2004).

Entrepreneurial leadership proficiencies help schools confront the restraints and issues regarding limited resources, quick decision-making and the consistent changes in the education realm. Entrepreneurial leadership characteristics also address the need to improve low performing schools and prepare learners for a competitive future (Xaba & Malindi, 2010; Morris, Commbes, Schindehutte & Allen, 2007; Eyal & Kark, 2004; Eyal & Inbar, 2003). In utilizing entrepreneurial leadership, principals are able to look past the current situations at schools and develop new opportunities for schools to make drastic changes towards improvement (Eyal & Kark, 2004). Thus, scholars believe that principals must exhibit entrepreneurial leadership characteristics in order to establish a long lasting effect of changes within a school organization.
As the idea of entrepreneurship begins to expand within education, “more educators and school leaders are taking risks to transform their classrooms, schools, and districts” (Williams, 2006, p. 43). They are beginning to take ownership of their own successes and failures as well as implementing innovative ways to provide instruction to students. In order to make changes, leaders must be “independent thinkers, [and] creative bureaucrats” (Williams, 2006, p. 44). Allowing school leaders an opportunity to become independent thinkers allows them the opportunity to take ownership of changes happening on their campuses.

Today’s school systems are faced with challenges that our educational system was not designed for and may not be equipped to handle (Hess, 2007). With that said, changes are needed within the school settings. Successful entrepreneurial leaders have the ability to build organizations that are constructed with committed, self-motivated team members and have the ability to build strong cultures that foster dedication and confidence (Hess, 2007). Creating entrepreneurship leaders can be a challenging task. Hess (2007), states “the secret of successful entrepreneurial efforts is the ability to attract and inspire talented risk-takers in a way that professional hierarchies and public bureaucracies do not” (p. 23).

Conclusion

As changes continue to arise within the educational system, entrepreneurship is an important component within education. Based on the work of Lumpkin and Dess (1996) within the business sector, entrepreneurial behavior has been defined by five characteristics (autonomy, innovativeness, risk taking, pro-activeness, and competitive aggressiveness). Research has suggested that entrepreneurial behavior by principals lead
to more effective schools, however there has not been a direct study conducted that
compares the EO of charter schools and traditional public school principals. Studies have
been conducted on individual groups measuring their entrepreneurialism, but the two
groups have never been compared to one another. Research suggests that charter school
principals would score higher in the area of autonomy (Triant, 2001; Gawlik, 2007).
However, Williams’ (2006), research suggests that traditional public school principals are
more innovative, pro-active and risk takers. In order to determine which group has a
higher overall EO construct, the two need to be compared. This research used an
instrument to measure the five dimensions of the EO construct to compare the EO of
principals in the charter school setting and a traditional public school setting within the
state of California.
Chapter 3: Methodology

This chapter describes the methodology that was used to answer the research question: Do charter school principals and traditional public school principals differ from each other in EO, controlling for gender, experience as a principal, and the school level (primary or secondary level)? Additional sub-questions investigated are:

(a) Do charter school principals and traditional public school principals differ on the five dimensions of EO construct (autonomy, innovativeness, risk taking, proactiveness, and competitive aggressiveness) controlling for gender, experience as a principal, and the school level (primary or secondary level)?

(b) Do male principals and female principals differ in the EO controlling?

(c) Do primary principals and secondary principals differ in the EO?

(d) Do years of experience as a principal have an effect on the EO of a principal?

This chapter will describe the research design, setting, sample selection process, instruments and procedures, data collection, and methods used to analyze the data.

Research Design/Tradition

This quantitative comparative study used an Administrators’ Entrepreneurial Orientation survey instrument to measure the EO construct of principals in both charter and traditional public schools. This study draws on the work of Lumpkin and Dess (1996), whose research analyzed effective entrepreneurial characteristics within the business sectors and developed an orientation to describe these characteristics, which he refers to as the EO construct.

Petri (2013) conducted a study, which focused on the EO of teachers working in private, charter and traditional public schools. This study adapted the EO dimensions
developed by Lumpkin and Dess (1996) to evaluate the EO individuals, which measures for autonomy, innovativeness, risk taking, pro-activeness, and competitive aggressiveness. Using the framework developed by Lumpkin and Dess (1996), Petri (2013) was able to develop the Teacher Entrepreneurial Orientation (TEO) instrument with an emphasis on entrepreneurial orientation among teachers working in private, charter, and traditional public schools. However when he conducted his pilot study, he was only able to validate three of the five dimensions: (a) risk taking, (b) pro-activeness and (c) innovativeness. His study then focused on the three components of the EO that he was able to validate.

As this study is a replication of the research conducted by Petri (2013), the researcher was able to utilize the TEO instrument, with modifications to focus on the entrepreneurial orientation of principals in both charter schools and traditional public schools. During this study, the researcher used Petri’s (2013) original instrument, which includes all five dimensions of the EO construct. I was able to validate the overall instrument and the five dimensions, including the two dimensions of autonomy and competitive aggressiveness, which Petri (2013) was unable to. It may be that this study is more similar to the midlevel managers within the corporate sector, on which the scale was originally developed.

**Research Setting**

The target setting for this study included both charter schools and traditional public schools in the state of California. During the 2013-2014 school year, California had a total of 10,016 traditional public schools and 1,130 charter schools operating (CDE, 2014). California educates the largest K-12 student population in the nation with
6,746,716 students attending both charter and traditional public schools (CDE, 2014). As of fall 2013, California had the highest number of charter schools in the nation, which provided an opportunity for the researcher to study the EO of charter school principals and traditional public school principals within the state.

**California Charter School.** In 1992, California was the second state to enact its Charter Schools Act, California Education Code § 47600 (1992), which authorized the beginning of charter schools. By the 2013-2014 school year, the total number of charter schools in California increased to 1,130 (CCSA, 2014). Charter schools in California have continued to expand rapidly; from the 2012-2013 school year to the 2013-2014 school year, 104-charter schools opened in the state. In addition, the total number of students enrolled in charter schools increased from 471,501 in the 2012-2013 school year, to 514,275 during the 2013-2014 school year. This represents an increase of 9.1% in the number of students attending charters schools (http://data1.cde.ca.gov/dataquest/content.asp).

According to the California Department of Education (2014), the total numbers of students attending charter school in California represent approximately 8% of the total students enrolled statewide. Of the 1,130 charter schools in California, 72% of them are independent charters, meaning they operate independently of existing school district policies and procedures. In addition to the independent charters, Charter Management Organizations (CMOs), which are non-profit organizations that operate multiple charter schools as well as launch new ones, and Educational Management Organization (EMO), which are for-profit organizations, operate 28% of the charters in the State of California (CDE, 2014).
Currently, there are a total of 522 elementary charters schools, 143 intermediate charter schools, and 378 high school charters in the state of California (CDE database, 2014). The remaining charters do not emulate the same traditional school settings. For example, some schools do not follow the traditional elementary, middle, and high school model; some charter schools have adapted the span schools which combines multiple grade levels such as transitional kindergarten through eighth grade or sixth grade through twelfth grade. Furthermore, charter schools can be independent or dependent charters within a school district. Independent charter schools are schools that operate outside of the district’s control and are overseen by their own governess structure. On the contrary, a traditional school board oversees the day-to-day operations of a dependent charter.

During the 2013-2014 school year it was reported that the Los Angeles Unified School District had the highest number of charters schools in the state of California with a total of 241. San Diego Unified had the second highest number of charter schools totaling 55 and Oakland Unified had the third highest number of charter schools totaling 38.

_**California Traditional Public School.**_ Within the past decade, the number of charter schools has continued to increase, reducing the number of students enrolled in traditional public schools. This has caused a steady decrease in the number of traditional public schools in California, requiring fewer teachers and principals. According to the California Department of Education (2014), the total number of public schools decreased from 10,303 in the 2009-2010 school year to 10,016 during the 2013-2014, representing a 3% decrease.

During the 2012-2013 school year, the total number of administrators in California public schools were 22,926 (CDE, 2014). Between 2009 and 2013 the total
number of administrators in California declined from 25,534 to its current number of 22,926, representing an 11.3% decrease.

In California, during the 2013-2014 school year, there were a total of 10,016 traditional public schools (CDE, 2014). Currently, there are a total of 5,802 elementary schools, 1,332 intermediate/middle school schools, 1,325 high schools, and 229 span schools in the state of California. There are an additional 1,328 alternative school settings such as community day schools, continuation schools, and other types that make up the remainder of schools (CDE database, 2014)

Research Sample

This survey of 403 California charter and traditional public school principals was conducted in December 2014. The research used publicly accessible database of school principals in California from the California Department of Education website (http://www.cde.ca.gov/ds/si/ds/fspubschls.asp). Although the CDE website reflects a total of 10,016 (CDE, 2014) public schools in California, the CDE principals’ database reflected a total of 9,508 emails. Principals’ e-mail addresses were collected in an excel format from the database and separated into two categories: traditional public schools and charter schools. The excel file was then imported into a third party email marketing software program. The program then cleaned up the database for duplicate principal assignments and invalid email addresses due to web syntax. The final database of valid principal email addresses was 7,824. There were a total of 6,790 valid traditional public school principals and 1,034 charter school principal email addresses in the database.

Due to the inability to attain advance permission to conduct research from the school districts and County Offices of Education in California, an informed consent
message was included in the email solicitation and embedded in the online survey sent to principals (Appendix A). The survey was then distributed to 7,824 traditional public school principals and charter school principals on the database via email. The e-mail contained a link, which directed the participants to complete the survey via Survey Monkey, which was sent to all principals on December 8, 2014. A second invitation was sent out three days later to only charter school principals in order to increase participation in the study. A third email invitation was sent again to only charter school principals a week after the second invitation email.

**Instruments and Procedures**

The Administrator Entrepreneurial Orientation instrument within this study, used the Teacher Entrepreneurial Orientation instrument developed by Petri (2013), modified to focus on the entrepreneurship of principals within both charter schools and traditional public school settings in the state of California. Petri (2013) outlined the construct utilizing the research from Lumpkin and Dess (1996). In order to adapt the instrument to match principals, the questions were changed from looking at process that effect teachers to processes and structures that are relevant to principal’s daily duties. For example, instead of referring to a classroom, this instrument referred to a school site.

The original Administrator Entrepreneurial Orientation instrument had a 30-item Likert scaled survey that measures principals’ individual values for five entrepreneurial constructs: (a) Autonomy, (b) Innovativeness, (c) Pro-activeness, (d) Risk Taking and (e) Competitive Aggressiveness. The five point Likert scale ranged from 1= very untrue to 5 = very true of me. The final Administrator Entrepreneurial Orientation (Appendix B) was a 27-item Likert scaled survey, modified by deleting three questions that diminished the
reliability and constancy of the autonomy and competitive aggressiveness subscales. The range on the six item scales was six to 30, five item scales were five to 25 and four item scales were four to 20, with the overall EO scale ranging from 27-135. In addition, this survey included six demographic questions, which were utilized to gather data about participants in the study. The questions identified the participant’s gender, current level in which they are a principal (elementary, middle, high or span school), the setting (charter or traditional public school) in which they are currently a principal, years of experience as a principal, and prior experience in working in a management position in a private industry. The demographic questionnaire provided the researcher with meaningful information that assisted in answering the sub questions in the study.

The researcher conducted a pilot test of all thirty-questions in a Likert-type scaled survey to measure principals’ individual values along all five EO dimensions. The researcher sent the test pilot survey to a sample group of 25-35 principals during the month of December 2014. Based on the responses of the pilot survey, several survey questions within the instrument were reworded to provide more clarity prior to data collection during the month of December 2014. The Administrative Entrepreneurial Orientation instruments containing the questions for each dimension in the EO construct are located in the appendix area of this research.

Data Collection

The sample emails were separated into two databases representing, charter and public school principals being studied in this research. The e-mail addresses for the principals were collected from the databases and downloaded onto a third party software
program called constant contact, which allows the e-mails to be sent in waves to the principals. The initial e-mail to the principals included a link to the survey.

The Administrative Entrepreneurial Orientation instrument was then administered through a web based survey software called Survey Monkey to all principals from both charter and traditional public schools in the state of California, utilizing the CDE’s database. According to Creswell (1998), a survey is a research study in which data is collected from the members of a sample, for the purpose of estimating one or more population parameters. A survey can also collect data from part of a group, for the purpose of describing one or more characteristics of the whole group (Creswell, 1998).

Subjects in this study accessed a Survey Monkey web link from their school email address in order to participate in this research. Survey Monkey uses Secure Sockets Layer (SSL) encryption so sensitive data is protected as it moves along communication pathways between the respondent’s computer and Survey Monkey servers. Secure Sockets Layer is a security protocol developed for transmitting private documents or information via the Internet. It works through a cryptographic system that secures a connection between a client and a server. Participants’ IP addresses were masked from the principal researcher.

**Data Analysis**

The research used SPSS statistical computing software, which is the industry standard for survey research and data analysis. Designed for use by research analysts working in commercial, governmental and academic organizations, SPSS software enables researchers to prepare data for analysis, develop and deploy predictive models, and generate reports and graphs to display their results (Levesque, 2007).
Prior to analyzing the data, the researcher cleaned and checked the data for any missing information that would affect the results of the study. Petri (2013) confirmed the consistency and reliability of the EO constructs along the dimensions of innovation, risk-taking, and pro-activeness within a school setting, however he was unable to confirm autonomy and competitive aggressiveness. Therefore, within this study, the researcher used a Cronbach’s Alpha analysis in order to confirm the consistency and reliability of the EO instrument and all five EO dimensions including autonomy and competitive aggressiveness, which Dr. Petri (2013) was unable to validate in his study.

Cronbach’s alphas reported on the internal consistency and reliability of the psychometric test scores. Cronbach’s alpha is a measure of internal consistency reliability that ranges from 0.00 to +1.00 (Hill & Lewicki, 2007). An alpha equal to 1.00 indicates perfect internal consistency reliability, while 0.00 suggests a complete absence of correlations among the items of a test i.e., no consistency (Patten, 2009). Alpha of .80 indicates that 80% of the observed variation in scores is due to real or true differences while 20% is due to measurement error (Creswell, 2008). Measurements instruments with alphas of .80 and higher are generally considered reliable instruments in social science (DeVellis, 1991; Cortina, 1993). Measurements instruments with alphas of $0.5 \leq \alpha < 0.6$ is considered minimally reliable instruments and alphas of $0.6 \leq \alpha < 0.7$ are acceptable (Table 3.1). While alphas of $\alpha < 0.5$ are considered an unacceptable instruments (Cortina, 1993).
Table 3.1
Alpha reliability table

<table>
<thead>
<tr>
<th>Cronbach's alpha</th>
<th>Internal consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \alpha \geq 0.9 )</td>
<td>Excellent (High-Stakes)</td>
</tr>
<tr>
<td>( 0.7 \leq \alpha &lt; 0.9 )</td>
<td>Good (Low-Stakes)</td>
</tr>
<tr>
<td>( 0.6 \leq \alpha &lt; 0.7 )</td>
<td>Acceptable</td>
</tr>
<tr>
<td>( 0.5 \leq \alpha &lt; 0.6 )</td>
<td>Poor</td>
</tr>
<tr>
<td>( \alpha &lt; 0.5 )</td>
<td>Unacceptable</td>
</tr>
</tbody>
</table>

I used descriptive statistics to identify patterns that might have emerged from the data. According to Salkind (2011), descriptive statistics are used to arrange and define the characteristics of a collection of data. The use of this method is valuable because it provides a way for researchers to present raw data in a simplified manner.

T-test analyses were conducted to test mean differences between groups such as men and women, elementary and secondary, as well as charter school versus traditional public school. Hill and Lewicki (2007) reported that the t-test analysis is the most commonly used method to evaluate the differences in means between two groups. Ary, Jacobs and Razavieh (2002) reported that t-test analyses are “among the more widely used methods for testing null hypotheses” (p. 183). Bivariate correlation comparisons were used to see if there are significant relationships between the years of experience, the overall EO score and the five dimensions of the entrepreneurial orientation construct.
Regression Analysis was to control for differences in demographic variables such as gender, experience, and level of school, and then measure the unique relationship between being a charter or traditional school principal and the EO measures. In restricted circumstances, regression analysis can be used to infer casual relationships between the independent and dependent variables. According to Salkind (2011), regression models can be used to help understand and explain relationships between variables; they can also be used to predict actual outcomes. Regression Analysis was also used to understand which among the independent variables are related to the dependent variables, and to explore the unique relationship of each variable.

**Dependent Variables**

The researcher used the dependent variables in this study. The first dependent was the EO score. Additional subscale dependent variables were the five dimension of the EO construct: (a) risk taking, (b) pro-activeness, (c) innovativeness, (d) autonomy, (e) and competitive aggressiveness.

**Independent Variable**

This study utilized three independent variables to analyze the data. The primary independent variable was (a) school type "charter vs. traditional public school. The secondary independent variable was (b) school level "primarily vs. secondary". The third independent variable was (c) gender of the subjects within the study.

**Role of the Researcher**

As the researcher, I had to keep in mind the different roles that I maintain in this research. In my role as a researcher, I must be aware that some of the biases and assumptions about entrepreneurship could affect the project. Also, having previously
worked in the corporate sector, having owned a business, and having a Masters degree in Business Administration (M.B.A.), I must continue to focus on the fact that this research is based in a social context compared to a business environment. In addition to being a researcher, I am an educator, principal, and school board member who will be writing about a topic that I am very passionate about and one that I feel can make significant impacts in the hiring practices of future principals in both the traditional public school and charter school setting.

There are several assumptions that this researcher must be aware of. First, the researcher assumed that entrepreneurism is a step toward creating new and innovative way of providing educational instruction in the 21st century school setting. Second, the charter school by nature tends to be more entrepreneurial. Finally, the research in the field of entrepreneurial orientation construct of principals would benefit educational researchers. By understanding how such biases play a role in the research and how it can influence the data collection process, the researcher can minimize the likelihood or the effects of such bias with the study. Without this awareness, validity of the survey data could be compromised, which would weaken the reliability and generalizability of results and findings of the research project.

This study involved no more than minimal risk. The possible risks and/or discomforts associated with the procedures described in this study include: time lost in answering the questions, possible fatigue, and mild emotional discomfort. This research had minimized the risk by making the questionnaire anonymous, easy to read, no more than 5 minutes to complete, and answering the questions is voluntary. Participants in this study were not identified and any disclosure of their participation in this research could
not reasonably damage their financial standing, employability, or professional reputation(s). Declining to participate would not affect the reputations or professional standing of individual principals.

**Summary**

This methodology chapter elaborated the questions examined by this study. The researcher examined the data through the theoretical lens of EO created by Lumpkin and Dess (1996). The information provided will attempt to provide a body of knowledge about the entrepreneurial orientation within educational setting. The next chapter will report the findings of the study and present relevant quantitative data.
Chapter 4: Results

This study used a survey research design to examine the entrepreneurial orientation of charter school principals and traditional public school principals in the state of California. Additionally, the study focused on the development and validation of an Administrator Entrepreneurial Orientation instrument that measured the EO of administrators. The purpose was to analyze whether there were differences on the five dimensions of entrepreneurial orientation, autonomy, innovativeness, risk taking, pro-activeness, and competitive aggressiveness, between different groups of principals. This chapter will describe the research sample, outline the statistical tests conducted on the data, answer the research questions, and report relevant statistical data and tables.

Research Questions

The main research question in this study asks: Do charter school principals and traditional public school principals differ from each other in their entrepreneurial orientations controlling for gender, experience as a principal, and the school level (primary or secondary level)? Additional sub-questions that were investigated include:

(a) Do charter school principals and traditional public school principals differ on the five dimensions of EO (autonomy, innovativeness, risk taking, pro-activeness, and competitive aggressiveness)?

(b) Do male principals and female principals differ in EO?

(c) Do primary principals and secondary principals differ in EO?

(d) Do years of experience as a principal relate to the EO of the principals?
Study Description

This quantitative comparative study used an Administrators Entrepreneurial Orientation instrument to measure the EO of principals in both charter and traditional public schools. A Chronbach’s Alpha test was conducted in order to confirm the internal consistency and reliability of the Administrators Entrepreneurial Orientation instrument scores. Descriptive statistics were used to identify patterns that emerged from the data. A t-test analysis was conducted to test differences between groups such as men and women, elementary and secondary, as well as the EO of charter school principals and traditional public school principals. Bivariate correlations were used to see if there were significant relationships between the years of experience, the overall EO score, and the five dimensions of the entrepreneurial orientation construct. Finally, a regression analysis was used to identify the unique relationship between the independent variables and the dependent variables. The overall EO score and scores on each of the five dimensions were modeled separately with the following independent measures: gender, school type (charter vs. traditional public school, school level - primarily vs. secondary), and years of experience as a principal.

Research Sample

The publicly accessible database of school principals in California from the CDE had a total of 9,508 emails. After cleaning up the database for duplicate principal assignments and valid email addresses, the final list of valid principal email addresses was 7,824. There were a total of 6,790 valid traditional public school principals and 1,034 charter school principals email addresses in the database. A total of 453 administrators responded to the survey. Of the 453 that responded, 111 were charter
school principals and 342 were traditional public school principals. The response rate for charter schools principals was 10.7% and the response rate for traditional public school principals was 5% (Table 4.1).

Table 4.1
Sample demographic and response rate

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sample size</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional Public</td>
<td>6790</td>
<td>86%</td>
</tr>
<tr>
<td>Charter</td>
<td>1034</td>
<td>14%</td>
</tr>
<tr>
<td>Total</td>
<td>7624</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Survey Population size</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional Public</td>
<td>343</td>
<td>76%</td>
</tr>
<tr>
<td>Charter</td>
<td>111</td>
<td>24%</td>
</tr>
<tr>
<td>Total</td>
<td>453</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Response rate</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional Public</td>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>Charter</td>
<td></td>
<td>11%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>6%</td>
</tr>
</tbody>
</table>

Of the 453 responses, 403 principals completed the survey in its entirety and have been included in this study. The researcher wanted to ensure that all survey responses being analyzed were answered in their entirety. A total of 103 charter school principals completed the survey, which represents 25.6% of the sample. A total of 300 traditional public school principals completed the survey, which represents 74.4% of the respondents. The final respondents included 244 females, representing 60.5% of the respondents and 159 males, representing 39.5%. The two school levels in the study consisted of elementary schools and secondary schools. Elementary school principals were 58.6% of all respondents and secondary principals 43.2%. Secondary schools includes grades 6 through 12. Date on years of experience as a principal was collected. Categorically, 32.5%, or 131 principals among the respondents, reported that they have been a principal for 0-3 years; 27.8%, or 112 principals, reported between 4-7 years;
21%, or 85 principals, reported 8-11 years of experience; and 18.6%, or 75 principals, reported 12 or more years of experience (Table 4.2).

Table 4.2
Variables demographic of principals within the study charter and traditional public schools

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School Type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional Public</td>
<td>300</td>
<td>74%</td>
</tr>
<tr>
<td>Charter</td>
<td>103</td>
<td>26%</td>
</tr>
<tr>
<td>Total</td>
<td>403</td>
<td>100%</td>
</tr>
<tr>
<td><strong>School Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>229</td>
<td>57%</td>
</tr>
<tr>
<td>Secondary</td>
<td>174</td>
<td>43%</td>
</tr>
<tr>
<td>Total</td>
<td>403</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>159</td>
<td>40%</td>
</tr>
<tr>
<td>Female</td>
<td>244</td>
<td>60%</td>
</tr>
<tr>
<td>Total</td>
<td>403</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Years of experience as a principal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-3 years</td>
<td>131</td>
<td>33%</td>
</tr>
<tr>
<td>4-7 years</td>
<td>112</td>
<td>27%</td>
</tr>
<tr>
<td>8-11 years</td>
<td>85</td>
<td>.21%</td>
</tr>
<tr>
<td>12+ years</td>
<td>75</td>
<td>19%</td>
</tr>
<tr>
<td>Total</td>
<td>403</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Cronbach’s Alpha**

A Cronbach’s alpha analysis was conducted on the overall scale and the sub-scales in order to determine the internal consistency and reliability of the psychometric scale scores. Cronbach’s alpha reliability coefficients range from 0.00 to 1.00, with higher coefficients indicating higher levels of reliability (Hill & Lewicki, 2007). An alpha equal to 1.00 indicates perfect internal consistency reliability, while 0.00 suggests a complete absence of correlations among the items of a test i.e., no consistency (Patten, 2009). Alpha of .80 indicates that 80% of the observed variation in scores is due to real or true differences while 20% is due to measurement error (Creswell, 2008). Measurement
instruments with alphas of .80 and higher are generally considered reliable instruments in social science research (DeVellis, 1991).

**Entrepreneur Orientation scale and subscales**

This study developed an Administrator Entrepreneur Orientation scale that would be able to measure the five EO dimensions that make up the entrepreneur orientation constructs (Lumpkin & Dess, 1996) for principals. Starting with the 18-question Teacher Entrepreneur Orientation (TEO) survey developed by Petri (2013), I was able to modify the TEO instrument and incorporate the additional dimensions of autonomy and competitive aggressiveness to create the Administrator Entrepreneur Orientation survey. The original Administrators Entrepreneurial Orientation had 30 questions divided into five EO subscales of six questions each. However, upon conducting an alpha test on the subscales, I found low alphas on the autonomy and competitive aggressiveness subscale. I deleted three of the questions that diminished the reliability and consistency of these two subscales, autonomy and competitive aggressiveness, to increase the subscales reliability and alpha score (Table 4.3).

After removing questions one and 16 from the autonomy subscale, leaving four items, I was able to increase the reliable for the subscale to minimally reliable (α = .508). The Competitive Aggressiveness subscale was considered to be minimally reliable, (α = .594). Question number 12 was deleted from the competitive aggressiveness subscale, leaving five items. The innovativeness subscale consisted of six items and was considered to be highly reliable (α = .818). The pro-activeness subscale consisted of six items and was considered to be minimally reliable (α = .636) and the risk taking subscale consisted of six items and was considered to be highly reliable (α = .839).
Table 4.3
Entrepreneur Orientation survey and subscales

<table>
<thead>
<tr>
<th>Factors</th>
<th>Items</th>
<th>Cronbach Alpha (α)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Autonomy</td>
<td>6, 11, 21, 26 (4)</td>
<td>.508</td>
</tr>
<tr>
<td>2. Competitive</td>
<td>2, 7, 17, 22, 27 (5)</td>
<td>.594</td>
</tr>
<tr>
<td>Aggressiveness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Innovativeness</td>
<td>3, 8, 13, 18, 23, 28 (6)</td>
<td>.818</td>
</tr>
<tr>
<td>4. Pro-activeness</td>
<td>4, 9, 14, 19, 24, 29 (6)</td>
<td>.636</td>
</tr>
<tr>
<td>5. Risk Taking</td>
<td>5, 10, 15, 20, 25, 30 (6)</td>
<td>.839</td>
</tr>
<tr>
<td>6. Overall EO</td>
<td>27 items</td>
<td>.868</td>
</tr>
</tbody>
</table>

Cronbach's alphas for the 27 Administrator Entrepreneur Orientation inventory overall was found to be highly reliable (α = .868). This confirms that the 27 items in the instrument were able to consistently and reliably measure autonomy, competitive aggressiveness, innovativeness, pro-activeness, and risk taking as an instruction in determining the EO construct of principals in charter schools and traditional public schools in the state of California.

**Research Question**

**Do male principals and female principals differ in entrepreneurial orientation?**

The research question looked at the differences on the EO construct scale for female principals versus male principals. The two types of principals (see Table 4.4) were compared using a *t* test to compare the mean scores. The results show that female principals (*M*=2.17), and male principals (*M*=2.15), had no significant difference in the EO construct.
Table 4.4
EO construct Means, Standard Deviations, \( t \) test and Significance of different Genders

<table>
<thead>
<tr>
<th>Sex</th>
<th>( N )</th>
<th>EO Total Mean</th>
<th>( SD )</th>
<th>( t )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>244</td>
<td>2.17</td>
<td>0.43</td>
<td>0.360</td>
<td>0.719</td>
</tr>
<tr>
<td>Male</td>
<td>159</td>
<td>2.15</td>
<td>0.44</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's research  Range = 1-5

The research looked at the differences on the EO autonomy sub-scale for female principals versus male principals. The two types of principals (Table 4.5) were compared using a \( t \) test to compare the mean scores. The data shows that female principals \((M=2.17)\) and male principals \((M=2.15)\) had no significant difference in the autonomy dimension of the EO construct.

Table 4.5
Autonomy EO Dimension Means, Standard Deviations, \( t \) test and Significance of different Genders

<table>
<thead>
<tr>
<th>Sex</th>
<th>( N )</th>
<th>Auto Mean</th>
<th>( SD )</th>
<th>( t )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>244</td>
<td>2.00</td>
<td>0.61</td>
<td>0.175</td>
<td>0.861</td>
</tr>
<tr>
<td>Male</td>
<td>159</td>
<td>2.00</td>
<td>0.61</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's research  Range = 1-5

The research looked at the differences of the EO competitive aggressiveness sub-scale for female principals versus male principals. The two types of principals (Table 4.6) were compared using a \( t \) test to compare the mean scores. The data shows that female principals \((M=2.37)\) scored slightly higher on the competitive aggressiveness subscale than male principals \((M=2.30)\) but it was not statistically significant.
Table 4.6
Competitive Aggressiveness EO Dimension Means, Standard Deviations, t test and Significance of different Genders

<table>
<thead>
<tr>
<th>Sex</th>
<th>N</th>
<th>Com-Agg Mean</th>
<th>SD</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>244</td>
<td>2.37</td>
<td>0.61</td>
<td>1.170</td>
<td>0.243</td>
</tr>
<tr>
<td>Male</td>
<td>159</td>
<td>2.30</td>
<td>0.59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's research   Range = 1-5

The research looked at the differences on the EO innovativeness sub-scale for female principals versus male principals. The two types of principals (Table 4.7) were compared using a t test to compare the mean scores. The data shows that female principals (M=1.80) and male principals (M=180) had no difference in the innovativeness dimension of the EO construct.

Table 4.7
Innovativeness EO Dimension Means, Standard Deviations, t test and Significance of different Genders

<table>
<thead>
<tr>
<th>Sex</th>
<th>N</th>
<th>Inn Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>244</td>
<td>1.80</td>
<td>0.56</td>
<td>0.206</td>
<td>0.837</td>
</tr>
<tr>
<td>Male</td>
<td>159</td>
<td>1.80</td>
<td>0.55</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pro-activeness is a sub-scale where there was a significant difference between female and male principals. The two types of principals (Table 4.8) were compared using a t test to compare the mean scores. The data shows that male principals were significantly more pro-active than female principals on the pro-activeness dimension of the entrepreneurial orientation construct.
Table 4.8
Pro-Activeness EO Dimension Means, Standard Deviations, t test and Significance of different Genders

<table>
<thead>
<tr>
<th>Sex</th>
<th>N</th>
<th>Pro Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>244</td>
<td>1.58</td>
<td>0.45</td>
<td>-2.417</td>
<td>0.016</td>
</tr>
<tr>
<td>Male</td>
<td>159</td>
<td>1.69</td>
<td>0.45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's research   Range = 1-5

A t-test analysis shows (Table 4.9) that female principals’ mean score (M=3.06) was slightly higher on the risk-taking dimension of the EO construct than male principals (M=2.96), but the difference was not statistically significant.

Table 4.9
Risk-Taking EO Dimension Means, Standard Deviations, t test and Significance of different Genders

<table>
<thead>
<tr>
<th>Sex</th>
<th>N</th>
<th>Rsk Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>244</td>
<td>3.06</td>
<td>0.82</td>
<td>1.135</td>
<td>0.257</td>
</tr>
<tr>
<td>Male</td>
<td>159</td>
<td>2.96</td>
<td>0.85</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's research   Range = 1-5

**Do primary principals and secondary principals differ in EO?**

The next research question looked at the differences on the EO construct scale for primary school principals versus secondary school principals. The two types of principals (Table 4.10) were compared using t test. The results show that there was no significant difference between elementary school principals and secondary school principals on the EO construct.
Table 4.10
EO Construct Means, Standard Deviations, t test and Significance of different School Levels

<table>
<thead>
<tr>
<th>School Level</th>
<th>N</th>
<th>EO Total Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary School Principals</td>
<td>229</td>
<td>2.15</td>
<td>0.43</td>
<td>0.237</td>
<td>0.813</td>
</tr>
<tr>
<td>Secondary School Principals</td>
<td>174</td>
<td>2.17</td>
<td>0.44</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's research   Range = 1-5

The research looked at the differences on the EO autonomy sub-scale for primary school principals versus secondary school principals. The two types of principals (Table 4.11) were compared using a t test to compare the mean scores. The research shows that elementary school principals (M=2.06) scored significantly higher on the autonomy subscale than secondary school principals (M=1.93).

Table 4.11
Autonomy EO Dimension Means, Standard Deviations, t test and Significance of different School Levels

<table>
<thead>
<tr>
<th>School Level</th>
<th>N</th>
<th>Auto Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary School Principals</td>
<td>229</td>
<td>2.06</td>
<td>0.63</td>
<td>-2.044</td>
<td>0.042</td>
</tr>
<tr>
<td>Secondary School Principals</td>
<td>174</td>
<td>1.93</td>
<td>0.57</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s research Range = 1-5

The research looked at the differences on the EO competitive aggressiveness sub-scale for primary school principals versus secondary school principals. The two
types of principals (Table 4.12) were compared using a $t$ test to compare the mean scores. The research shows that secondary school principals were slightly higher on the competitive aggressiveness subscale than elementary school principals, but not at a statistically significant level.

Table 4.12
Competitive Aggressiveness EO Dimension Means, Standard Deviations, $t$ test and Significance of different School Levels

<table>
<thead>
<tr>
<th>School Level</th>
<th>N</th>
<th>Auto Mean</th>
<th>SD</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary School Principals</td>
<td>229</td>
<td>2.33</td>
<td>0.58</td>
<td>0.655</td>
<td>0.513</td>
</tr>
<tr>
<td>Secondary School Principals</td>
<td>174</td>
<td>2.37</td>
<td>0.63</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s research Range = 1-5

The $t$-test analyses means score indicated that (Table 4.13) elementary school principals ($M=1.81$) and secondary school principals ($M=1.81$) had no difference on the innovativeness dimension of the entrepreneurial orientation construct.

Table 4.13
Innovativeness EO Dimension Means, Standard Deviations, $t$ test and Significance of different School Levels

<table>
<thead>
<tr>
<th>School Level</th>
<th>N</th>
<th>Inn Mean</th>
<th>SD</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary School Principals</td>
<td>229</td>
<td>1.81</td>
<td>0.56</td>
<td>0.019</td>
<td>0.985</td>
</tr>
<tr>
<td>Secondary School Principals</td>
<td>174</td>
<td>1.81</td>
<td>0.55</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s research Range = 1-5

When comparing principals for differences on being pro-active, the research shows (Table 4.14) that secondary school principals ($M=1.66$) had a mean score slightly
higher on the pro-activeness subscale than elementary school principals ($M=1.60$) but the difference was not statistically significant.

Table 4.14
Pro-Activeness EO Dimension Means, Standard Deviations, $t$ test and Significance of different School Levels and

<table>
<thead>
<tr>
<th>School Level</th>
<th>$N$</th>
<th>Pro Mean</th>
<th>$SD$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary School Principals</td>
<td>229</td>
<td>1.60</td>
<td>0.44</td>
<td>1.405</td>
<td>0.161</td>
</tr>
<tr>
<td>Secondary School Principals</td>
<td>174</td>
<td>1.66</td>
<td>0.46</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's research   Range = 1-5

The two types of principals (Table 4.15) were compared using a $t$ test to compare the mean scores. The research shows that secondary school principals ($M=3.06$) scored slightly higher than elementary principals ($M=2.99$) on the risk taking subscale, but the difference was not statistically significant.

Table 4.15
Risk-Taking EO Dimension Means, Standard Deviations, $t$ test and Significance of different School Levels

<table>
<thead>
<tr>
<th>School Level</th>
<th>$N$</th>
<th>Risk Mean</th>
<th>$SD$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary School Principals</td>
<td>229</td>
<td>2.99</td>
<td>0.82</td>
<td>0.857</td>
<td>0.392</td>
</tr>
<tr>
<td>Secondary School Principals</td>
<td>174</td>
<td>3.06</td>
<td>0.85</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's research   Range = 1-5
Correlation Analysis

Do years of experience as a principal have an effect on the EO of a principal?

A bivariate correlation analysis was conducted to test the relationship between the number of years of experience a person has as a principal (Table 4.16) and scores on the various measures. The research indicated that years of experience has a significant negative association with overall entrepreneurial orientation, competitive aggressiveness, autonomy, and risk-taking. Experience has a negative but not statistically significant relationship with innovativeness and pro-activeness.

Table 4.16
EO Dimensions Correlation of Years Served as Principal

<table>
<thead>
<tr>
<th>Measure</th>
<th>$R$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>-0.142</td>
<td>0.004</td>
</tr>
<tr>
<td>Autonomy</td>
<td>-0.103</td>
<td>0.040</td>
</tr>
<tr>
<td>Competitive Aggressiveness</td>
<td>-0.207</td>
<td>0.000</td>
</tr>
<tr>
<td>Innovation</td>
<td>-0.042</td>
<td>0.397</td>
</tr>
<tr>
<td>Pro-Activeness</td>
<td>-0.04</td>
<td>0.423</td>
</tr>
<tr>
<td>Risk-Taking</td>
<td>-0.095</td>
<td>0.056</td>
</tr>
</tbody>
</table>

Do charter school principals and traditional public school principals differ on the five dimensions of entrepreneurial orientation construct (autonomy, innovativeness, risk taking, pro-activeness, and competitive aggressiveness)?

The following information looked at the mean score differences on the entrepreneurial orientations autonomy sub-scale for the two types of school principals (Table 4.17) using a $t$ test analysis. The research shows that traditional public school principals ($M=2.05$) were significantly more likely to prefer autonomy than charter school principals ($M=1.90$).
Table 4.17
Autonomy EO Dimension Means, Standard Deviations, $t$ test and significance of different school types

<table>
<thead>
<tr>
<th>School Type</th>
<th>$N$</th>
<th>Auto Mean</th>
<th>$SD$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Public Principal</td>
<td>300</td>
<td>2.05</td>
<td>0.61</td>
<td>2.828</td>
<td>0.005</td>
</tr>
<tr>
<td>Charter Principal</td>
<td>103</td>
<td>1.90</td>
<td>0.57</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's research  Range = 1-5

Differences on the EO competitive aggressiveness sub-scale for the two types of school principals (Table 4.18) were compared using $t$ tests to compare the mean scores. The research shows that traditional public school principals again ($M=2.39$) were significantly more competitive than charter school principals ($M=2.19$).

Table 4.18
Competitive Aggressiveness EO Dimension Means, Standard Deviations, $t$ test and Significance of different school types

<table>
<thead>
<tr>
<th>School Type</th>
<th>$N$</th>
<th>Com-Agg Mean</th>
<th>$SD$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Public Principal</td>
<td>300</td>
<td>2.39</td>
<td>0.58</td>
<td>3.005</td>
<td>0.003</td>
</tr>
<tr>
<td>Charter Principal</td>
<td>103</td>
<td>2.19</td>
<td>0.67</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's research  Range = 1-5

Differences on the EO innovativeness sub-scale for the two types of school principals (Table 4.19) were compared using a $t$ test to compare the mean scores. The results show that traditional public school principals ($M=1.84$) were significantly more innovative than charter school principals ($M=1.70$).
Table 4.19
Innovativeness EO Dimension Means, Standard Deviations, $t$ test and Significance of different school types

<table>
<thead>
<tr>
<th>School Type</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Public Principal</td>
<td>300</td>
<td>1.84</td>
<td>0.56</td>
<td>2.263</td>
<td>0.024</td>
</tr>
<tr>
<td>Charter Principal</td>
<td>103</td>
<td>1.70</td>
<td>0.54</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's research   Range = 1-5

The $t$-test analysis means score show (see Table 4.20) that charter school principals ($M=1.68$), were slightly more pro-active than traditional public school principals ($M=1.60$), however the findings were not statistically significantly.

Table 4.20
Pro-Activeness EO Dimension Means, Standard Deviations, $t$ test and Significance of different school types

<table>
<thead>
<tr>
<th>School Type</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Public Principal</td>
<td>300</td>
<td>1.60</td>
<td>0.42</td>
<td>-1.541</td>
<td>0.124</td>
</tr>
<tr>
<td>Charter Principal</td>
<td>103</td>
<td>1.68</td>
<td>0.52</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's research   Range = 1-5

The research shows (see Table 4.21) that traditional public school principals ($M=3.10$) were significantly more willing to take risks than charter school principals ($M=2.80$).
Table 4.2
Risk-Taking EO Dimension Means, Standard Deviations, t test and Significance of different school types

<table>
<thead>
<tr>
<th>School Type</th>
<th>$N$</th>
<th>Risk Mean</th>
<th>$SD$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Public Principal</td>
<td>300</td>
<td>3.10</td>
<td>0.84</td>
<td>3.131</td>
<td>0.002</td>
</tr>
<tr>
<td>Charter Principal</td>
<td>103</td>
<td>2.80</td>
<td>0.77</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's research   Range = 1-5

Do charter school principals and traditional public school principals differ in EO, controlling for gender, experience as a principal, and the school level (primary or secondary level)?

I began to answer this question by first using t-test analysis to compare the mean scores for charter school principals and traditional public school principals on the overall EO construct scale (Table 4.22). The results show that traditional public school principals ($M=2.20$) were significantly more entrepreneurial than charter school principals ($M=2.05$).

Table 4.22
EO construct Means, Standard Deviations, t test and significance of different school types

<table>
<thead>
<tr>
<th>School Type</th>
<th>$N$</th>
<th>EO Total Mean</th>
<th>$SD$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Public Principal</td>
<td>300</td>
<td>2.20</td>
<td>0.43</td>
<td>3.086</td>
<td>0.002</td>
</tr>
<tr>
<td>Charter Principal</td>
<td>103</td>
<td>2.05</td>
<td>0.44</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's research   Range = 1-5

**Multiple Regression Analysis**

As I continued to examine the main research question of this study, I used a multiple regression analysis to examine the relationship between the dependent variables of the EO construct, EO subscale dimensions and type of school, while controlling for
school level, gender, and years of experience as a principal. The data shows that even after controlling for gender, experience as a principal, and the school level, the traditional school variable is a significant predictor of entrepreneurial orientation. In addition, the data clearly shows that even with controls in place, traditional public school principals have a stronger entrepreneurial orientation.

The result of the regression analysis table below (Table 4.23) indicates that 3% of the variance in overall EO scores can be explained by the independent variables. While this is relatively small amount of the total variance, the overall model was highly significant at .002. Two variables were significant predictors with the model. Years of experience were significant and negative at a .011 level, indicating that the more years of experience the principal had, the lower his or her EO score. As noted before, being a traditional school principal was highly significant at the .004 level, indicating that even after controlling for differences in the other measures, traditional public school principals had higher EO scores.

Table 4.23
Total EO Score Multiple Regression Analysis Summary (N=403)

<table>
<thead>
<tr>
<th>Variables</th>
<th>( \beta )</th>
<th>( SE )</th>
<th>( P )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional school</td>
<td>0.143</td>
<td>0.049</td>
<td><strong>0.004</strong></td>
</tr>
<tr>
<td>Secondary school</td>
<td>0.015</td>
<td>0.045</td>
<td>0.734</td>
</tr>
<tr>
<td>Years of experience</td>
<td>-0.051</td>
<td>0.020</td>
<td><strong>0.011</strong></td>
</tr>
<tr>
<td>Female</td>
<td>0.002</td>
<td>0.045</td>
<td>0.963</td>
</tr>
<tr>
<td>Constant</td>
<td>2.159</td>
<td>0.080</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Note: \( R^2 = .040 \); adjusted \( R^2 = .031 \); \( F(4,398) = 4.194 \) \( p=.002 \)

Multiple regression analysis was used to control for measured differences between charter and traditional public school principals and then tested to see if their
autonomy scores were different. The results of the regression model below (Table 4.24) indicate that the model explains 2.8% of the variance in the autonomy scores. The overall model was highly significant at .004 level. Two variables were significant predictors within the model. Years of experience was significant and negative at .032, indicating that the more years of experience the principal had, the lower his or her autonomy score. As noted before, traditional schools were highly significant at the .004 level, indicating that even after controlling for differences in the other measures, traditional public school principals had higher autonomy scores.

Table 4.24

<table>
<thead>
<tr>
<th>Variables</th>
<th>β</th>
<th>SE</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional school</td>
<td>0.165</td>
<td>0.069</td>
<td>0.018</td>
</tr>
<tr>
<td>Secondary school</td>
<td>-0.13</td>
<td>0.063</td>
<td>0.42</td>
</tr>
<tr>
<td>Years of experience</td>
<td>-0.6</td>
<td>0.028</td>
<td>0.032</td>
</tr>
<tr>
<td>Female</td>
<td>-0.41</td>
<td>0.064</td>
<td>0.518</td>
</tr>
<tr>
<td>Constant</td>
<td>2.095</td>
<td>0.112</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Note: R² = .038; adjusted R² = .028; F (4,398) = 3.943, p = .004

The same multiple regression analysis was used to control for measured differences between charter and traditional public school principals and then tested to see if their competitive aggressiveness scores were different. The results of the regression model below (Table 4.25) indicate that the model explains 5.4% of the variance in the competitive aggressiveness scores. The overall model was significant at .000 level. The same two variables were significant predictors within the model, years of experience and traditional school. Years of experiences were negative and significant at the .000 level, which indicates that the more years of experience the principal had, the lower his or her
competitive aggressiveness score. Traditional public schools were highly significant at the .006 level, indicating that even after controlling for differences in the other measures, traditional public school principals had higher competitive aggressiveness scores.

Table 4.25
Multiple Regression Analysis Summary of Competitive Aggressiveness (N=403)

<table>
<thead>
<tr>
<th>Variables</th>
<th>$\beta$</th>
<th>SE</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional school</td>
<td>0.19</td>
<td>0.068</td>
<td>0.006</td>
</tr>
<tr>
<td>Secondary school</td>
<td>0.049</td>
<td>0.062</td>
<td>0.427</td>
</tr>
<tr>
<td>Years of experience</td>
<td>-0.102</td>
<td>0.027</td>
<td>0.000</td>
</tr>
<tr>
<td>Female</td>
<td>0.052</td>
<td>0.062</td>
<td>0.427</td>
</tr>
<tr>
<td>Constant</td>
<td>2.81</td>
<td>0.13</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Note: $R^2 = .063$; adjusted $R^2 = .054$; $F(4,398) = 6.688$, $p=.000$

Multiple regression analysis was used to control for measured differences between charter and traditional public school principals and then tested to see if their innovativeness scores were different. The results of the regression model below (Table 4.26) indicate that only .4% of the variance in innovativeness score can be explained between the scores. The overall model was not significant with a $p$ value of .232. One significant predictor in the model was the traditional school variable. As noted before, traditional school was significant at the .028 levels, which indicates that even after controlling for differences in the other measures, traditional public school principals had higher innovativeness scores.
Multiple regression analysis was used to control for measured differences between charter and traditional public school principals and then tested to see if their pro-activeness scores were different. The results of the regression model below (Table 4.26) indicate that the model explains 1.4% of the variance in pro-activeness scores. The overall model was marginally significant at .048 level. A significant predictor in the model was the female variable. Female principals were significant at the .024 levels, indicating that even after controlling for differences in the other measures, female principals had lower pro-activeness scores.

### Table 4.26
Innovativeness Multiple Regression Analysis Summary (N=403)

<table>
<thead>
<tr>
<th>Variables</th>
<th>β</th>
<th>SE</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional school</td>
<td>0.142</td>
<td>0.064</td>
<td>0.028</td>
</tr>
<tr>
<td>Secondary school</td>
<td>0.015</td>
<td>0.059</td>
<td>0.794</td>
</tr>
<tr>
<td>Years of experience</td>
<td>-0.016</td>
<td>0.026</td>
<td>0.538</td>
</tr>
<tr>
<td>Female</td>
<td>0.007</td>
<td>0.059</td>
<td>0.912</td>
</tr>
<tr>
<td>Constant</td>
<td>1.727</td>
<td>0.103</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Note: $R^2 = .014$; adjusted $R^2 = .004$; $F(4,398) = 1.403$, $p=.232$

### Table 4.27
Multiple Regression Analysis Summary of Pro-activeness (N=403)

<table>
<thead>
<tr>
<th>Variables</th>
<th>β</th>
<th>SE</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional school</td>
<td>-0.076</td>
<td>0.052</td>
<td>0.146</td>
</tr>
<tr>
<td>Secondary school</td>
<td>0.024</td>
<td>0.047</td>
<td>0.614</td>
</tr>
<tr>
<td>Years of experience</td>
<td>-0.023</td>
<td>0.021</td>
<td>0.27</td>
</tr>
<tr>
<td>Female</td>
<td>-0.108</td>
<td>0.048</td>
<td>0.024</td>
</tr>
<tr>
<td>Constant</td>
<td>1.787</td>
<td>0.084</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Note: $R^2 = .024$; adjusted $R^2 = .014$; $F(4,398) = 2.414$, $p=.048$
Multiple regression analysis was used to control for measured differences between charter and traditional public school principals and then tested to see if their risk-taking scores were different. The results of the regression model below (Table 4.28) indicate that 2.7% of the variance in risk-taking scores is explained. The overall model was highly significant at .005 level. A significant predictor in the model was the traditional school variable. Traditional school was highly significant at the .002 level, indicating that even after controlling for differences in the other measures, traditional public school principals had higher innovativeness scores.

Table 4.28
Multiple Regression Analysis Summary of Risk Taking (N=403)

<table>
<thead>
<tr>
<th>Variables</th>
<th>$\beta$</th>
<th>SE</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional school</td>
<td>0.297</td>
<td>0.095</td>
<td>0.002</td>
</tr>
<tr>
<td>Secondary school</td>
<td>0.118</td>
<td>0.087</td>
<td>0.175</td>
</tr>
<tr>
<td>Years of experience</td>
<td>-0.052</td>
<td>0.038</td>
<td>0.174</td>
</tr>
<tr>
<td>Female</td>
<td>0.101</td>
<td>0.087</td>
<td>0.244</td>
</tr>
<tr>
<td>Constant</td>
<td>4.478</td>
<td>0.076</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Note: $R^2 = .037$; adjusted $R^2 = .027$; $F(4,398) = 3.822$, $p = .005$

Summary

Results from this quantitative research of charter school principals and traditional public school principals in the state of California show that traditional school principals have a consistently stronger entrepreneurial orientation than charter school principals at a statistically significant level. Principals working in the traditional public school settings scored higher on overall EO score, autonomy, competitiveness aggressiveness, innovativeness, and risk taking.

The research shows that the gender of the principal does not make a substantial
difference on the overall entrepreneurial orientation construct. Gender had no difference on the autonomy and innovativeness subscale. Male principals were significantly more pro-active than female principals. Finally, the results show a consistent pattern of more experienced principals being less entrepreneurial, even after controlling for gender, school level, and type of school.
Chapter 5: Discussion and Conclusions

This chapter presents a summary of the study and important conclusions drawn from the quantitative research presented in Chapter 4. In addition, it provides a discussion of the implications for action and suggested recommendations for further entrepreneurial orientation research within the field.

Statement of the Problem

The purpose of this study was to compare entrepreneurial orientation characteristics of charter school principals and traditional public school principals in California. As the number of charters continue to increase, further research is needed in order to determine if charter schools indeed have more entrepreneurial principals that will create and lead innovative changes from within their programs. Reporting on the entrepreneurial orientation constructs of principals will fill a void in the current research in relation to the entrepreneurial characteristics of autonomy, innovation, risk-taking, competitive aggressiveness, and pro-activeness among principals.

Purpose statement

The study of entrepreneurial orientation as a construct has progressed and emerged over the past 40 years within the business sector and the results have shown to have positive effects. Since the entrepreneurial orientation construct has been empirically studied for over 40 years, it stands to reason that incorporating entrepreneurial orientation research into education may benefit the education field as more schools implement new and innovative programs. By identifying school leaders that have shown to have a higher aptitude towards being entrepreneurial, districts are better able to find the right fit of a principal to lead a school.
Research Questions

The fundamental research question in the study asks: Do charter school principals and traditional public school principals differ from each other in the entrepreneurial orientations controlling for gender, experience as a principal and the school level (primary or secondary level). Additional sub questions investigated include:

(a) Do charter school principals and traditional public school principals differ on the five dimensions of entrepreneurial orientation construct (autonomy, innovativeness, risk taking, pro-activeness, and competitive aggressiveness) controlling for gender, experience as a principal and the school level (primary or secondary level)?

(b) Are male principals and female principals different from each other in the entrepreneurial orientations?

(c) Are primary principals and secondary principals different from each other in the entrepreneurial orientations?

(d) Do years of experience as a principal have an effect on the entrepreneurial orientation of a principal?

Methodology

This study used an Administrators’ Entrepreneurial Orientation survey instrument to measure degrees of difference in the entrepreneurial orientation construct of the two sample groups. The instrument contained 27 items, and utilized a five point Likert scale, ranging from one = very untrue of me to five = very true of me. The range of each sub scale was from six to 30, with the overall EO scale ranging from 30-150. A total of four to six items were used to measure differences between principals in each of the five EO domains of autonomy, innovativeness, risk taking, pro-activeness, and competitive
aggressiveness.

The sample data used for the research was a publicly accessible list of public schools within California from the California’s Department of Education web page. The sample data was separated into two files: one for charter school principals and the other for traditional public school principals. The files were then imported into a third party email-marketing software program, which sent a customized email solicitation, directly to the principals email addresses. The data collected from the principals was anonymous. A total of 453 responses were generated over a two-week period from the initial email solicitation being sent. However, only 403 respondents completed the survey completely and were used for the research.

The first step in analyzing that data was to conduct a Chronbach’s Alpha test in order to confirm the internal consistency and reliability of the psychometric test scores. Descriptive statistics were used to identify patterns that might have emerged from the data. T-test analyses were conducted to test mean differences between groups of variables, such as men and women, elementary and secondary as well as charter schools versus traditional public schools. Bivariate comparisons were used to see if there were significant differences between the years of experience, the overall EO score and the five dimensions of the entrepreneurial orientation construct. Finally, a regression analysis was used to identify the correlation between the independent variables and the dependent variables, and explain the unique relationship between each of the variables.
Discussion

This next section will discuss the results in relation to the study’s research questions and reviewed literature.

Do charter school principals and traditional public school principals differ from each other in the entrepreneurial orientations and the five dimensions of entrepreneurial orientation construct controlling for gender, experience as a principal and the school level (primary or secondary level)?

In order to answer the main research question, the researcher conducted a regression analysis to identify whether or not there were differences amongst charter school principals and traditional public school principals within the EO construct. The regression analysis concluded that after controlling for measured differences that traditional public school principals were statistically more entrepreneurial then charter school principals. Additionally, the regression analysis concluded that years of experience as a principal, was a significant and negative predictor at exhibiting entrepreneurialship. To further clarify the data suggest that the more years of experience the lower the principal’s entrepreneurial score.

T-test analysis revealed that traditional public school principals were statistically significantly more entrepreneurial than charter school principals. This data shows that traditional public principals scored higher on entrepreneurial orientation subscales of autonomy, competitiveness aggressiveness, innovativeness, and risk taking in addition to the overall entrepreneurial construct. Charter school principals scored higher on the pro-activeness sub scale, however, the difference was not significant.

The study revealed that there is a statistically significant difference between the charter school principals and traditional public school principals in the autonomy subscale score. Traditional public school principals were more likely to prefer autonomy
than charter school principals. Research shows that principals that are autonomous work independently make decisions, carry them through and lead change both within schools and local communities (Yemini, Raccah, & Katarivas, 2014; Triant, 2001). Traditional public school principals that work in larger districts have a systematic approach to leading change within the school sites (Armstrong-Bogel, 2008).

Charter school principals are not held to the same regulations. They have to submit their budgets and local control accountability plan (LCAP) to the county; however, their LCAP, which directs how they are going to spend their money, does not have to be approved by an external agency. According to research conducted by Payne (2013), he hypothesized that charter school autonomy has failed to produce innovation or improve student achievement and that “the evidence on charter school [staff] turnover and lack of job security may explain some of the lack of difference in student achievement between charter schools and traditional public schools” (p. 22). It is possible that as more charters schools have been taken over by charter management organizations (CMO) and charter school principals have lost the autonomy to function independently and take risk.

Principals in traditional public schools are statistically more competitively aggressive than principals of charter schools. According to Lumpkin and Dess (1996), principals that are competitively aggressive “directly and intensely challenge its competitors” (p. 148). With the creation of charter schools, competition naturally aroused between the two institutions. Public schools began to feel threatened by charter schools and began developing programs that would entice families to take their students to public schools as opposed to charter schools. In addition, public school principals began to look
at ways to distinguish their individual site programs to improve student retention. As the numbers of charter schools continue to increase, naturally they will be viewed as competition for traditional public schools. However, the results suggest that charter principals are actually less competitive than their traditional public school counterparts. Traditional public schools principals are more competitive because they have seen a continuous decrease in their enrollment whereas charter schools have seen a significant increase. In 2012-2013 the total number of students enrolled in charter schools increased from 471,501 to 514,275 during the 2013-2014 school year. This represents an overall increase of 9.1% in the number of students attending charters schools (http://data1.cde.ca.gov/dataquest/content.asp).

Principals in traditional public schools are more innovative and more willing to take risks than principals of charter schools. Traditional public school principals are more willing to take risks and engage with new ventures that could possibly result in negative consequences for both the individual and their institution. In addition, traditional public school principals that are a part of larger districts have multiple programs being implemented at once and are balancing implementation of their programs which could lead to negative results for their school site or district. When charter schools might take risks, they are minimal and only effect their institutions, whereas public schools take risks as a district and the implications of failure have more consequences. For example, during the 2013-2014 school year there were approximately 34 charter schools that closed their doors because they took risks and the outcomes were unsuccessful.

In addition, public school principals also take risks with their outreach to the community. Public schools cannot choose the students that attend their schools or the
amount of parental involvement that will take place, whereas charter schools have required, although illegal, parental involvement within their schools. Another reason for this may be that generally the individuals that start or create charters schools are not the ones that run the day-to-day operations at the school. Therefore, the innovative ideas may lie with the founder of the charter schools and not the principal.

Traditional public school principals were significantly more likely to be risk takers than charter school principals. Creating changes within a school setting involves taking a risk for school leaders. Previous research on risk taking among teachers, found that teachers within traditional public schools were less likely to take risk then teachers from charter schools (Petri, 2013). Petri’s (2013) data suggest that unlike the teachers within traditional public schools, traditional principals exhibit different characteristic. One reason for this may be that principals that are risk takers are unconventional thinkers that are willing to go above and beyond in order to enhance student learning. Also, a lack of job security within charters school might explain why principals are less willing to take risks.

**Are male principals and female principals different from each other in the entrepreneurial orientations?**

T-test analysis revealed, that there were no significant differences between male and female principals in the overall entrepreneurial orientation construct. Additionally, analysis of the subscales indicates that there are no differences between the genders on autonomy and innovativeness. After conducting a regression analysis controlling for type of school and level of experience the data shows that male principals were significantly more pro-active than female principals on the pro-activeness dimension, which is the opposite of results from Petri (2013), in his study of teacher entrepreneurial orientations.
This finding may require additional research to explore the differences between female teachers and female principals. Female principals reported being more competitive aggressive than male principals. One of the interesting findings within the study was that female principals were more willing to take risks than male principals. It is possible that female principals may need to demonstrate a higher need for achievement and thus embrace the characteristics of being ambitious and are more willing to engage in more risk taking activities than male principals.

Are primary principals and secondary principals different from each other in the entrepreneurial orientations?

T-test analysis revealed that there was no significant differences on the overall entrepreneurial orientation construct and on four of the five subscales between elementary or secondary principals. The research did find that elementary principals were more autonomous than secondary school principals. Although there is little research regarding EO and autonomy in education, researchers found that autonomy enables school principals to take advantage of opportunities within their school environments (Yemini, Raccah, & Katarivas, 2014). In Triant’s (2001) research regarding charter school principals utilizing autonomy to create innovation within their schools, he states that principals use autonomy in different areas such as, “teacher hiring, budgetary control, instruction and curriculum, organizational design, and accountability” (p. 1). A qualitative research study may need to be conducted to explore the differences in autonomy both at the elementary and secondary principal levels. Utilizing a qualitative research approach will allow the researcher to go into more depth as to the principals understanding of autonomy and the types of decisions related to autonomy.
Do years of experience as a principal have an effect on the entrepreneurial orientation of a principal?

The correlation analysis revealed that years of experience a principal have a significant negative association with the overall entrepreneurial orientation construct of a principal. Additionally, after conducting a regression analysis controlling for type of school, level of school, and gender the results were statistically significant and negative. This would suggest, that the longer a someone services as principal his or her behavior changes to be less entrepreneurial. Another alternative explanation may be that as entrepreneurial principals gain more experience, they leave the field of education, or in essence they are weeded out of the field. In either case these data suggest that more experienced principals will be less entrepreneurial. Additional research needs to be conducted to identify reasons entrepreneurial principals tend to leave the field of education as they become more experienced.

Implications for Practice

This study developed an administrator entrepreneur orientation instrument that was validated for internal consistency and reliability that can be used within both charter schools and traditional public school systems for hiring and selecting school site administrators, which will align with the mission or vision of the school site; however, given the legal constraints on psychological testing in employment this instrument can only be used to predict performance. There is more research that is needed to determine if having these characteristics predicts performance, but that research has not been done yet. A substantial finding was that charters do not appear to employ more entrepreneurial principals so the assumption that charter schools are more entrepreneurial may be wrong. As districts continue to look at new and innovative ways of increasing student
achievement, the need to have the right person to lead and implement such changes at the site level will be crucial. By developing a cost effective way of identifying entrepreneurial candidates, school and districts are more likely to be successful in hiring administrators that can help lead the change within their educational system. In order to use this instrument for hiring, there would need to be more research conducted that shows that a high EO score will increase student achievement.

In looking at this study and research on school leadership, both charters schools and traditional public schools need to consider several factors such as training, hiring and retention of principals. For example, public school systems are typically much larger than charter schools and larger districts tend to use training and professional development more than smaller districts. In training principals, districts must consider how they will train their principals to be innovative and lead change at the school site level. In addition, districts need to be aware and conscientious of the person they are hiring and the school site in which they will lead. Placing principals within the right environment can create a successful leader that is able to generate and maintain sustainable change. Furthermore, as principals are able to create change and become effective leaders they are more willing to stay within the profession and feel gratification regarding the work that they are doing.

Charter schools are smaller and more mission driven and when hiring school principals within charter schools, leaders tend to hire principals that fit their mission. In traditional public schools, principals are hired from a variety of different skill sets and may be placed at a school that does not fit their skill set. In traditional public schools, principals are being hired for the district, not a specific school site. In addition, it is very natural to see a lot of movement of administrators within a traditional public school
setting. This might suggest that charter schools are looking at hiring people that fit the mission of the school. Charter schools are more narrow minded in their hiring process and overlooking applicants that are more entrepreneurial.

As the total number of charter schools continues to expand, there continues to be a perception that charter schools are the vehicle for creating new and innovative ways for increasing student achievement. According to National Alliance for Public Charter Schools (2014) “charter schools are unique public schools that are allowed the freedom to be more innovative while being held accountable for advancing student achievement” (para. 1). This comparative study contradicts claims and perceptions on charter schools and the data indicates that charter school principals report fewer entrepreneurial characteristics then traditional public schools. These results show that traditional public school principals are more innovative, and willing to take risks, which allows them to build more capacity at the site leadership level, and create innovative programs to sustain long-term student improvement compared to charter schools.

**Implications for Policy**

This study challenges the idea that by moving public funds into charter schools, policymakers bring more innovation and entrepreneurial thinking to education. These results suggest the opposite, that traditional public school principals are likely to be more entrepreneurial and that supporting traditional public schools may lead to more innovation. If policymakers acted on this assumption, there would be less emphasis on allocating so much money into charter schools and more funding will be allocated towards traditional public educational system.
**Recommendations for Future Research**

This study was able to create a reliable instrument for measuring EO among educational leaders. Additionally, this instrument will allow for future research to be conducted in relation to EO within education. In addition, results from this study show that traditional public school principals were significantly higher than charter school principals in the areas of autonomy, risk-taking, innovation, competitive aggressiveness and the overall entrepreneurial orientation. This study is significant because it contradicts perceptions and claims that charter school principals are more entrepreneurial.

These results suggest several other issues for future researches to explore. First, the fact that charter principals have a weaker entrepreneurial orientation may explained by organizational life cycles. Its seems likely that founding principals in charter schools would have a strong entrepreneurial orientation, but that subsequent principals are more bureaucratic and less entrepreneurial. This is a topic that deserves careful study by future researchers.

A second key issue this study did not address is the link between entrepreneurial principals and higher student achievement. Past research conducted within charter schools shows that schools that foster a sense of competition and innovation among the administrators, as-well-as the teachers, create entrepreneurial characteristics that are naturally imitated by the students within their own personal lives (Sobel & King, 2008). However, the study was only conducted within charter schools and did not consider student scores on traditional achievement tests. A study that included both charter and traditional schools, measured principals EO and then associated the EO measure with student achievement could examine if the link between principal EO and achievement is
real. Third, a troubling finding in this study was the fact that longer serving principals had lower EO scores independent of other factors. Additional research could explore if entrepreneurial principals leave the field of education more often than less entrepreneurial principals. Similarly, research to test if entrepreneurial behavior declines over the course of principals’ careers would also be important. Such a study would require longitudinal study of principals, but would be worth the investment.

Finally, further research could be conducted on whether or not entrepreneurial principals are more likely to hire teachers who exhibit an entrepreneurial orientation. In short: do entrepreneurial principals build an entrepreneurial culture within their schools? Petri (2013) conducted his research on the entrepreneurial orientation of teachers and this research focuses on the entrepreneurial orientation of administrators. Further research could measure the EO of both groups to see if there is a relationship and how it occurs.

In comparing the entrepreneurial orientation of charter and traditional public school principals, this research challenges assumptions that charter school principals are more entrepreneurial than traditional public school principals. In addition, this research provides a foundation for continued research among the various subgroups of principals which may suggest better ways of leading schools through an ever changing 21st century educational system.
References


Covin, J., & Lumpkin, G. (2011). Entrepreneurial orientation theory and research:


Smith, K. & Peterson, J. L. (2006). What is educational entrepreneurship? In Frederick


Appendix A

Dear Principal:

My name is Victor Torres, I am an elementary school principal, school board member, and doctoral student at California State University Northridge. I am inviting you to participate in this research study by completing the attached questionnaire. My research will investigate, the entrepreneurial attitudes of principals. For this study, I have adapted an Entrepreneurial Orientation instrument, which has been used in Management theory and research for over 40 years.

The following questionnaire will require approximately 10-15 minutes to complete:

https://www.surveymonkey.com/s/PrincipalsEO

This study has been approved by California State University Northridge’s Institutional Review Board and poses no danger to human subjects. Participation is strictly voluntary; completion and return of the questionnaire will indicate your willingness to participate in this study. You may refuse to participate at any time. If you have questions, concerns, or comments about this research project, you may contact the following:

1. Mr. Victor Torres (Principal Researcher) via email at victor.torres.52@my.csun.edu
2. Dr. Richard Moore (Faculty Advisor) via email at richard.moore@csun.edu

Thank you for taking the time to assist me in my educational endeavors. The data collected will provide useful information regarding entrepreneurial orientation of both traditional public school principals and charter school principals.

Thank you for your time and consideration.

Sincerely,

Victor Torres
Appendix B
Administrator Entrepreneurial Orientation Instrument

The purpose of this research is to measure the entrepreneurial orientation of principals. You will be asked a series of questions. Please rate the level at which you agree with the item.

Your participation is completely voluntary and confidential. There are absolutely no consequences for not participating in this research project. If you begin participating and change your mind you may end your participation at any time without negative consequences; simply cease taking the online survey. Your identity is not being collected and will not be disclosed.

*1. My Gender is:
   Male
   Female

*2. I am a principal at an:
   Elementary School
   Middle School
   High School
   Span School K-8
   Span School 6-12
   Span School K-12

*3. I am a principal of a:
   Charter School-Independent (different governing board from traditional school districts)
   Charter School- Dependent (same governing board as the traditional school district)
   Traditional Public School
   School of Choice (traditional public school)

*4. I have been a principal for:
   0-3 years
   4-7 years
   8-11 years
   12+ years

*5. Prior to entering the field of education, have you worked full-time in a supervisory/management position within the private industry?
   Yes
   No
This instrument measures principals along dimensions of innovativeness, pro-activeness, autonomy, competitive aggressiveness and risk taking. Please read each item and choose the response that best represents you as a school leader.

1. Students in my school often outperform students in other schools.

2. I embrace innovative ways of improving my leadership.

3. I take preemptive action to overcome any anticipated obstacles to learning within a school/district.

4. I commit large amounts of school resources to untested leadership practices.

5. I prefer to operate/work without frequently consulting with a supervisor.

6. I create better learning opportunities in my school when compared to other administrators in my district.

7. I enjoy creating original leadership practices.

8. I like to attend workshops that demonstrate ways to solve educational problems.

9. I am willing to gamble on new leadership approaches.

10. I encourage my teachers to create their own lessons and curriculum.
11. I like to develop novel leadership practices.

12. I work hard to anticipate problems/barriers to learning.

13. I like to take bold actions by trying unproven leadership methods.

14. Students in my school do more work than students in other schools.

15. I like to try innovative leadership strategies.

16. I tend to anticipate problems when planning new initiatives.

17. I tend to take chances with my leadership styles even when the educational outcomes are uncertain.

18. I encourage my teachers to design their own methods of instruction.

19. I use more of what are known as best practices in my school than most of my colleagues.

20. I believe that innovation as an administrator is essential to improving teaching and learning.
21. I prefer to take action as soon as possible when student results are unsatisfactory.

22. I like to try versions of leadership practices, which are ‘long shots’ as being successful.

23. I am a more effective administrator when I set my own goals and objectives.

24. I enjoy debating with other administrators when discussing best practices.

25. I experiment with creative ways to improve upon my school/district’s curriculum.

26. I often scan educational publications/journals/blogs to solve problems in my school/district.

27. I deviate from my school/district’s curriculum even when the outcomes are uncertain.