

ABSTRACT

THOMSON, LISA PETTY. Exploring Student Perceptions of Ed.D. Program Benefits: A Q Method Examination. (Under the direction of Dr. James E. Bartlett)

Within the field of higher education, Colleges of Education, in conjunction with the Carnegie Project on the Education Doctorate (CPED), are working to distinguish the Doctor of Education (Ed.D.) as a distinct doctoral degree designed for scholar-practitioners. The purpose of this study was to identify the perceptions of current Ed.D. students and alumni in CPED-affiliated programs regarding their program benefits. Q methodology, a mixed method approach designed to examine individuals' subjective opinions and perceptions in a systematic way, was used to study the participants' viewpoints. Participants received a concourse of 61 statements to sort based on their opinions of their program's benefits, using a +5 (most important benefit) to -5 (least important benefit) scale. In addition, participants completed a post-sort survey designed to collect demographic information and gather a more in-depth perception of each participant's highest three statements (+5) and lowest three statements (-5). Data were analyzed through factor analysis to determine six distinct factor groups with opinions about Ed.D. program benefits.

The results of this study indicate that Ed.D. students hold varied opinions about the benefits of their programs. The six factors formed through the analysis illustrated that students chose their Ed.D. programs to gain research skills, for leadership development, for enhanced earnings and job prospects, to gain credentials and recognition, to become change agents, or for personal change. These six groups were all distinguished from each other in their opinions and represented a range of ages, races/ethnicities, job functions, and institutional types.

The insights provided from these participants highlighted that younger students were very focused on career advancement and increased earnings, whereas older students were more interested in self-directed learning and personal growth. In addition, individuals seeking to gain practical research skills were less interested than their peers in personal growth and networking. Interestingly, while multiple groups illustrated an interest in change, the types of change individuals sought ranged from personal change to the ability to become a change agent within their workplaces and in the field.

Given the wide range of individuals applying to Ed.D. programs, program directors and colleges of education should consider the various viewpoints presented in this study in an effort to meet prospective student, current student, and alumni demands and expectations. Similarly, with program format highlighted as a key factor in program selection by the majority of participants, this current study can be utilized as a platform for further discussions with faculty and administrators about program redesigns. By adding to the limited research base on this topic and offering practical implications for Ed.D. programs, this study serves to further the CPED agenda within the field.

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Exploring Student Perceptions of Ed.D. Program Benefits: A Q Method Examination

by
Lisa Petty Thomson

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APPROVED BY:

James E. Bartlett
Committee Chair

Diane Chapman

Lance D. Fusarelli

Dennis Wiese

DEDICATION

This paper is dedicated to my number one fan and very supportive husband, Tug, my always energetic and loving children, Ferne and Quinn, and my selfless parents, Berry and Frankie.

Your love and support allowed me to pursue this lifelong goal, and I will be forever grateful.

BIOGRAPHY

Lisa Petty Thomson grew up Raleigh, North Carolina. Always interested in learning, she graduated from Appalachian State University with a B.S.B.A in Marketing and Economics, Bowling Green State University with an M.A. in College Student Personnel, and The University of North Carolina at Chapel Hill with an M.Ed. in School Counseling. Given her passion for higher education and working with students, her career has allowed her to work in a wide variety of student services functions at institutions including Fairleigh Dickinson University, the University of Virginia, the University of North Carolina at Charlotte, and Duke University. She currently works as an Associate Director in the Career Management Center at Duke University's Fuqua School of Business.

While pursuing her doctoral studies, Lisa was selected for the Directorate Board for the Commission for Graduate and Professional Student Affairs within APCA – College Student Educators International. In addition she has been actively involved with the Academy of Human Resource Development, the National Association of Colleges and Employers, the Junior League of Raleigh, and 519 Church.

When Lisa was accepted into the program, she and her husband, Tug, had two dogs to entertain them. Throughout the duration of her studies, the family has expanded to include their daughter Ferne and their son Quinn. They have been helpful at making sure Lisa finds balance between playing outside and reading research articles.

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CHAPTER ONE: INTRODUCTION

Background

Within the last 10 years, institutions of higher education in the United States have faced increased scrutiny from their constituents over the rising costs of a college education (Cowan & Kessler, 2015; Radwin & Wei, 2015). From an economic perspective, this emphasis on the costs of higher education is not surprising. According to data from the National Center for Education Statistics, for the 2011 – 2012 academic year, the average cost of a four-year degree ranged from \$23,200 for public institutions to \$43,500 for private, non-profit institutions (Radwin & Wei, 2015). Currently, prices are continuing to rise across all institutional types (Schoen, 2015).

Given these rising prices, approximately 69% of students require financial aid and loans to finance their education (“The Institute,” 2015), and much of the aid available is interest-bearing loans (Radwin & Wei, 2015). Thus, currently, students graduate with an average of \$28,950 in student loan debt from their undergraduate tenure, with debt ranging from \$4,750 to \$60,750 (“The Institute,” 2015). Factor in graduate education and the numbers continue to increase.

Unfortunately, student debt is not the only economic issue currently facing colleges and universities. College and university leaders are also experiencing a call for accountability from students, employers, and governmental agencies - accountability based on the monetary utility of degrees (Cowan & Kessler, 2015; U.S. Department of Education, 2014). Not only have students increased their post-graduation job and salary expectations, but employers expect college graduates to possess certain skills, including communication skills and the ability to work cohesively in teams (“Job Outlook,” 2015). At the same time, state and federal governments are conducting cost-benefit analyses of various majors/programs to post-graduation outcomes of

students and discontinuing the programs deemed cost prohibitive (Schaefer, 2015).

Performance-Based Funding

Additionally, performance-based funding (PBF), or funding based on the job placement of graduates, is increasing in popularity across the nation (Friedel, Thornton, D'Amico, & Katsinas, 2013; Harnisch, 2011; "Performance-based funding," 2015). PBF has garnered support from many influential organizations, including the Lumina Foundation, the Bill and Melinda Gates Foundation, and the College Board (Harnisch, 2011; "Performance-based funding," 2015). This support, coupled with the Obama Administration's call for states to increase graduation rates, has greatly influenced the use of PBF (Anderson, 2015). In fact, 32 states currently utilize PBF models for at least a portion of their appropriations, and five more states are considering implementing similar initiatives ("Performance-based funding," 2015). This resurgence of PBF is important because PBF emphasizes the link between investments and outcomes of higher education and frames the discussion of education in economic terms.

Emphasizing Program Outcomes

Given this call for increased accountability and the potential financial implications, institutions are scrutinizing programs to determine feasibility based on resource allocation and subsequent career success of graduates (U.S. Department of Education, 2014). In fact, implications for programs and institutions not showing positive career outcomes for graduates are already evident today. For example, the University of North Carolina state system recently selected to discontinue 46 academic programs with low enrollments as they were deemed ineffective (Schaefer, 2015). Additionally, within the for-profit sector, the University of Phoenix's parent company Apollo Education Group and DeVry Education Group faced legal ramifications from the Federal Trade Commission after program reviews ("FTC Investigates,"

2015). More specifically those organizations were cited for false advertising of their degree offerings which caused students to have exorbitant debt and high loan default rates based on poor employment outcomes (“FTC Investigates,” 2015; U.S. Department of Education, 2014). Regardless of broader opinions or perceptions of for-profit institutions, these lawsuits illustrate the ramifications that can occur at the institutional level when the government increases oversight of educational outcomes.

Although the Obama Administration’s proposed college rating system never materialized, it did introduce the idea of rating colleges based a cost-benefit analysis for graduates (Anderson, 2015). Now, the fear of state-level governmental initiatives designed to regulate all colleges and universities, non-profit and for-profit alike, are causing institutions to examine degree programs at all levels – associates, undergraduate, and graduate (Cowan & Kessler, 2015; Harnisch, 2011). While the majority of the legislation focuses on associate and undergraduate degrees, the problems pervade all levels (“Performance-based funding,” 2015). Even with the recent changes in national leadership and in the national education agenda, performance-based funding remains a frequently discussed option in the debate to lower the cost of a college education (Kelderman, 2016).

The costs and benefits of attending graduate school are equally scrutinized from the student perspective. Although existing research on graduate school choice is limited, the existing research base illustrates that the amount of money borrowed to pay for graduate school compared to the resulting employment opportunities post-graduate school influence students’ enrollment decisions (Bedard & Herman, 2008; Heller, 2001; Kallio, 1995; Millett, 2003). Students who view graduate school as a way to safeguard continued long-term employment and income advancement are more likely to enroll in graduate degrees (Wendler et. al, 2010), as are students

who view graduate school as a catalyst for advancement, with the associated costs serving as a way to operationalize future financial gains (Zhang, 2005). Therefore, although research indicates that students collectively benefit from completing graduate degrees, despite differences in the amount of benefit across demographic characteristics (Zhang & Thomas, 2005), foregone income and the broader labor market largely influence enrollment decisions (Bedard & Herman, 2008; Millett, 2003). Given the age and life stage of many graduate students, especially those individuals pursuing doctoral degrees, it makes sense that perceived opportunity costs impact their decisions to enroll in graduate school (Jepsen & Montgomery, 2012).

Therefore, this study examines the issues of cost and outcomes of higher education from the lens of doctoral education. The remainder of this chapter further describes the rationale and significance of this study on students' perceptions of Doctorate in Education (Ed.D.) program benefits upon graduation. The statement of purpose, theoretical framework, and conceptual framework are introduced, along with the significance of the study and the research questions. Limitations and delimitations of the study design are described, as well as the key terms utilized in the study.

Statement of Problem

Even though the percentage of students pursuing doctoral degrees is significantly smaller than other levels of higher education (Kena et al., 2015), doctoral students do serve important functions for universities, including teaching courses and conducting research (Golde & Dore, 2001). Additionally, non-funded doctoral students, typically students in professional programs, represent an additional revenue stream for universities –a critical component in uncertain economic times (Rhoades & Slaughter, 2004). Nevertheless, despite the roles filled by doctoral students, doctoral programs are rarely the focus of academic research.

Overall, a review of the academic research reveals a lack of research on doctoral degrees, especially compared to secondary and undergraduate education. Plus, of the existing research at the doctoral level, the majority focuses on faculty preparation and academia, which largely focuses on full-time Doctor of Philosophy (Ph.D.) programs (Golde & Dore, 2001). In fact, due to funding opportunities from the National Science Foundation, much of the existing research emphasizes science and engineering programs (“National Science,” 2015).

Thus, programs and colleges offering professional degrees, especially programs where graduates seek non-academic employment are often excluded from the literature. For example, Ed.D. programs, housed in colleges of education, are typically missing in the broader literature. Even the Carnegie Project on the Education Doctorate (CPED), the leader in redesigning the Ed.D., has not conducted research on employment outcomes of graduates from these programs (“About Us,” 2016).

This significant gap in academic and popular press literature creates a lack of adequate information within the academy and in the marketplace – both for students and employers. This problem is very pronounced within colleges of education because those colleges must not only address the lack of information on outcomes, but must also work to differentiate the Ph.D. in Education from the Ed.D. Currently, not only do many prospective students struggle to determine which type of doctoral program in education to pursue (Aiken & Gerstl-Pepin, 2013), but current students and programs themselves continue to struggle to differentiate the degrees and clearly articulate the target market for each type of program (Perry, 2015). Thus, in the current state, programs and students are not adequately prepared to make informed decisions about program selection or to address the new call for accountability of program outcomes.

Similar to academia, popular press literature also struggles to define the degrees. For example, according to Wikipedia, an Ed.D. is a degree used to gain an appointment as a professor, but can also be used to prepare for academic positions in education and human development (“Doctor of Education,” 2017). Additionally, DeWitt Scott (2016) highlighted the benefits of each degree in *Inside Higher Ed*, stating that Ph.D. degrees are typically more research intensive and more common for faculty careers, while Ed.D. degrees typically focus on more practical, administrative concepts. However, he acknowledged that not all programs adhere to those distinctions (Scott, 2016). Furthermore, CPED, the leader in the Ed.D. design/redesign space, defines the Ed.D. as a professional degree that “prepares educators for the application of appropriate and specific practices, the generation of new knowledge, and for the stewardship of the profession” (“About Us,” 2016). While this definition provides all the key tenets of the degree, it does not describe tangible, concrete differences between an Ed.D. and a Ph.D. Thus, further defining the degrees and explaining the role of education in fostering graduates’ desired economic growth and career development will assist institutions, students, and employers in effectively designing and delivering Ed.D degrees that meet student expectations and demands.

Purpose Statement

There is a two-fold purpose to this study. The primary purpose of this study is to examine students’ perceptions of Ed.D. program benefits through the use of Q methodology. Research indicates that students typically select graduate school based on their attitudes about a specific program of interest and how that program will positively influence their future career outcomes (Ingram, Cope, Harju, & Wuensch, 2000). In fact, according to English (2012), education majors are significantly more likely to aspire to graduate degrees than peers in business or science and mathematics. At the doctoral level, it is demonstrated that students within colleges of education

seek a variety of employment, within academia and industry, largely based on the success of previous graduates of their respective programs (Johnsrud & Banarla, 2004). If these criteria influence program selection of Ed.D. programs, then it is important to understand the perceptions and considerations of students regarding program benefits and outcomes.

Given that CPED is a consortium of institutions specifically focusing on advancing the Ed.D. degree (“About Us,” 2016), this group of institutions represents a population with a vested interest in Ed.D. program benefits and thus represents the sampling group for this study. Brown (2004) describes Q methodology as a technique proven to identify and analyze perceptions and opinions, thus Q method will be used to gauge opinions of students from select CPED-affiliated institutions in relation to distinguishing program benefits, both academically and related to post-graduation careers. Through the analysis, the highest and lowest ranked statements regarding program benefits will be identified, as well as any consensus statements between groups, and will provide information necessary to evaluate the factor groups of students that feel similarly towards their Ed.D. programs and their intended program benefits. Overall, program leaders, students, and alumni all stand to benefit from the advancement of the Ed.D. degree, both institutionally and as consumers; so to advance this mission, it is important to understand students’ perceptions of their programs and their program benefits and the rationale behind these viewpoints.

In addition to explaining the perceptions of Ed.D. programs and their outcomes, the secondary purpose of the study is to address the lack of existing scholarly research on doctoral programs. This research will enhance the research base within educational literature, especially within the scope of professional doctoral degrees. Adding the component of program outcomes

will further enhance the scope of the research, broadening the research base beyond school choice alone.

Theoretical Framework

Two theories emerge in the literature to support the study of students' perceptions of their Ed.D programs and future employability – human capital theory and Super's (1990) life-span, life-space career development theory. Human capital theory provides the theoretical framework for the economic expectations of students and graduates, whereas Super's (1990) life-span, life-space career development theory incorporates career outcomes and job satisfaction.

When examining educational programs, the academic rigor of said programs is important because quality of education impacts the continuation of advanced education and training, which can ultimately effect job trajectories and lifetime earnings, otherwise known as labor market outcomes (Becker, 1960; Becker, 1992). Similarly, the career benefits received as a result of that education are especially important for doctoral students because individuals pursue advanced degrees to enhance their lives and careers (Harvey, 2000; Ingram et al., 2000). Not only do individuals seek improved job prospects, but they seek jobs that will offer more responsibility, higher earnings, and greater long-term earning potential (Harvey, 2000; Wellington & Sikes, 2006). Thus, this study is framed on a combination of the tenets of human capital theory and the principles of Super's (1990) life-span, life-space career development theory

Human capital theory.

Human capital theory is an economic theory that focuses on the development of individuals and the economic benefits that result from individuals investing in themselves and their betterment (Baptiste, 2001; Becker, 1992; Olaniyan & Okemakinde, 2008; Sweetland, 1996). While the links between wealth, capital, and the value of knowledge and learning can be

traced back to the early economic teachings of Adam Smith (Baptiste, 2001), human capital theory was not formally developed until the 20th century. Economists Gary Becker (1960, 1964) and Theodore Schultz (1961) are credited with the development of human capital theory as it is known today. While Becker (1960) and Schultz (1961) examined human capital theory from different angles, with the former focusing on schooling as an individual investment and the latter examining investments in education at the macro-level, both theorists believed education yielded a positive rate of economic return for individuals (Nafukho, Hairston, & Brooks, 2004).

Nevertheless, despite these positive assertions, human capital theory has been met with skepticism since its inception as an economic theory. The longstanding critiques, as noted by Blaug (1976), highlight the fact that human capital theory fails to account for the impact on lifetime earnings due to factors such as family background, natural aptitude, and occupational choice. While these factors may impact potential earnings, the plethora of empirical studies focused on human capital theory reiterate the importance of education in relation to lifetime earnings (Becker, 1993; Manuelli & Seshadri, 2014; Sweetland, 1996).

Thus, an overall belief in the tenets of education, paired with a focus on increased productivity and efficiency within society, illustrates the relationship between human capital theory and the economics of education (Sweetland, 1996). Not only does this theory illustrate the value of training and development within the modern workforce (Nafukho et al., 2004; Swanson & Holton, 2009), but it highlights the value of investing in education in all levels. While much of the research focuses on primary education or undergraduate degrees (Becker, 1993; Perna, 2003), the reasons individuals pursue doctoral degrees also include potential career outcomes and monetary gains (Perna, 2003; Wellington & Sikes, 2006). Human capital theory

fits this study based on the extensive research base within the field of education (Sweetland, 1996) and the focus on the economic benefits of investments in education.

Super's life-span, life-space theory.

In addition to the economic aspects of labor market outcomes explained by human capital theory, this study also examines the career outcomes of Ed.D. graduates. While job prospects are not the only factor students consider when choosing professional doctoral programs (Harvey, 2000), career development is still a critical component in the program and degree selection process (Wellington & Sikes, 2006). From the theoretical perspective, among the vast array of career development theories, Super's (1990) life-span, life-space theory is the most salient for doctoral students pursuing Ed.D. programs. This latest version of his longstanding theory factors in all life roles, both in how individuals determine and pursue careers and how they view their jobs (Smart & Peterson, 1997; Super, 1990). Super's (1990) holistic approach to career development fits this segment of doctoral students because the majority of Ed.D. programs, including those affiliated with CPED, are largely geared towards working professionals who seek to become scholar-practitioners ("About Us," 2016). Therefore, the majority of these students have chosen to pursue doctoral degrees while simultaneously striving to advance their careers – a perfect scenario for blending human capital theory and holistic career development.

Conceptual Framework

This study seeks to deepen the understanding of students' perceptions of key characteristics of their Ed.D. programs and their future labor market outcomes as those features typically influence program selection. The conceptual framework, based on the literature review of this topic, provides a basis for the variables selected. The existing literature, albeit limited in scope, draws from the fields of economics, career development, and education and highlights the

importance of studying program selection and subsequent goals for employment. Examples of the specific perceptions include perceptions of academic knowledge and skills gained, of research and communication abilities gained, of personal growth, self-reflection, and the development of leadership qualities, and of post-graduation labor market outcomes. Figure 1 illustrates the conceptual framework utilized in this study. In general, this study seeks to understand how different groups of current students perceive the benefits of their Ed.D. programs through the use of Q methodology. As explained in Chapter Three, Q methodology utilized factor analysis to define distinct groups of viewpoints on the chosen topic. For this study, six unique groups emerged, as shown in the conceptual framework (Figure 1). Integrating the opinions and viewpoints of these groups helps to inform practice, policy, and research by discerning any direct or indirect influence that these perceptions may have on program selection and/or satisfaction.

Research Questions

The following research questions frame this study about students' perceptions of their CPED-affiliated Ed.D. programs and their perceptions of their program benefits:

- Q1. What are the perceptions among students in CPED programs towards their program benefits and why?
 - a. What are the highest and lowest ranked statements by group?
 - b. What are the distinguishing characteristics between groups of students in their perceptions of their program benefits?
 - c. Were there any common statements regarding student perceptions of program benefits among participants?

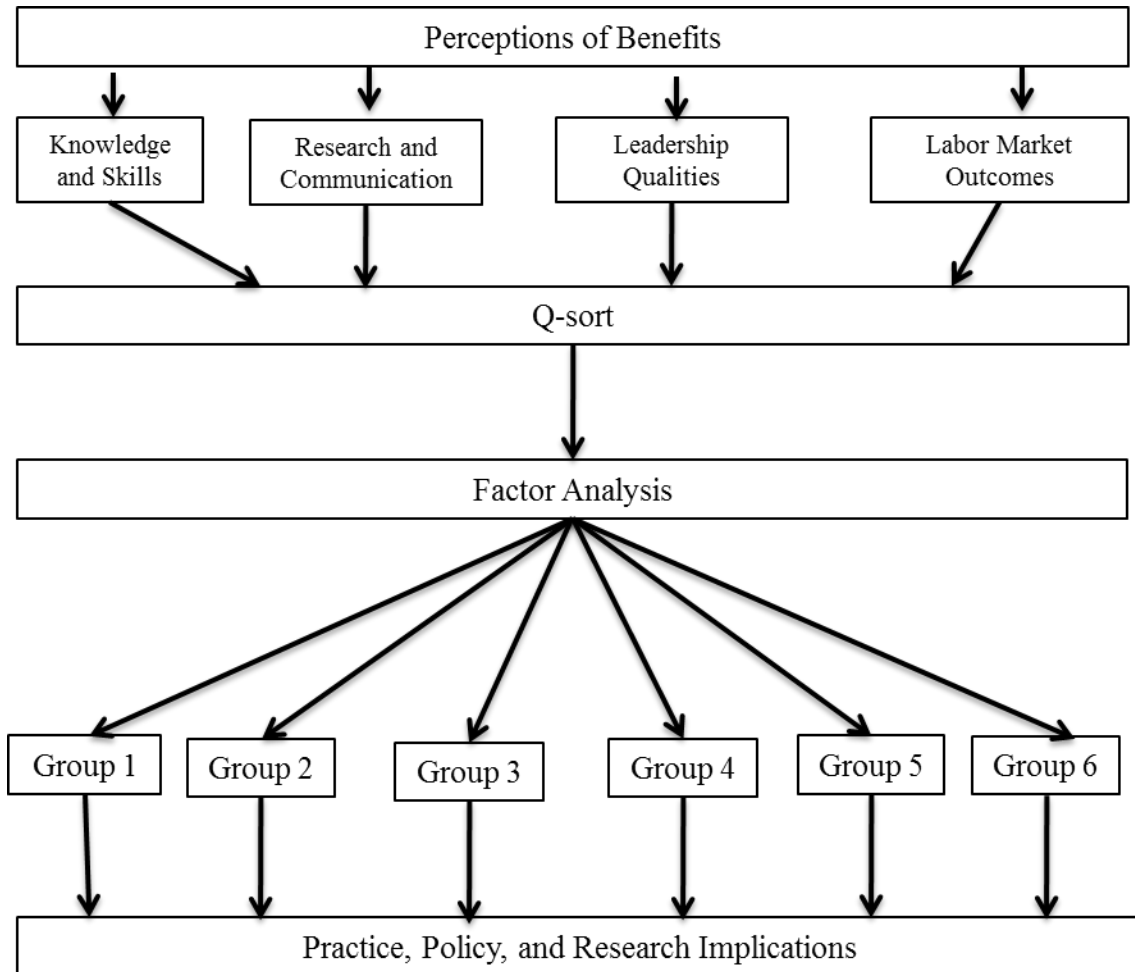


Figure 1. Conceptual framework.

Significance of Study

This study expects to contribute to the field of doctoral education, with an emphasis on Ed.D. programs, by providing new knowledge on doctorate of education degrees and program benefits. Considering the recent call by stakeholders and funding sources for increased accountability by college and university programs on employment outcomes of graduates (“Performance-based funding,” 2015), doctoral programs need data to illustrate the utility of their programs. Addressing this significant gap in the educational literature will impact Colleges

of Education offering the Ed.D. degrees by providing data-driven research for faculty and administrators to utilize to address the need for accountability of outcomes.

Similarly, considering the recent efforts led by CPED to redesign the Ed.D. as a distinctive and meaningful doctoral degree of practice (“About Us,” 2016), institutions offering these programs need to further articulate and promote the degree in the consumer and employment marketplace. This study seeks to help program leaders in distinguishing the Ed.D. degree within the field of education as the more practitioner-focused degree (Scott, 2016) by producing research on Ed.D. students and their experiences in their programs. This information will allow programs to appropriately design their curricula to meet the academic and career needs of this group of students, as opposed to simply mirroring the programs based on the needs and interests of research-oriented Ph.D. students. Furthermore, this study’s emphasis on employment needs and labor market outcomes of Ed.D. graduates will allow both students and employers to make better informed career-focused decisions. Overall, this study adds to the existing, albeit limited, research on doctoral education while simultaneously increasing the understanding of Ed.D. degrees as distinct and practical degrees within the field of education.

Limitations

This study has several limitations. For example, to gather students’ opinions on program benefits and employment options available as a result of their Ed.D. programs, Q methodology will be used. The design of Q methodology has limitations in the development of the statements and the sorting process of the participants. The accuracy of the sorting responses is solely dependent upon the participants accurately rating their feelings of the topic. Similarly, exposure to the statements within the Q sort can impact participants’ viewpoints on the topic, which

introduces the potential for biased responses. The methodology section describes in detail how the error inherent in Q research is addressed in this study.

Additionally, Q methodology focuses on obtaining data from a small P set, or structured sample of participants, limiting the generalizability of the research conclusions to the specific participant group. Similarly, participant demographics may be lacking in diversity, based on the population of students in programs. Finally, given that the targeted P set is doctoral students in Ed.D. programs, and the majority of Ed.D. students are working professionals, the study is limited to the amount of time and attention each participant took in completing the Q sort.

Delimitations

This study has several delimitations. First, only CPED-affiliated programs were included in the study, even though the CPED consortium represents only a portion of all current Ed.D. programs. Including only CPED-affiliated programs has the potential to cause self-selection bias among participants, but given that CPED institutions are leading the efforts to intentionally redesign the Ed.D. degree and that the programs studied offer rigorous academic preparation for practitioners and focus on creating leaders prepared for 21st century demands (“About Us,” 2016), it makes logical sense to examine characteristics of these programs specifically. Within these programs, this study largely examines the opinions and perspectives of current students of CPED-affiliated programs. Individuals who started programs but are not currently enrolled were not included. Graduates of programs were also not targeted as programs evolve over time and universities lack strong alumni tracking systems for doctoral students (June, 2016).

Second, while professional degrees exist throughout the world, the literature review for this study focuses on graduate schools within the United States. Similarly, while CPED does include international institutions, those schools will not be included in this study as professional

degrees vary widely across the world. Thus, emphasizing degrees and literature in the United States will frame the study and the meaningful addition to the literature within the field.

Lastly, this study is limited to the statements on program characteristics and labor market outcomes/employability the researcher included in the Q sort.

Definition of Terms

Carnegie Project on the Education Doctorate (CPED). CPED is a consortium of colleges and universities leading the efforts to examine the Ed.D. degree. This group is examining the degree in an effort to reestablish this degree as a unique and credible doctoral degree for scholar-practitioners (“About Us,” 2016).

Concourse. “A list of items serving as candidates for inclusion in the Q sort. It can take the form of questions, statements, pictures, etc.” (Brown, 2004, p. 18).

Condition of Instruction. Instructions provided by the researcher to participants that “sets the context for the consideration of the Q sample” and describes how to complete the Q sort (Barbosa, Willoughby, Rosenberg, & Mrtek, 1998, p. 1036).

Doctorate of Education (Ed.D.). The Ed.D. degree is a doctoral degree in education designed to educate practitioners interested in jobs outside of the professorate (Deering, 1998; Dill & Morrison, 1985). According to CPED, “the professional doctorate in education prepares educators for the application of appropriate and specific practices, the generation of new knowledge, and for the stewardship of the profession” (“About Us,” 2016).

Factor. “Cluster of respondents whose Q sorts were statistically similar” (Brown, 2004, p. 18).

Factor Loading. “Each respondent’s correlation with each of the identified clusters or factors” (Brown, 2004, p. 18).

Human Capital Theory. Human capital theory is an economic theory that focuses on the development of individuals and the economic benefits that results from individuals investing in education (Baptiste, 2001; Becker, 1992; Olaniyan & Okemakinde, 2008; Sweetland, 1996).

Labor Market Outcomes. The labor market outcomes described in this study include job trajectories and lifetime earnings (Becker, 1960).

Life-Span, Life-Space Theory. Life-span, life-space theory is a career theory that examines how individuals determine and pursue careers, as well as how they view their jobs (Smart & Peterson, 1997; Super, 1990).

P set or Sample. “It is a structured sample of respondents who are theoretically relevant to the program under consideration” (van Exel & de Graaf, 2005, p. 6).

Professional Doctorate. Typically, professional doctorates are doctoral degrees designed for practitioners in the fields of business, education, and engineering (Wellington & Sikes, 2006).

Q Methodology. “A hybrid of qualitative and quantitative principles used to analyze subjective data and group individuals according to their resources” (Barbosa et al, 1998, p. 1032).

Q Set or Sample. “The collection of ‘heterogeneous items’ which the participants will sort” (Watts & Stenner, 2005, p. 74).

Q Sort. “Each respondent’s rank ordered set of perceptions” (Brown, 2004, p. 18).

Summary

This chapter provided a justification for this study on the perceptions and opinions of Ed.D. students on their programs and intended program benefits. It illustrates the statement of the problem, introduces the theoretical frameworks of human capital theory and life-span, life-

space theory, and outlines the conceptual framework created from these theories. Additionally, it provides the significance of the study, the research questions that frame this study, and the limitations and delimitations of the study design. Overall, this chapter introduces the key tenets of this study which will be further defined and described by the literature review, methodology, study results, and conclusions.

CHAPTER TWO: REVIEW OF THE LITERATURE

Introduction

The purpose of this mixed methods study is to identify perceptions of current students in Carnegie Project on the Education Doctorate (CPED)-affiliated Ed.D. programs towards their program outcomes (e.g., knowledge, skills, personal growth, employment outcomes). An understanding of these perceptions will help institutions understand the interests and needs of students electing to pursue professional doctorates within education, how students select their respective programs, and will add to the limited research base on doctoral students within the literature. So, this chapter provides an overview of the existing literature related to doctoral degrees in education and discusses the theories used to frame this study.

This chapter includes four sections, with each section highlighting how the literature relates to the current study. Section one describes the two theories used to develop the theoretical framework for this study – human capital theory and Super’s (1990) life-span, life-space theory of career development. Human capital theory, and its emphasis on how education impacts labor market outcomes, is discussed first. Next, Super’s (1990) theory of career development is examined, with a particular focus on how decisions to pursue higher education and advanced careers changes over time. Section two provides a broad overview of the graduate school choice process utilized by students, largely focusing on doctoral degrees. Section three follows with a more specific examination of doctoral degrees within colleges of education. While research on doctoral programs includes a variety of fields, this review focuses on professional doctorates in education, particularly those affiliated with CPED. This section features the discussion of CPED-affiliated program characteristics that are pertinent to this study. Section four illustrates the need for continued research on Ed.D. programs, specifically related to program characteristics and any

pertinent literature related to program outcomes and the need for continued research on Ed.D. programs. This section illustrates the necessity of this study and ties the salient themes together.

Section One: Human Capital Theory and Super's Life-Span, Life-Space Theory

This section describes the basic tenets of both human capital theory and Super's life-span, life-space theory, which provide the theoretically underpinnings for this study. The backgrounds of the theories are described, including the ways these theories relate to the field of education. The utility of these theories when examining doctoral education and student perceptions of their programs is included.

Human Capital Theory

Human capital theory is an economic theory that links individuals' knowledge, skills, and abilities to productivity in the workplace (Baptiste, 2001; Becker, 1962). Within the field of education, human capital theory is commonly utilized as a mechanism to describe the benefits individuals receive from investing in themselves and pursuing higher education and advanced degrees (Paulsen & Toutkoushian, 2008; Perna, 2003). Economists espousing this theory assume students make rational decisions about pursuing higher education based on the expected utility they will gain from degree attainment (DesJardins & Toutkoushian, 2005; Paulsen & Toutkoushian, 2008) – a link pertinent to the experiences and intended outcomes of graduate students (Hearn, 1987).

Background

Human capital theory, coined as a theory in the early 1960s, represents the economic aspect of functionalist theory (Walters, 2004). Functionalism focuses on the impact that economic and technological innovations have on skill sets required by employers to perform job

tasks (Walters, 2004). Likewise, it follows that additional education and schooling is likely required to perform these new, often more advanced functions (Walters, 2004).

As a theory, human capital theory was formalized based on Becker's (1960, 1964) examination of education expenditures and Schultz's (1961) analyses in the field of agricultural economics (Sweetland, 1996). Both perspectives served to explain the rapid growth in the United States' economy in the 1960s that was not explained by the expanding labor force or growth in physical capital (Sweetland, 1996). More specifically, Becker (1960) examined an underinvestment in education and asserted that schooling is an individual investment of capital that ultimately leads to increased earnings (Becker, 1992). Becker (1960) targeted his research on personal income differentials between college graduates and high school graduates, using mathematical equations to generate a rate of return on the investment in a college education to between seven and nine percent (p. 348). His methodology further posited that investing in education was equally as lucrative as business capital (Sweetland, 1996).

Meanwhile, Schultz (1961) examined the issue from the macro-level, illustrating that the national income in the United States had grown substantially from 1900 to 1956, with human investments growing at a higher rate than other forms of capital (Nafukho, Hairston, & Brooks, 2004; Sweetland, 1996). Schultz (1961) focused on the need to consider the skills and knowledge individuals acquire as a "deliberate investment" on the part of individuals (p.1), arguing that these endeavors needed to be considered on the national level when accounting for growth in the national income. He further described spending on education as both a form of personal consumption and an investment with a strong rate of return (Sweetland, 1996). Five activities were classified as human capital, including on-the-job training, formalized education, and adult

study programs, such as agricultural extension programs (Sweetland, 1996). All activities he mentioned focused on yielding a positive rate of return for individuals (Nafukho et al., 2004).

Links to Education

With the focus on increased productivity and efficiency within the larger community, the role of education is emphasized as a key mechanism to foster an increase in human capital in developed and developing nations alike (Olaniyan & Okemakinde, 2008). Even though developed and developing nations typically have different issues and concerns around the availability of education, the desire for education exists across populations (Olaniyan & Okemakinde, 2008). Thus, the importance of human capital theory cannot be understated.

In fact, it supports investing in education, both on the macro- and micro-level, to produce economic growth (Olaniyan & Okemakinde, 2008). On the macro-level, attaining higher levels of education has been shown to increase the overall earning potential within societies, even after factoring in the costs of education (Becker, 1992). Within organizations, human capital is often viewed as an integral part of intellectual capital, along with structural and relational capital (Bontis, 1996). Within intellectual capital, human capital is critical because it addresses the human personnel aspect of education and training (Bontis, 1996).

The emphasis on training and developing employees links human capital theory to the broader field of human resource development. Human resource development supports organizational training and development to foster employee productivity and satisfaction (Nafukho et al., 2004; Swanson & Holton, 2009). Thus, employees and employers simultaneously benefit from these opportunities. Human capital theory posits this dual benefit well, particularly as the theory points to individual life choices related to work and education, yet presents overall themes and benefits at the societal level (Cornacchione & Daugherty, 2013).

On the micro-level, research consistently illustrates that individuals with higher levels of education are more successful in their careers over the course of their lifetimes. In fact, studies indicate that college graduates consistently earn significantly more than high school graduates, even in times of recession (Carnevale, Rose, & Cheah, 2013; Murphy & Welch, 1989). When this assertion was tested qualitatively, van der Merwe (2010) found that individuals do generally related their expected earning potential to the market, thus acting rationally when decided if and when to pursue further education. Interestingly, general education programs have been shown to yield the same economic benefits as more vocationally-focused programs over the totality of individuals' careers (Psacharopoulos, 1985). While certain majors and skills may offer additional lifetime earnings potential for individuals regardless of educational attainment, over a lifetime the benefits of educational attainment are evident (Carnevale, Rose, & Cheah, 2013).

Additionally, given the rapid influx of technological advancements in the modern workplace, job demands constantly change and evolve (Mincer, 1989). Consistent education and training help individuals meet new demands and requirements in their jobs (Mincer, 1989). Thus, education not only helps individuals receive strong job opportunities, it helps them remain relevant and appropriately compensated in the workplace throughout their careers (Mincer, 1989).

Critiques of Human Capital Theory

Despite the numerous positive assertions made about the benefits versus the costs of education and training, human capital theory has been met with skepticism since its inception. The main focus of the criticisms is the facets of capital and wealth that the theory fails to address (Blaug, 1976). These items include occupational choice, natural aptitude and ability, and family background (Blaug, 1976). All of these factors may influence income, such as the benefits of

networking in the case of well-connected families or the high salaries customary for certain occupations in fields such as medicine and engineering. Given these considerations, does education increase earnings on its own or do these other factors significantly impact lifelong earnings? The impact of human capital theory hinges on the answer.

Additionally, the screening hypothesis is frequently highlighted by critics (Blaug, 1976). The screening hypothesis is based on the concept that employers choose to hire individuals with more schooling because of their credentials and trainability, not their knowledge and current skills (Blaug, 1976). Interestingly, the behaviors emphasized by the screening hypothesis still yield the same results proposed by human capital theory – higher lifetime earnings – just following a different rationale (Blaug, 1976).

Overall, despite the critiques of human capital theory, its underlying premise that investing in individuals enhances economic wealth and capital within societies is still supported by many economists (Becker, 1993; Manuelli & Seshadri, 2014; Murphy & Welch, 1989). The theory has been extensively studied empirically, most commonly within the field of education (Sweetland, 1996). It has continuously illustrated the positive role education plays in improving the standard of living for individuals and creating a well-informed citizenry (Olaniyan & Okemakinde, 2008; Sweetland, 1996).

Human Capital Theory and Doctoral Education

As noted above, human capital theory has a strong emphasis on investments in education and is often considered synonymous with the economics of education (Sweetland, 1996). It is especially important within the realm of doctoral education because graduate students, more so than undergraduate students, typically focus on education as a long-term investment (English, 2012; Hearn, 1987; Paulsen & Toutkoushian, 2008). Advanced degrees, with their targeted focus

in coursework and research, are more aligned with occupations and particular career pathways (Carnevale, Cheah, & Strohl, 2013). Jepsen and Montgomery (2012), in their study of mature workers, emphasize the critical role of opportunity costs related to returning to school at various stages of life when age may hinder future earnings in relation to cost of attendance. This finding, albeit indirectly, supports Ed.D. programs, and other programs targeting working professionals, because doctoral students often consider additional factors when determining enrollment, including location of program, family implications, and their age and stage of life (Jepsen & Montgomery, 2012).

Collectively, when analyzing the cost of attendance, doctoral students, consider the internal and external benefits gained from their degrees based on knowledge gained, personal development, and increased credentials – a holistic approach derived from the underpinnings of human capital (Ampaw, 2010; Becker, 1962; Paulsen & Toutkoushian, 2008; van de Merwe, 2010; Wellington & Sikes, 2006). Within the field of education, this decision can be even more nuanced when considering the various type of degrees offered and potential academic and non-academic pathways available upon graduation (Scott, 2016). Therefore, human capital theory is the framework utilized for this study as it is used extensively to explain cost-benefit analyses of investing in higher education (Becker, 1993; Manuelli & Seshadri, 2014; Mincer, 1989; Murphy & Welch, 1989; Perna, 2003; Sweetland, 1996).

Super's Life-Span, Life-Space Theory

While human capital theory addresses the economics behind students' decisions to invest in higher education, labor market outcomes are also impacted by students' interests and career choices (Smart & Peterson, 1997; Zhang & Thomas, 2005). For individuals pursuing graduate degrees, career development and potential job prospects typically plays a key role in program

selection as students weigh the costs and benefits of attending school (Harvey, 2000; Kallio, 1995; Millett, 2003; Wellington & Sikes, 2006). For professional doctoral students within colleges of education, the majority of whom pursue doctoral degrees while simultaneously working to advance their careers, fitting the program into their existing life routine is critical (Kallio, 1995). Thus, from the theoretical perspective, Super's (1990) life-span, life-space theory is the most applicable model for this population because it takes a holistic approach to career development. Not only does Super's (1990) theory consider stage of career and thoughts about job responsibilities, but it includes personal life-stage as well (Smart & Peterson, 1997). Thus, creating a holistic blending of occupational self and personal self that mirrors the desire of Ed.D. students to become scholar-practitioners ("About Us," 2016; Smart & Peterson, 1997).

Background

Donald Super's (1990) life-span, life-space theory represents decades of his research and refinement of his views on career development (Smart & Peterson, 1997). Starting in the 1950s, Super developed a career theory designed to supplement the trait-and-factor theories popular at the time (Savickas, 1997). Essentially, the shifting of Super's theory from the career development theory to the developmental self-concept theory to the life-span, life-space theory largely focused on incorporating additional aspects of self-interests, life roles, and matching occupational choices to identity (Savickas, 1997). This latest iteration features five stages of career development – growth, exploration, establishment, maintenance, and decline (Super, 1990). Across all five phases, it emphasizes the importance of managing various life roles (Savickas, 1997) and flexibility in career decision-making (Kosine & Lewis, 2008).

Career Choices

While many factors contribute to individuals' career choices, including training, interests, money, and prestige, occupational choices often develop over time (Patton & Lokan, 2001). In general, more mature students have greater levels of career decidedness and are thus more confident in their occupational decisions (Patton & Lokan, 2001). The rationale for this heightened career certainty stems from the importance of career exploration throughout one's career and the intentional linking of identity development and career development (Blustein, 1997; Blustein, Devenis, & Kidney, 1989).

Super's (1990) life-span, life-space theory incorporates career exploration as a stage within the theory, a stage characterized by the need of individuals to simultaneously consider both personal identity development and various occupations/positions (Blustein et al., 1989). Making career choices after planning and exploring options leads to greater individual-job congruence (Savickas, 1997). Super's (1990) theory, in particular, emphasizes the need for flexibility in career planning (Kosine & Lewis, 2008). Career recycling, as the term is coined, refers to the flexibility individuals employ when they strive to "match their ever changing career goals to the realities of the world of work" (Smart & Peterson, 1997, p. 359).

The career concepts described by Super (1990), collectively and during the exploration phase, support other well-known theories of career development as well. In particular, Gottfredson's (1981) theory of circumscription and compromise provides additional support for the importance of person-job congruence. While a detailed description of Gottfredson's (1981) theory is beyond the scope of this study, the following brief overview highlights the relationship between Gottfredson's (1981) and Super's (1990) ideas.

Overall, Gottfredson's (1981) theory of circumscription and compromise addresses the link between career goals and employment opportunities. Circumscription addresses the narrowing of career choices, while compromise, as defined by Gottfredson (1981), describes the process of individuals choosing between career preferences and actual employment realities in their selected fields. In particular, Gottfredson (1981) posited that gender roles were more important than prestige or interests in individuals' career decisions. However, additional research has indicated that field of work is actually the most salient factor in career choices (Betz, 1994; Hesketh, Elmslie, & Kaldor, 1997). These new assertions ties directly with Super's (1990) viewpoint about the importance of interests in career choice and job opportunities (Betz, 1994; Imel, 2002; Patton & Lokan, 2001; Savickas, 1997).

Link to Education

The evolutions of Super's career theory over the decades have ensured its continued relevance in the field of career development (Patton & Lokan, 2001). The inclusion of career adaptability and the importance of self in occupational decisions link this theory to all fields of study, including education (Betz, 1994; Blustein, 1997; Imel, 2002; Patton & Lokan, 2001; Savickas, 1997). More specifically, individuals often pursue higher education as a means to further their career exploration (Smart & Peterson, 1997) and to enter fields that will lead to meaningful careers (Imel, 2002). This rationale hold true for individuals pursuing advanced degrees for both personal and professional reasons, including becoming scholar-practitioners while finding a better fit for employment ("About Us," 2016; Harvey, 2000). Therefore, this theory was selected for this study as it highlights the importance of interests as well as expected rewards within the career development process (Patton & Lokan, 2001).

In summary, these theories are utilized throughout this study to frame, from the theoretical perspective, why individuals select Ed.D. programs. The following sections further describe graduate school choice in general and at the doctoral level, emphasizing doctorates in education. Links to theory are discussed in each subsequent section, focusing on any links to perceived program outcomes.

Section Two: Graduate School Choice and Doctoral Education

This section provides an overview of existing literature on graduate school choice across disciplines. There is a particular focus on doctoral education. Links to the theoretical frameworks are also discussed.

Although the research base on graduate school choice processes is limited, particularly in comparison to research on undergraduate school choice models (English, 2012), the field of study has grown over the last several decades. Similar to the demographic and socioeconomic characteristics considered in undergraduate school choice models (e.g., Perna, 2006), these factors also influence program selections at the graduate level (Kallio, 1995; Perna, 2004; Zhang & Thomas, 2005). According to Ingram, Cope, Harju, and Wuensch's (2000) analysis of graduate school selection based on the theory of planned behavior, overall opinions about graduate school and career outcomes are critical factors in the decision-making process.

Overall opinions of attending graduate school and program selection are informed and influenced by factors including parental backgrounds (Mullen, Goyette, & Soares, 2003), location and familiarity with an institution (Kallio, 1995), and gender and ethnicity (Bedard & Herman, 2006; Perna, 2004; Zhang & Thomas, 2005). For example, research shows that, in general, children of parents with graduate degrees are more likely to consider graduate school (Mullen et al., 2003), as are Asians and females (Perna, 2004). A slightly different picture exists

for doctoral degrees, with the majority of recipients being white males (Perna, 2004), although the emergence of non-traditional students is increasing (Wendler et al., 2010). Nevertheless, regardless of variance in graduate school attendance based on demographic characteristics or field of study, the impact of post-graduate career opportunities on graduate program selection spans all fields (Bedard & Herman, 2006; Millett, 2003; Wendler et al., 2010; Zhang, 2005; Zhang & Thomas, 2005).

Following the tenets of human capital theory espoused above, students consider the benefits of attending a program against foregone income they would have received by remaining engaged in the workforce (Heller, 2001; Millett, 2003; Zhang, 2005). By selecting programs based on gaining work skills that increase employability and provide future income advancement, attending graduate school operationalizes financial returns and provides gained utility for the workplace (Zhang, 2005). For doctoral students, based on the typical length of time for completion and the inherent specialization, these decisions are magnified.

Research on doctoral degrees, albeit more limited than research on graduate degrees collectively, illustrates the same patterns of decision-making processes for degree selection. Credentialing is a key factor in degree selection (Kolman, Gallagher, Hossler, & Catania, 1987), as are program flexibility, location, recommendations, and program reputation (Cawthon, McClellan, Dunn, & Grandpre, 2001; Fleming, 1998/1999). Additionally, it is more common at the doctoral level for students to consider departmental culture in their decisions as doctoral experiences are typically departmentally focused (Gardner, 2009).

Yet, despite the intentionality behind program selection, retention and attrition are highly problematic for doctoral programs worldwide (Ampaw, 2010; Gardner, 2009; Groen, Jakubson, Ehrenberg, Condie, & Liu, 2008; Wendler et al., 2010). Professional doctorates are gaining

traction throughout the world as a way to address student needs, albeit with reservations (Kot & Hendel, 2012). For example, in Australia, a shift away from government funding for doctoral students impacted program selection and completion (Neumann, 2007), perhaps influenced by national debates about the purpose of research degrees when recipients work in industry and not academia (Barnacle, 2004). Similarly, in the United Kingdom, where the same philosophical debates existed, the professional doctorate emerging as a new take on a Ph.D., focusing on a market-driven approach to doctoral education (Bourner, Bowden, & Laing, 2001; Hoddell, Street, & Wildblood, 2002).

Nevertheless, in the United States, despite efforts by the Council of Graduate Schools and the Carnegie Foundation to heighten awareness of doctoral completion rates, no systematic changes have occurred (Grasso, Garry, & Valentine, 2009). Currently, outside of relatively stable and high completion rates for science and engineering fields (National Science Foundation, 2015), completion rates for Ph.D. programs in the arts, humanities, and social sciences in the United States remain at just over 50 percent (Grasso et al., 2009). This rate compares to a 59 percent completion rate across all baccalaureate degrees in the United States, with some variation based on school selectivity (McFarland, et al., 2017). While initiatives such as the Graduate Education Initiative did show improvements in completion rates and satisfaction from doctoral students in the humanities, the results were modest (Groen et al., 2008).

Despite these apparent challenges, not all academic disciplines are interested in actively exploring changes to doctoral education (Grasso et al., 2009; Kot & Hendel, 2012; Winter, Griffiths, & Green, 2000). With the majority of faculty in the United States today being entrenched in a culture emphasizing doctoral degrees as way to generate researchers and future professors (Patel, 2017), even the rise of the professional doctorate internationally makes change

efforts slow to gain momentum (Grasso et al., 2009; Kot & Hendel, 2012; Winter, Griffiths, & Green, 2000). Yet, with most doctoral recipients in the United States working in industry, not academia, upon graduation, ideas including ways to share knowledge and research outside of academia need to be considered because a lack of clear career outcomes certainly impacts student completion (Wendler et al., 2010).

Mismatch of Perceived Student Outcomes

In 2001, Chris Golde and Timothy Dore conducted seminal research for the Pew Charitable Trusts, resulting in a report titled *At Cross Purposes: What the Experiences of Today's Doctoral Students Reveal about Doctoral Education*. Through survey research focused on research-intensive degrees and Ph.D. programs, the authors illustrated a disconnect between current doctoral degree preparation and the needs of students and employers (Golde & Dore, 2001). Overall, not only did doctoral students in 11 fields within the arts and sciences feel unprepared by their degree programs for future professions, but they remained unsure about the overall purpose of their degrees (Golde & Dore, 2001; Golde & Walker, 2006). Essentially, programs do not successfully prepare students for the types of jobs available in the job market nor do they adapt to meet the varied career interests of students (McCarty & Ortloff, 2004).

Around the same time as this report, the Carnegie Foundation for the Advancement of Teaching (CFAT), under the leadership of Lee Shulman, implemented the Carnegie Initiative on the Doctorate (CID), an action/research group designed to re-examine Ph.D. degrees and determine a more solidified purpose and role for doctoral education (McCarty & Ortloff, 2004; Shulman et al., 2006). Chris Golde, following her recently released work on doctoral education, served as a Senior Scholar for the project and as an editor for a culminating work of CID, a 2006 book titled *Envisioning the Future of Doctoral Education: Preparing Stewards of the Discipline*.

The book, a compilation of essays on doctoral education in different fields, included degrees offered by Colleges of Education as degrees in need of examination and revision. Considering the field of education grants more professional doctorates than any other field of inquiry, the need for an examination should not be understated (Kot & Hendel, 2012; McCarty & Ortloff, 2004).

Additionally, from the theoretical frameworks of human capital theory and Super's life-span, life-space model, it is clear that a change is necessary. Students need to understand from an economic perspective why an investment in education is beneficial, including the ability to feel confident about future career outcomes. For example, Colleges of Education, along with the Carnegie Foundation, are actively working to address the economic and career concerns of doctoral students ("About Us," 2016). More specifically, an initiative to distinguish the Ed.D. as a market-driven, career-enhancing doctoral degree in education in the United States is currently underway ("About Us," 2016). The following section further describes how doctorates in education are striving to more successfully meet the needs of students.

Section Three: Doctoral Degrees within Colleges of Education

This section provides a background of doctoral programs within Colleges of Education in the United States. It emphasizes the histories of the Ph.D. and Ed.D. degrees, including recent efforts to distinguish the Ed.D. as a distinct degree within the field. CPED as an organization is introduced and described.

For the better part of a century, Colleges of Education in the United States have offered two types of doctoral degrees – the Ph.D. and the Ed.D. Columbia University awarded the first Ph.D. in Education in 1893, and Harvard University followed by awarding the first Ed.D. in Education in the early 1920s (Brown, 1990; Clifford & Guthrie, 1988; Levine, 2007; Shulman,

Golde, Bueschel, & Garabedian, 2006). In the decades that followed, institutions added either one or both of the degrees, with Ed.D. programs serving as the degree of choice until the 1960s (Brown & Slater, 1960; Deering, 1998; Shulman et al., 2006). In fact, Ed.D. degrees were awarded at twice the rate of Ph.D. degrees during the 1950s (Brown & Slater, 1960; Ludlow, 1964). After that time, growth of Ed.D. programs slowed significantly and eventually started to decline (Andersen, 1983; Brown, 1990). Eventually, Ph.D. programs reclaimed the spot as the doctoral degree of choice within the field of education – a status maintained today (Brown, 1990; Shulman et al., 2006). Regardless of this shift, both degrees continue to attract students, with the number of non-profit institutions offering these degrees recently equaling 290 (Levine, 2007). Therefore, despite perennially consistent concern over two degree offerings within Colleges of Education at the doctoral level (Andersen, 1983; Brown & Slater, 1960; Deering, 1998), both program types are currently viable options for students (Levine, 2007; Shulman et al., 2006; Toma, 2002).

Institutional Type

Both Ph.D. and Ed.D. offerings are dispersed across Carnegie institutional types, with an average of 39% of Colleges of Education offering both types of doctoral degrees (Levine, 2007). While doctoral-extensive universities offer the largest percentage of degrees overall (68%), among the institutions that only offer one of the degrees, some variance exists. More specifically, doctoral-extensive universities, classified as the most research-intensive institutions, offer the largest percentage of Ph.D. degrees while a larger number of master-level institutions offer only the Ed.D. degree (Levine, 2007). This distinction is not surprising based on the mission statements of colleges and universities within those Carnegie institutional types, particularly the varied focus on research productivity (“Basic Classification,” 2015). Interestingly, despite an

emphasis on research activity, 68% of doctoral-extensive universities, as noted above, still offer both types of doctoral degrees (Levine, 2007). Based on these percentages and the impact that this “blurring” of missions can cause (Levine, 2007), the importance of clearly articulating the value of each type of degree to students and employers cannot be overstated.

Distinguishing the Ed.D.

From inception, the Ed.D. degree was designed to educate practitioners interested in jobs outside of the professorate, whereas the Ph.D. emphasized conducting and disseminating research (Deering, 1998; Dill & Morrison, 1985). While this distinction exists in all disciplines that offer professional doctorates, including nursing and business, the field of education has struggled to clearly articulate the distinctions between its two degree offerings (Shulman et al., 2006; Wellington & Sikes, 2006; Yam, 2005; Zusman, 2013). In fact, the purpose and utility of the Ed.D. degree as a distinct degree from the Ph.D. in Education has been questioned virtually since the first Ed.D. was awarded at Harvard University in the early 1920s (Brown, 1990; Clifford & Guthrie, 1988; Shulman et al., 2006). While Brown and Slater, in their 1960 study on doctoral degrees in education, found that Ed.D. degree programs were largely supporting the intended mission of preparing practitioners, they noted some evidence of mission creep in degree programs located at institutions where only one degree was offered. For example, there are college professors who hold Ed.D. degrees and practitioners with Ph.D. degrees based on the institutions they attended (Levine, 2007).

Then, as now, programs have struggled to differentiate a true distinction between the Ed.D. and the Ph.D. in terms of research agendas and professional preparation (Brown & Slater, 1960; Guthrie, 2009; Shulman et al., 2006; Toma, 2002). While some distinctions exist between the two degree programs in terms of admissions requirements, residency requirements, program

requirements, or employment patterns of graduates (Andersen, 1983), in actuality the degrees are more similar than different at many institutions (Andersen, 1983; Deering, 1998; Dill & Morrison, 1985; Levine, 2007). Many programs share faculty, have similar courses offerings, and require the same types of dissertation research (Dill & Morrison, 1985).

This lack of clarity has created confusion in the educational marketplace for both programs and students alike. Although, based on mission, both degrees add value to the field of education for researchers and practitioners, a power struggle exists between the degrees (Anderson, 2010; Townsend, 2002). Typically, individuals considered careers in academia are directed to focus on the Ph.D. degree as the more suitable degree for future faculty members (McCarty & Ortloff, 2004; Underwood & Cawthon, 1999) whereas practitioners may be directed to the Ed.D. However, colleges of education do employ Ed.D. graduates in faculty roles and many practitioners hold Ph.D. degrees because, as noted previously, doctoral students often consider institutional location and cost as key components when making decisions (Cawthon, et al., 2001). In fact, this lack of substantive distinction has led many researchers to suggest the elimination of the Ed.D. degree altogether (Andersen, 1983; Brown, 1990; Brown & Slater, 1960; Deering, 1998; Dill & Morrison, 1985; Osguthorpe & Wong, 1993). While some researchers emphasize the redundancy of the degrees, others question the quality and prestige of Ed.D degrees (Maxwell & Shanahan, 1997), calling the Ed.D. degree inferior (Deering, 1998) or a Ph.D. lite (Shulman et al., 2006). Luckily, despite these critiques, recent efforts have been made to re-establish the Ed.D. as a distinct and credible degree (Perry, 2013).

Re-establishing the Ed.D.

Within the last decade, strides have been made to advance the Ed.D. degree as a distinct and reputable degree. The Ed.D. reform movement occurring today is largely based on the

results of the CID initiative, described above, as it highlighted great disparity in doctoral degrees in education (Anderson, 2010; McCarty & Ortloff, 2004; Shulman et al., 2006). As early adopters in the reform movement, Vanderbilt University's Peabody College and University of Southern California's Rossier School of Education, both redesigned their Ed.D. programs in the early 2000s to better meet the needs of students and continue to positively impact the field of education (Caboni & Proper, 2009; Gallagher, 2013; Loss, 2009). However, as is common with innovative ideas, widespread reform among Ed.D. programs did not occur as a result of these early reform initiatives.

Then, in 2006, as a result of the CID study, Lee Shulman and Chris Golde, along with colleagues, published a critique of Ed.D. programs, titled "Reclaiming Education's Doctorates: A Critique and a Proposal." In this article, these scholars called for more systematic reform, even to the degree of proposing the creation of a new professional practice doctorate in education, a P.P.D., to propel change (Shulman et al., 2006). An earlier article by Lester (2004) mirrored this suggestion, calling to rename "practical" degrees, such as the Ed.D., DBA, and MD, to "practitioner doctorates" to shift common thinking about these programs from researchers studying to solve a problem of practice to practitioners utilizing coursework and research to solve real-world problems.

Wergin (2011) convincingly argued for a "rebooting" of the Ed.D. degree to be a degree that focuses on transformations to problems in practice where graduates use participatory action research to tackle real-world issues within the broad realm of education – a distinction supported by the ideologies of well-respected philosophers of John Dewey and Paulo Freire. This practice-based approach allows for students to further their careers in industry while simultaneously contributing ideas and research within an academic setting.

As a result of this call to action, a re-evaluation of the degree to emphasize the importance of doctoral training for scholar-practitioners is starting to create degree programs within the United States that more fully meet the needs of practitioners within the educational marketplace (“Carnegie Project,” 2013; Carnegie Project, 2014; Perry, 2013; Wergin, 2011). Shulman, in his role at the helm of CFAT, pushed the need for change within Ed.D. programs to the next level by playing an integral role in the establishment of CPED – the Carnegie Project on the Education Doctorate (“History of the Initiative,” 2016).

Carnegie Project on the Education Doctorate (CPED)

As noted above, Lee Shulman and Chris Golde, both established researchers of graduate education, published works highlighting the need for reform in doctoral education, including the Ed.D. degree. These efforts led to the creation of CPED in 2007, a grassroots approach to formally examining the Ed.D. degree, starting at the institutional level (“History of the Initiative,” 2016; Zambo, R., Zambo, Buss, Perry, & Williams, 2014). Since its inception, over 80 institutions have participated in the CPED organization’s efforts to redefine the Ed.D. as a distinct degree and formidable degree that meets the needs of working professionals seeking to become scholar practitioners within the field of education (Carnegie Project, 2014; Zambo et al., 2014). Early research studies have indicated that students selecting CPED-affiliated Ed.D. programs fit the “working professional” title, as they are typically older and more experienced than traditional Ph.D. students and desire an advanced degree to truly become scholar-practitioners (Biddle, 2013). A strategic emphasis has developed among the CPED consortium members to improve existing programs to meet students’ needs through design concepts, including signature pedagogy, inquiry as practice, laboratories of practices, and dissertations in practice (“About Us,” 2016; Perry, 2015; Perry & Imig, 2008; Zambo, R. et al., 2014).

According to Jill Perry, the Executive Director of CPED, this organization is tasked with settling the 80 year-old debate over the roles of the Ph.D. and Ed.D. in Education (Perry, 2013). In her role as Executive Director, Perry has been instrumental in publishing research on CPED and spearheading the organization's efforts to further define and refine Ed.D. programs in the United States and internationally (Perry, 2013). In fact, a special 2013 issue of *Planning and Changing* featured various CPED members sharing their experiences in transforming their respective Ed.D. programs ("Carnegie Project," 2013). The issue shared perspectives from deans to faculty to students and discussed changes to curriculum and the dissertation process – all steps taken in an effort to differentiate the Ed.D. degree ("Carnegie Project," 2013).

More specifically, the literature illustrates ways the design concepts espoused by CPED have been enacted across institutions. Overall, the theme of helping students solve real-world problems of practice is common across programs. When further examining ways to institute practical application to historically theoretical, research-based programs, the importance of supportive leaders and faculty was highlighted as a way to promote buy-in at the institutional level (Aiken & Gerstl-Pepin, 2013; Mayer, LeChasseur, Donaldson, & Cobb, 2013; Welch, 2013). Similarly, linking coursework to the knowledge and skills students need to implement change within their workplaces/organizations and providing student mentors increased students' buy-in for the degree (Belzer & Ryan, 2013; De Lisi, 2013; Hochbein & Perry, 2013; Sawyer, 2013; Zambo, 2011; Zambo, 2013). The importance of showing an impact and creating scholar-practitioners prepared to make values-driven decisions was evident throughout the CPED institutions (Hovannesian, 2013; Reardon, 2013).

Following the premises of action research, dissertations of practice are widely used within CPED-affiliated programs. This strategic change, which serves both students and their

employers simultaneously, provides another avenue to distinguish the Ed.D. from the more traditional Ph.D. (Andrews & Grogran, 2005). Numerous institutions have successfully implemented this new approach, including Arizona State University (Zambo, 2011), Rutgers University (Belzer & Ryan, 2013; De Lisi, 2013), University of Nebraska-Lincoln (Chan, Heaton, Swidler, & Wunder, 2013), University of Southern California (Rueda, Sundt, & Picus, 2013) and Virginia Commonwealth University (Stacy, 2013). While most of these changes have occurred relatively recently, early indications would show that both students and employers are happy with the innovations made (Rueda et al., 2013). Propelled by this momentum, progress towards distinguishing the Ed.D. degree is starting to occur.

Section Four: Advancing the Research

As noted throughout this review of literature, until recently, no real distinctions were made between Ph.D. and Ed.D. programs within Colleges of Education. Even the standards for accrediting bodies do not appear to seek a differentiation of the degrees (Southern Association, 2017). While the offering of two seemingly similar degrees has not always been appreciated by faculty (Aiken & Gerstl-Pepin, 2013; Shulman et al., 2006), it poses more of a challenge for students. Not only does the lack of differentiation makes it difficult for prospective students to select their best-fit programs, but it causes confusion among employers when trying to hire graduates with particular interests and skills (Guthrie, 2009; Levine, 2007).

Additionally, given the rising costs of doctoral degrees and the tension that often exists within academia about preparing scholars versus preparing employees for the future workplace (Harvey, 2000; Johnsrud & Banarla, 2004), this renewed focus on the perceived benefits of an Ed.D. degree helps to ensure that students and employers understand the value proposition of professional doctorates over conventional Ph.D. programs (Hochbein & Perry, 2013; Hoyle &

Torres, 2008; Servage, 2009). More specifically, through intentionally directing academic rigor and goals for these programs to the needs of professional practitioners, students are finding programs increasingly relevant to the workplace and are successfully leveraging programs for career opportunities (De Lisi, 2013; Kumar, 2014; Rueda et al., 2013). This study fills a gap within that literature base because despite the recent increase in research on Ed.D. programs, minimal research exists on students' perceptions of their intended program outcomes.

Program Outcomes

From a practical standpoint, a key component of understanding student perceptions of outcomes relates to employability and career outcomes. Yet, with such a limited number of studies targeting labor market outcomes of doctoral students in general (e.g., Allum, Kent, & McCarthy, 2014; Nerad, 2004; Webber, 2013), it is not surprising that this aspect of Ed.D. programs is missing from the literature. Even when labor market outcomes are mentioned as the impetus for starting and/or expanding professional doctoral programs (Leonard, Becker, & Coate, 2004; Zusman, 2013), the research does not include actual results. For example, professional doctorates have been praised in the literature as a way to solve industry problems, a way to create human capital for employers, and a place to gain skills to acquire jobs within industry (Brennan, Kenway, Thomson, & Zipin, 2002; Gemme, 2005; Halse & Mowbray, 2011; Lester & Costley, 2010; Neumann & Tan, 2011). Yet, tangible results are needed to strengthen the support of these claims.

Moreover, because students typically select doctoral programs based on a combination of factors related to personal and professional growth, alignment should exist between their expectations and program offerings in multiple facets of the program (Johnsrud & Banarla, 2004). For example, in addition to employment outcomes, personal and social growth,

knowledge acquisition, and skills gained all impact student perceptions (Neumann & Tan, 2011). Given that the field of education aspires to create introspective, self-motivated, lifelong learners, a holistic approach to understanding Ed.D. outcomes is the most appropriate (Scott, Brown, Lunt, & Thorne, 2004).

In an effort to increase outcome-based research for Ed.D. programs and as a way to actually test the impact of programmatic changes implemented as a result of CPED, Amrein-Beardsley et al. (2012) conducted exit surveys of graduates to gauge their views of themselves, the courses, and the programs upon graduation. The results indicated positive changes of personal growth and identity and overall favorable impressions of the program (Amrein-Beardsley et al., 2012). Interestingly, in terms of career aspirations, while no graduates indicated strong desires to change roles, they did believe they had advanced their careers as a result of the degree (Amrein-Beardsley et al., 2012).

Similarly, Zambo et al. (2014) also examined student outcomes of CPED-affiliated programs. The results showed that graduates selected their degrees as a way to earn a useful credential while gaining knowledge and skills to lead change within their organizations and the field of education (Zambo et al., 2014). This sentiment matches the CPED principle for creating scholar practitioners, indicating that perceptions of the degrees match the programs' intended outcomes. Mirroring the Beardsley et al. (2012) results, graduates indicated positive personal and professional growth as a result of the program. The results from these two studies should not be understated given the recent call for accountability of programs in higher education. Now, the importance of illustrating positive program outcomes for graduates has been heightened in academia and within industry (Cowan & Kessler, 2015; Taylor & Storey, 2013).

Summary

This chapter provided an overview of the relevant literature, specifically focusing on graduate school choice, doctoral degrees within colleges of education, and CPED. The chapter begins with a more in-depth examination of the two theoretical frameworks – human capital theory and Super’s (1990) life-span, life-space career development theory. It links these two theories to education from the economic lens and from the view of career planning and advancement. Additionally, the literature highlights that individuals typically select graduate programs based on departments, credentials, flexibility of program, location of school, and institutional reputation. It also illuminates the struggle of degree attainment within doctoral programs and the misalignment of career goals that can occur between programs and students.

Further, the chapter displays the historical context of the Ph.D. and Ed.D. degrees in education, noting the longstanding debate over the similarities and differences between the degrees. It introduces CPED and the work that organization is doing to re-establish the Ed.D. as a distinct degree. Overall, this chapter provides an overview of the relevant topical literature that, as detailed in Chapter 3, shaped how Q methodology, a method proven effective for studying perceptions and opinions (Brown, 2004), was utilized to further address the question of perceived student outcomes for employability and program characteristics for CPED-affiliated Ed.D. programs.

CHAPTER THREE: METHODS

Introduction

This study utilized a Q methodological design to examine the perceptions of Ed.D. students about their intended program outcomes upon graduation. The research questions selected for this study sought to understand current and past students' perspectives on the programmatic elements of their degree programs, including coursework and dissertation options, as well as employment opportunities available upon graduation. Additionally, this study sought to determine if these perceptions influence program selection. This chapter discusses the research design utilized in this study, including the background and utility of Q methodology and why it was used in this study. All stages of Q methodology are described, including developing the concourse, determining the Q sample, selecting participants (P-sample), designing the Q sort, data collection, and data analysis.

Research Design

A mixed method non-experimental research design using Q methodology was utilized with current and past students in CPED-affiliated Ed.D. programs to collect their perceptions on their intended program outcomes. Given that Q methodology has been identified as an effective way to study and identify attitudes (Addams, 2000; Simons, 2013), especially when a diversity of opinions are present (Stainton Rogers, 1995), it represents an ideal method to use for this study.

For this study, a purposeful sample was collected as is recommended for Q methodology (Militello & Benham, 2010; Stainton Rogers, 1995). The sample size for the participants was determined based on the statements selected for the Q sort concourse. The majority of experts recommend including between 30 – 80 statements in the concourse (Addams, 2000; Brown,

2004; van Exel & de Graaf, 2005; Watts & Stenner, 2005). Interestingly, the exact number of statements is viewed as less important than providing statements that represent a variety of opinions and perspectives on the subject (Addams, 2000; Barbosa et al., 1998; Simons, 2013; van Exel & de Graaf, 2005).

This study will examine the following research questions:

- Q1. What are the perceptions among students in CPED programs towards their program benefits and why?
- a. What are the highest and lowest ranked statements by group?
 - b. What are the distinguishing characteristics between groups of students in their perceptions of their program benefits?
 - c. Were there any common statements regarding student perceptions of program benefits among participants?

The research questions were developed with the primary goal to conceptualize the perceptions of current and past students regarding their Ed.D. program outcomes.

Q Methodology Background

Q methodology, developed by William Stephenson in 1935, is a research method used to identify subjective attitudes and opinions of individuals in a methodical way (McKeown & Thomas, 2013; Simons, 2013; van Exel & de Graaf, 2005). The Q sort process allows for individuals to actively engage in the research process and share their own subjectivity in determining the placement of concourse statements within the sort (Addams, 2000). Data is then collected from all participants, known as the P-set, and participants are grouped based on similarities of opinions (Barbosa et al., 1998). Based on this approach, Q methodology seeks to

determine not only a population of viewpoints but also why and how people have certain beliefs and opinions (Addams, 2000; Danielson, 2009; Stainton Rogers, 1995).

As part of a larger group of techniques known as discourse analysis (Webler, Danielson, & Tuler, 2009) or intensive analysis (McKeown & Thomas, 2013), Q methodology “encompasses a distinctive set of psychometric and operational principles that, conjoined with statistical applications of correlational and factor-analysis techniques, provides researchers with a systematic and rigorously quantitative procedure for examining the subjective components of human behavior” (McKeown & Thomas, 2013, p. ix). Because subjectivity is difficult to measure, it provides a nice addition to the more traditional qualitative research approaches to analyzing individual opinions and thoughts by allowing subjective concepts to be analyzed through data (Brown, 2004; Simons, 2013; Watts & Stenner, 2005). More specifically, it uses factor analysis to identify groups and compare individuals based on opinions (Brown, 2004; Simons, 2013).

Despite using the quantitative method of factor analysis to analyze data, Q methodology differs significantly from R methodological approaches (Danielson, 2009; McKeown & Thomas, 2013). For example, it focuses on uncovering a population of viewpoints, not views of a population of people (Stainton Rogers, 1995; van Exel & de Graaf, 2005). From the analysis perspective, it uses an inverted factor analysis where the concourse subjects are the statements, and the variables are the participants (van Exel & de Graaf, 2005; Webler et al., 2009). So, it represents more of a mixed or hybrid method (Barbosa et al., 1998), with Watts and Stenner (2005) referring to it as qualiquantilogical. Based on this hybrid approach, the results offer a more pragmatic look at attitudes and opinions about the selected topic (McKeown & Thomas, 2013). The ability of Q methodological studies to address subjectivity is what led to its increased

popularity in the social sciences, psychology, and education (Militello & Benham, 2010; Simons, 2013). Accordingly, given that the purpose of this study was to understand student perceptions and opinions of their Ed.D. program outcomes, Q methodology is an ideal method to employ.

Q Methodology

To complete a Q methodology study, five steps must be followed. The steps include developing the concourse of statements, determining the Q sample, identifying the P-set, and completing the Q sort. The last step involves data analysis and includes correlations, factor analysis, and factor scores to determine groups of opinions in agreement and disagreement on the selected topic. A more detailed description of the process follows.

Concourse development.

The first step in conducting a Q study is for the researcher to determine the concourse statements the participants will sort (Militello & Benham, 2010). The concourse represents a sample of existing and relevant opinions, views, and attitudes on the topic being studied (Addams, 2000; Barbosa et al., 1998; Danielson, 2009; Simons, 2013). The items are determined by the researcher (van Exel & de Graaf, 2005) and should be based on the pre-determined research questions (Watts & Stenner, 2005). Because the concourse must try to address a wide range of viewpoints (van Exel & de Graaf, 2005), including outliers (Militello & Benham, 2010), the concourse development phase is the most time-intensive phase of Q methodological studies (Simons, 2013). The included items can be obtained through literature (van Exel & de Graaf, 2005), interviews, questionnaires (Barbosa et al., 1998), focus groups (Brown, 2004), or pilot studies (Watts & Stenner, 2005). For validity, statements may be reviewed by experts or field tested (Brown, 2004). Following the determination of a strong cross-section of opinions for the

concourse, the researcher must decide how many statements to include in the concourse, known as the Q sample (Simons, 2013).

Q sample.

Determining the Q sample or Q set is the second step in a Q study. The Q sample includes a representative list of statements from the concourse that show a variety of opinions on the selected topic (Barbosa et al., 1998). The statements are short, stand-alone statements that are the strongest among each group of opinions (Webler et al., 2009). To ensure the list offers a breadth of heterogeneous items (Watts & Stenner, 2005), it is important to include an appropriate number of statements in the Q sample. Literature on the exact number of statements to include differs across experts from a large range of 10 to 100 (Stainton Rogers, 1995) to the very specific 33 items (Brown, 2004). In general, the goal of 30 to 50 items is widely supported in the literature (Addams, 2000; van Exel & de Graaf, 2005; Watts & Stenner, 2005). According to Watts and Stenner (2012), between 40 and 80 statements is now the widespread standard, but the number can fluctuate based on phrasing. Once the statements are determined, they are randomly numbered and sorted before being distributed to participants (van Exel & de Graaf, 2005). A sample Q set is shown in Figure 2.

P-set.

After the Q sample is set, the next step in the research process is to determine the P-set, or the set of people who complete the Q sort (Militello & Benham, 2010). Some researchers indicate a specific range of people to include, such as: between 8 and 30 (Webler et al., 2009), between 30 and 50 (McKeown & Thomas, 2013), between 40 and 60 (Stainton Rogers, 1995), or between 20 and 100 (Barbosa et al., 1998). Overall, quality of participants is ultimately more important than quantity (Brown, 1993; van Exel & de Graaf, 2005). In general, high numbers of

participants are not needed (Addams, 2000). The one caveat being that the researcher must ensure there are fewer participants in the P-set than statements in the Q sample (Watts & Stenner, 2012; Webler et al., 2009). Selected participants should not be randomly chosen (van Exel & de Graaf, 2005), as they need to represent a variety of viewpoints on the selected topic (Addams, 2000; McKeown & Thomas, 2013; Simons, 2013; Webler et al., 2009). Ultimately, this method fits the overall goal of a Q study, which is to strategically select participants representing an array of viewpoints on the topic in question (Watts & Stenner, 2012).

Item #	In my opinion resource investments should be made in assisting with:
1	data policies
2	emerging privacy legislation
3	emerging security legislation
4	ethical use of software, technology, and data
5	changes in business related standard operating procedures
6	changes in IT related standard operating procedures
7	ADA requirements
8	data sharing
9	prototyping new software solutions
10	technical requirements definition
11	code inspections
12	test program reviews
13	screen design, format, and layout
14	disaster recovery
15	engineering documents
16	technical documentation
17	training investments
18	ROI strategies
19	quality assurance
20	risk management
21	estimating cost and schedule
22	communications and team building
23	visioning/strategic planning and goal alignment
24	contracting and outsourcing
25	auditing and post-mortems

Figure 2. Sample Q Set (Brown, 2004).

Q sort.

The Q sort is the fourth step in a Q methodology study. This step represents the data collection phase where the P-set orders the concourse statements (the Q sample) as a “ranked pattern of statements” (Barbosa et al., 1998, p. 1036). These statements are commonly ranked on a scale of strongly disagree to strongly agree (Addams, 2000; Brown, 1993; Simons, 2013). Technically the scale can change to fit the needs of the study, but the ranking continuum must flow from negative to positive to capture variance in opinions. At the start of the Q sort, participants are given instructions by the researcher, known as the condition of instruction, which set the parameters for the sort (Barbosa et al., 1998; Brown, 2004). These instructions explain that participants must rank all statements and that the rankings should be based on their own personal values and perspectives (Watts & Stenner, 2005; Webler et al., 2009). In essence, each participant interprets the statements then sorts them based upon that interpretation (Danielson, 2009). Thus, there are no correct or incorrect rankings, just subjective opinions. Figure 3 provides an example of a blank score sheet that can be utilized for a sort. Figure 4 illustrates a complete score sheet for one respondent within a Q sample.

In terms of distribution, the researcher determines if participants must answer on a normal distribution curve (as shown in the sample score sheet in Figure 3) or in a free sort form where they can rank statements however they choose (Addams, 2000; Brown, 1971; Watts & Stenner, 2005). According to Brown (1971), using forced distribution or free sort technique does not matter because “factor types in Q-technique studies will be considerably more influenced by ordering preferences than they will be by distribution preferences” (p. 286). Additionally, the forced distribution approach is the most convenient method for data analysis (Watts & Stenner, 2012). In the sort, regardless of the technique employed, zero does not represent a neutral

opinion, but an indifferent opinion on the statement (Watts & Stenner, 2012; Webler et al., 2009).

RESPONDENT NUMBER ____ NAME _____

	← MOST DISAGREE								→ MOST AGREE
	1	2	3	4	5	6	7	8	9

DISAGREE COUNT: ____
NEUTRAL OR NOT RELEVANT COUNT: ____
AGREE COUNT: ____

Figure 3. Sample Ranking Sheet for Q Sort (van Exel & de Graaf, 2005).

-4	-3	-2	-1	0	+1	+2	+3	+4
5	15	9	19	3	7	2	17	1
6	25	10	22	4	21	14	23	28
	31	11	26	12	24	33	18	
		16	29	13	27	8		
			32	20	30			

Figure 4. Q-Sample Rankings, One Respondent (Brown, 2004).

Watts and Stenner (2012) recommend encouraging participants to begin the Q sort by dividing the statements into three categories of positive, negative, and indifferent thoughts. This strategy allows the P-set to then read through the statements in each category independently as they begin to further rank the statements (Watts & Stenner, 2012). It allows them to understand

that a lower score on the distribution does not necessarily indicate a negative reaction to a statement, but it can indicate a less positive or more neutral reaction to the statements (Watts & Stenner, 2012). This sorting process is what allows participants to be actively engaged in the research process and to speak for themselves as they individually rank the Q sample items (Addams, 2000).

The Q sort process can be completed in person, by mail, or by a computer-based approach (van Exel & de Graaf, 2005; Watts & Stenner, 2013). While there are some benefits to conducting in-person Q sorts, there is no difference in the reliability or validity of the results across methods (van Exel & de Graaf, 2005). Reliability is based on the replicability of the study, largely based on the quality of instructions provided for the Q sort (van Exel & de Graaf, 2005), and Brown (1993) explained, validity is not critical in Q studies because no criterion exists to verify an individual's point of view.

At the conclusion of the Q sorting process, survey questions can be asked to provide further clarity and gather demographic information about the P-set (Addams, 2000; van Exel & de Graaf, 2005; Watts & Stenner, 2005). Interviews can also be completed as a way to follow-up and gain more insights into rankings (Brown, 1993; van Exel & de Graaf, 2005). This supporting data can be helpful in the subsequent analysis phase (Watts & Stenner, 2012).

Correlation, factor analysis, and factor scores.

After all of the Q sort rankings are completed by the P-set, data analysis can occur. Based on the mixed method approach that Q studies employ by using quantitative Q sort data and qualitative data collected through follow-up open-ended survey questions and/or interviews, two types of data are collected. While the value of the qualitative data are often understated in Q studies, that data can provide additional insights into why individuals selected certain card

placements within their sorts (Brown, 1993) – furthering the understanding of the subjective opinions. As with most types of research, the overall interpretation is dependent upon the researcher and the research questions, but the following criteria serve to ensure a thorough analysis and interpretation of the data collected.

Data analysis in Q methodology focuses on correlations, factor analysis, and factor scores (Brown, 2004). Different from R methodological studies, Q methodology uses inverted, by-person factor analysis where the subjects are the Q-sample statements and the variables are the people in the P-set (Barbosa et al., 1998; Webler et al., 2009). Once the Q sorts are collected, each individual's statements are converted into numerical scores, based on the pre-determined continuum (see Figure 2). For example, in this study, three statements were placed at Most Important Benefit (+5) end of the distribution, followed by four statements at +4, five statements at +3, six statements at +2, eight statements at +1, with a mirror image on the negative distribution side of the bell curve (Least Important Benefit). Nine statements were placed in the middle of the curve and assigned a neutral score of 0. A correlation matrix is calculated for the participants (Brown, 2004), and the initial matrix displays relationships of one Q sort to every other sort in the P-set (Watts & Stenner, 2005). It also illustrates groups of people with similar viewpoints (Barbosa et al., 1998; Simons, 2013). According to Brown (1993), "it is rarely the case that the correlation matrix is of much interest since attention is usually on the factors to which the correlations lead: the correlation matrix is simply a necessary way station and a condition through which the data must pass on the way to revealing their factor structure" (p. 110).

The goal of the factor analysis is to determine groupings of Q sorts based on commonalities and differences (van Exel & de Graaf, 2005). An initial set of factors is

determined based on factor loadings (van Exel & de Graaf, 2005) because factor loadings “indicate the extent to which each Q-Sort is similar or different to the composite factor array” (McKeown & Thomas, 2013, p.53). Any factors that appear to have negligible correlations across all Q sorts can be eliminated at this stage (Barbosa et al., 1998).

In general, the initial set of factors is typically not of great interest to researchers (Brown, 1993). Instead, Q methodology uses a rotation in the factor analysis phase. Varimax rotation is the preferred and most commonly used rotation for Q methodology (Brown, 2004; Watts & Stenner, 2005). As Watts and Stenner (2005) explained, varimax rotation “maximizes the amount of variance explained by the extracted factors” (p. 81). Ultimately, the researcher must determine the type of rotation that will best fit the study in question. Overall, rotations will alter the positions of the factors, but not the viewpoints represented because the viewpoints are based on unrotated factor loadings (Watts & Stenner, 2012).

It is the rotated factor loadings that form the basis for factor interpretation. While a variety of criteria can be used to determine significance of factor loadings, the eigenvalue criterion is most commonly used (McKeown & Thomas, 2013). Only factors with eigenvalues greater than 1 are used (Addams, 2000; Brown, 200; Watts & Stenner, 2005). However, if the eigenvalues are significant only based on a small number of individuals, indicated by standard error of the eigenvalue, those factors can be excluded (Addams, 2000; Brown, 2004; McKeown & Thomas, 2013; Webler et al., 2009). After statistical and, sometimes theoretical, rotations occur, a final set of factors emerges. As van Exel and de Graaf (2005) stated, “Each resulting final factor represents a group of individual points of view that are highly correlated with each other and uncorrelated with others” (p. 9).

Following the determination of the final list of factor loadings, factor estimates are determined based on the “weighted average of *all* the Q sorts that load significantly on a given factor (Watts & Stenner, 2012, p. 130). Then, the researcher should review the estimates to determine which factors should be flagged for their significance. Factor estimates are given weights, then the total weighted scores are converted into z scores, which can be used for interpretation (Watts & Stenner, 2012). This step is important because in Q methodology, unlike other types of research, interpretation of factors is based on factor scores because the factor scores (z scores) address the agreement among opinions on the concourse statements (Brown, 2004). In other words, the factor scores are comprised of composite factor arrays that address the subjectivity inherent in Q methodology (Addams, 2000; Brown, 1993; McKeown & Thomas, 2013). The factor arrays also serve to indicate high and low ranked items (Watts & Stenner, 2012).

Additional considerations during the interpretation phase include the difference score, distinguishing statements, and consensus statements. The difference score represents “the magnitude of difference between a statement’s score on any two factors that is required for it to be statistically significant (van Exel & de Graaf, 2005, p. 9). If the statement’s score on two factors is higher than the difference score, it is known as a distinguishing statement (van Exel & de Graaf, 2005). Conversely, if a statement is not distinguishing between any factors it is known as a consensus statement (van Exel & de Graaf, 2005). These statements can help highlight similarities and differences between factors (van Exel & de Graaf, 2005). Watts and Stenner (2005) remind researchers not to immediately dismiss neutral statements, as those items often represent subtle discrepancies in viewpoints, particularly when considered with qualitative comments from participants.

Definitions for Q Methodology Terms

Concourse. “A list of items serving as candidates for inclusion in the Q sort. It can take the form of questions, statements, pictures, etc.” (Brown, 2004, p. 18).

Condition of Instruction. Instructions provided by the researcher to participants that “sets the context for the consideration of the Q sample” and describes how to complete the Q sort (Barbosa et al., 1998, p. 1036).

Factor. “Cluster of respondents whose Q sorts were statistically similar” (Brown, 2004, p. 18).

Factor Loading. “Each respondent’s correlation with each of the identified clusters or factors” (Brown, 2004, p. 18).

P-set or Sample. “It is a structured sample of respondents who are theoretically relevant to the program under consideration” (van Exel & de Graaf, 2005, p. 6).

Q Methodology. “A hybrid of qualitative and quantitative principles used to analyze subjective data and group individuals according to their resources” (Barbosa et al., 1998, p. 1032).

Q Set or Sample. “The collection of ‘heterogeneous items’ which the participants will sort” (Watts & Stenner, 2005, p. 74).

Q Sort. “Each respondent’s rank ordered set of perceptions” (Brown, 2004, p. 18).

Q Methodology and Ed.D. Students

According to McKeown and Thomas (2013), the purpose of Q methodology is to examine subjectivity within human behavior, a concept that can only be explored and measured through “self-reference,” or by the individuals themselves (p. ix). Given that limited research exists on doctoral students or programs in general, Q methodology is a well-suited methodology

for the current study targeting perceptions of current doctoral students. In fact, it is not only difficult to determine perceptions of current and past Ed.D. students on their program outcomes within the existing literature, it is virtually impossible as there are less than 10 existing articles in the literature that focus on Ed.D. program outcomes, including labor market outcomes.

Therefore, this study can develop a new perspective on this topic and contribute to Q methodology research as well. In addition, a second Q study to determine if faculty and administrators involved with CPED-affiliated Ed.D. programs perceive program outcomes the same as the current students could provide greater insights by merging factors from both studies for interpretation. These results could provide a framework for administrators to utilize in designing, marketing, and developing future Ed.D. students.

P-Set

For the purposes of this current study, students in CPED-affiliated Ed.D. programs within the United States were solicited to participate. To acquire the participants for this study, the researcher utilized the member institution list on the CPED website (“Member Institutions,” 2016) to determine which of the approximately 80 CPED-affiliated schools had established programs, meaning those programs had already admitted a cohort into a program designed with CPED principles. Schools with programs in the initial development or redesign phase for implementing CPED principles were excluded (as noted through program descriptions on the CPED website). From the list of schools, the researcher, along with guidance from her program director, selected 20 schools to participate. For each of the selected schools, the researcher emailed a request to the key contact person/program director at each institution as identified either through the member list on the CPED website or through the individual program websites.

The initial program director/key contact email included an explanation of the research study and a request for the participation of their Ed.D. students (Appendix A).

Of those contacted, eight schools agreed to participate, four declined, and eight did not respond to the initial inquiry or subsequent follow-up email requests. Each follow-up email was sent one week after the initial outreach and no more than two follow-up emails were sent to each program director/key contact. For those that did respond, once the key contacts agreed for their students to participate in the study, a follow-up email was sent to them to forward to their students with the conditions of instruction, information on the timeline for completion, and a link to the study login information (Appendix B). The information indicated that the Q sort should take up to 20 minutes to complete. Based on the literature indicating that the majority of Ed.D. students are working professionals already adding doctoral coursework into their professional lives, the population of students at the selected CPED-affiliated programs was used, instead of a subset, assuming not all students will have time to participate.

As students began to complete the study, the researcher monitored participation. Based on the common belief that the Q sample should include a minimum of two items per participant and the P-set should be less than the total number of statements in the Q sample (Watts & Stenner, 2012), this study targeted 15 - 40 participants for the final Q sort of 61 statements. From the eight participating schools, 37 participants responded and participated in the study, an appropriate amount for a Q study.

Instrumentation

The Q-sortware software was used for data collection through the website www.qsoftware.net. Q-sortware is a complimentary tool designed for performing Q sorts online. The tool allows the researcher to input statements for the sort in a randomized manner, as well to

include short answer questions. Also, it includes the ability to invite participants and it features a user-friendly drag and drop Q sorter for the completion of the sort.

The process to create the concourse began with a review of scholarly research to determine current views on outcomes of doctoral programs, focusing on articles that address personal growth, professional development, and/or labor market outcomes (Appendix C). After reviewing the literature, 132 statements were determined to be applicable (Appendix D). Those 132 statements were vetted by a professor, considered an expert within the field, and compared with his experiences as a program director and recruiter of an Ed.D. program. After receiving confirmation that all typical viewpoints and opinions were represented, those statements were reviewed to determine similar themes. The researcher combined themes for clarity and removed duplicates in order to create a more uniform list. The final concourse containing 61 statements about perceived doctoral program outcomes was deemed appropriate for this current study (Appendix E). Throughout this study, participants were asked to divide the 61 statements into three categories – least important benefit, neutral, and most important benefit. After the initial sort was completed, participants were then asked to force rank their opinions, using a Likert scale of -5 (least important benefit) to +5 (most important benefit). Figure 5 illustrates a sample completed sort.

Ed.D. Program Benefits / Step 1 of 1...

Pinch drag and drop the statements into the appropriate column in reason to what is most important and least important as a benefit to you. Drag from the stack of most important first; place the 3 most important in the far right column (+5). Return to the most important column and continue sorting the remaining statements. After you have exhausted those statements, place the statements from the neutral column. There are no correct answers, so continue to rearrange statements until you are satisfied with the order. Each column indicates OK with a check mark when the appropriate number of statements are in the column. Once you are satisfied, click Continue to advance to the additional questions.

Drag the items to the boxes below:

Least Important Benefit											Neutral			Most Important Benefit																	
-5 (3)											-1 (0)			+1 (8)			+2 (6)			+3 (5)			+4 (4)			+5 (3)					
1 Ability to institute changes related to equity and social justice for education 2 Obtaining a senior leadership position within education 3 Career growth as a clinical faculty member											1 Ability to have an impact in the field 2 Become a self-directed learner 3 Become a more effective advocate for my organization 4 Ability to conduct a comprehensive action research plan from identifying a problem to generating action steps 5 Improved job prospects 6 Better fit employment opportunities 7 Increased motivation for my current job 8 Sense of community among classmates			1 Ability to conduct quantitative research 2 Become viewed as a steward of the practice (a dedicated leader with high standards who prepares for change) 3 Ability to design effective program evaluations 4 Opportunity to serve as adjunct faculty 5 Professional networking opportunities 6 Recognized as a scholar-practitioner by colleagues in the field 7 Ability to interpret scholarly research 8 Strong relationship with a mentor in the field 9 Flexibility in future career decision-making			1 Produce actionable findings from dissertation to address problems of practice 2 Gain research skills to address contemporary problems/problems of practice 3 Greater understanding of needs of various constituent groups (students, community, etc.) 4 Enhance personal intellectual capital 5 Ability to be a change agent in the field 6 Ability to use data to inform decisions 7 Increase knowledge of current topics in the field 8 Gain skills needed to communicate effectively to various constituent groups			1 Opportunity to serve on institution-wide or community-wide committees 2 Option to explore both academic and non-academic careers 3 Ability to communicate scholarly research results to others 4 Ability to work with diverse teams 5 Increase my ability to work with diverse communities 6 Greater understanding of myself as a leader			1 Higher earnings 2 Having a more meaningful career 3 Higher long-term earning potential 4 Sense of community with faculty members 5 Develop a different worldview			1 Ability to debate policymakers on issues related to education and/or re-balancing policy reform 2 Willingness to challenge the status quo in my workplace 3 Increased capacity to influence change in my workplace 4 Ability to meet changing job demands and requirements			1 Increased confidence in myself 2 Increased understanding of my strengths and weaknesses 3 Develop leadership skills for future roles		
OK!											OK!			OK!			OK!			OK!			OK!								
Continue																															

Figure 5. Sample Ranking Sheet in Q-sortware.

Data Collection

After receiving approval from the North Carolina State University Institutional Review Board (IRB), data were collected to determine the perceptions of Ed.D. students about their potential program outcomes. Once the instrument was finalized, the statements were added to the Q-sortware (www.qsortware.net) with final participant instructions, including a consent form (Appendix F). A small-scale pilot study was conducted to test the instrument, and no issues were reported for the entire process from directions to utilizing the tool to data collection. As described earlier, program directors/key contacts were recruited from the CPED member institution list and contacted initially. Program directors agreeing to participate were subsequently sent an email to distribute to their students that included a link to the study and an overview of the study. Based on correspondence with program directors, students were either emailed directly by the director or a departmental administrator or the information was posted on a course website.

In addition to the concourse items, participants were asked to provide demographic information, including age, gender, race/ethnicity, years in education, and current job function/position title. Open-ended questions included questions about the rationale for highest and lowest ranked cards in the sort, any items difficult to place, and any items participants felt were missing in the sort (Appendix G). Participants were not asked to indicate the institutions in which they are studying in the hopes of maintaining anonymity, a component required by multiple institutions to gain their participation in the study.

Data Analysis and Interpretation

After the data were cleaned and reviewed, the responses from all 37 participants were included for analysis. Given that this study followed traditional protocol for Q method studies, the data was analyzed with by-person factor analysis, including correlations (Watts & Stenner, 2012). R statistical software was used to analyze the compiled data for the purpose of the factor analysis and generating any thematic groups that emerged as a result of the study. In addition to the statistical analysis, this study examined which concourse items were rated “high,” “low,” and “neutral” across various participants to gain a more complete picture of the opinions capture by the participants.

In terms of interpretation, this study followed the best practices identified for Q studies. The first step in the analysis was to generate a correlation matrix used to determine groupings of rankings within the participant group. Next, those rankings were used in a factor analysis. It is important to note that Q methodology relies upon inverted factor analysis, where the participants, not the statements, are the variables analyzed (Watts & Stenner, 2012). As Watts and Stenner (2012) describe it, “a Q methodological factor analysis can then be applied to this correlation matrix as a means of reducing it to a smaller number of factors, but now the factor analysis is

looking for groups of *persons* who have rank ordered the heterogeneous stimulus items in a very similar fashion” (p. 18).

For this study, varimax rotation was employed in the factor analysis as it helps to maximize the amount of variance explained in the study while highlighting key features of each participant group (Watts & Stenner, 2005). Based on the factors that emerged, the rotated factor loadings with eigenvalues of more than 1 were considered significant, in accordance with the Kaiser-Guttman criterion (Watts & Stenner, 2012). This criterion, coupled with a more substantive review of the meaning and significance of each factor (as recommended by Watts and Stenner, 2012), resulted in the final set of retained factors. From that grouping, factor estimates were used to flag significant factors. These factor estimates were then converted to z scores for analysis, including correlations and standard error of difference across the factor groups.

High and low items for each factor, as well as a more detailed crib sheet of factor arrays for each factor, were generated. This study sought to determine consensus items, or items that are not distinguishing between any factors (Watts & Stenner, 2012), but no items emerged. Distinguishing items, which represent statements that indicate significant differences in rankings for one factor over others (Watts & Stenner, 2012), were discussed and analyzed in detail. Given that the final factors presented were selected through a combination of statistical consideration and subjective review of the opinions, this study meets the criteria set by Watts and Stenner (2012) to ensure that the solution is responsive to the data, meets the study objectives, is sound methodologically and theoretically, and makes sense for the intended audience (p. 111). As such this study was conducted according to the recognized and recommended protocol for Q methodological studies.

Summary

The purpose of this chapter was to provide an overview of Q methodology, including the procedure used to design this particular research study. The purpose of this study was to determine Ed.D. students' perceptions of their potential program benefits upon graduation. Given that Q methodology is designed to study perceptions and opinions effectively with a relatively small number of participants, this chapter provides further justification for its use in this study.

CHAPTER FOUR: FINDINGS

Introduction

Given that Q methodology seeks to understand opinions and the rationale behind those opinions (McKeown & Thomas, 2013), it fits the design of this research study. As such, this chapter presents the results of the data collected in this Q study to answer the proposed research questions. To address those questions, 37 individuals across eight Ed.D. programs affiliated with the Carnegie Project on the Education Doctorate (CPED) in the United States completed a Q sort. The Q sort contained 61 statements, all derived from relevant literature, related to the participants' perceptions of the intended benefits of their respective Ed.D. programs. The outline of Q research methodology described in Chapter 3 was utilized to complete this study.

In particular, this chapter will present the data collected to answer the following research questions:

- Q1. What are the perceptions among students in CPED programs towards their program benefits and why?
 - a. What are the highest and lowest ranked statements by group?
 - b. What are the distinguishing characteristics between groups of students in their perceptions of their program benefits?
 - c. Were there any common statements regarding student perceptions of program benefits among participants?

To obtain answers to these questions, upon obtaining Institutional Review Board (IRB) approval for North Carolina State University, Ed.D. students across eight CPED-affiliated institutions completed an electronic Q sort and answered follow-up descriptive and demographic questions. This chapter will discuss the data collection process and data analysis, describe participant

demographic information, and highlight any similarities and distinctions among thematic groups that emerge.

Overview of Analysis

Q methodology emphasizes subjectivity in human behavior by focusing on allowing individuals to order, or sort, their own individual responses to statements on a chosen topic (Addams, 2000; McKeown & Thomas, 2013). More specifically, it allows for opinions to be analyzed through data and generates thematic groups through the use of factor analysis (Brown, 2004; Simons, 2013). In this study, participants were asked to rank 61 concourse items relating to their individual perceptions of the benefits of their respective Ed.D. programs.

Participants completed the Q sort through the Q-sortware software, which allows individuals to replicate the in-person card sorting process online. The software also automatically stores the data once individuals submit their sort and their responses to the open-ended and demographic questions. The statements about perceived program benefits were ranked on a -5 (least important benefit) to a +5 (most important benefit) scale through a forced choice distribution, which is noted in the literature as the most convenient method of rank ordering statements (Watts & Stenner, 2012) that has been proven to not meaningfully influence ordering preferences (Brown, 1971).

After the data were collected, the data were converted into an Excel document and analyzed using R statistical software. Excel was utilized to calculate descriptive statistics on the demographic characteristics, including frequencies, while R statistical software was used to develop the correlation matrices and factor analyses needed to analyze responses and determine appropriate thematic groups of participants.

P-Set Demographics

Thirty-seven individuals participated in this study, representing eight different Ed.D. programs. While this study did not ask individuals to list the names of their institutions, institutional type was collected. Of the respondents, the majority are attending/attended an Ed.D. program at a public institution. Table 1 displays the full breakdown of institution type.

Table 1. Institutional Type, by Percentage.

Institutional Type	F	%
Public	31	83.8
Private	6	16.2

The overrepresentation of public institutions is not surprising, given that nearly 80 percent of the approximately 80 member institutions listed on CPED’s website are public colleges and universities (“Member Institutions,” 2016). Of the schools contacted for participation, the same representative breakdown of institutions were represented. Participants were invited directly by their program directors, after each director agreed to participate in the study. Having a total number of 37 participants falls within the recommendations by Watts and Stenner (2012) to have a P-set that is less than the number of concourse statements, which is 61 statements for this study.

Other demographic information collected of participants included gender, race/ethnicity, and age. In terms of gender, the majority of the participants were females. The full results are shown in Table 2.

Table 2. Participant Gender, by Percentage.

Gender	F	%
Female	27	73.0
Male	10	27.0

The age of the participants ranged from 27 to 60 years old, with the average age equally approximately 43.4 years old ($sd = 9.32$). Table 3 displays the frequencies of the racial/ethnic background of the participants, with the largest percentage, 75.7% ($N = 28$), identifying as White.

Table 3. Racial/Ethnic Background of Participants, by Percentage.

Race/Ethnicity	F	%
White	28	75.7
Black	3	8.1
American Indian	3	8.1
Asian	2	5.4
Hispanic	1	2.7

Additionally, participants were asked to indicate why they selected their particular Ed.D. programs from a list of five potential reasons, ranging from institutional reputation to program format to location. Table 4 provides the results, with the majority of the participants, 59.5% ($N=22$), selecting their programs due to program format. It should be noted that participants were not given a definition of program format within the post-sort questionnaire, allowing them to answer the question based on their own interpretation of program format (i.e., structure of classes, cohort-based, etc.).

Table 4. Reasons for Selecting Ed.D. Program, by Percentage.

Reason for Selection	F	%
Program Format	22	59.5
Institutional Reputation	7	18.9
Location	7	18.9
Faculty	1	2.7
Curriculum	0	0.0

Lastly, all participants listed their current job function/role as all students in the participating Ed.D. programs were invited to participate in this study. In addition to the education-related roles, including instructors and administrators, job functions ranged from

scientific research to law enforcement to consultant. This variance in positions matches the evidence in the literature that Ed.D. students are interested in solving problems of the practice in their chosen fields (Lester, 2004) and finding a way to bridge academia and industry (Banerjee & Morley, 2013; Fink, 2006; Kot & Hendel, 2012). See Appendix H for the comprehensive list of self-reported job functions/roles. Overall, the demographic data provided gives an overview of the participants in this study and helps offer additional details on their concourse responses.

Correlation Matrix and Factor Correlation Matrix

Analysis using the Q methodology begins with the calculation of a correlation matrix, which displays the inter-relatedness, either similarities or dissimilarities, between the Q sorts (van Exel & de Graff, 2005; Watts & Stenner, 2012). Excel and R statistical software were both used to generate a correlation matrix for this study. The full correlation matrix, which represents every viewpoint of the participants (Watts & Stenner, 2012), can be found in Appendix I.

Correlation coefficients range from +1, indicating a perfect positive correlation between participants' responses, to -1, indicating a perfect negative correlation between responses (Brown, 1993). Subsequently, the values in between complete the spectrum of agreement to disagreement (Brown, 1993). Within the correlation matrix between sorts in this study, the highest correlation value was 0.613, which occurred between participant 27 and participant 37. While the professions of these two participants vary, with participant 27 being a special education director and participant 37 working as a consultant, their sorts both indicated selecting their Ed.D. programs for personal goals and to gain research expertise with little interest in developing community among classmates. Comparably, the second highest correlation value, 0.604, was found between participant 14 and participant 27, both directors, who again both indicated pursuing an Ed.D. for personal gains in scholarly pursuits, with no interest in

developing leadership skills and/or building community with classmates. All three participants loaded onto factor 1, which makes sense based on their similar viewpoints.

On the other end of the spectrum, the lowest correlation value, -0.417 was found between participants 12 and 13. Participant 12, a male high school teacher, indicated pursuing the Ed.D. for advancement opportunities without interest in leadership, whereas Participant 13, a female instructor, indicated the exact opposite – interest in leadership growth and little interest in monetary gains. Similarly, the next lowest correlation value, -0.407, was identified between participants 26 and 29. Participant 26 currently works in law enforcement, not higher education, and is hoping for future employment opportunities from this degree. Alternatively, Participant 29, a teacher, is hoping to become a more reflective practitioner within the same field. Participant 12 loaded into factor 3, Participants 13 and 29 loaded onto factor 2, and participant 26 did not significantly load into a factor.

The factor correlation matrix, as shown in Table 5, illustrates a more concise view of the factors that developed from this study, including the level of agreement that exists between factors. Factors 3 and 4 have the highest level of agreement (0.416), whereas factors 2 and 3 have the lowest level of agreement (-0.013). The factors that emerged from this study are described in detail in the subsequent section of this chapter.

Table 5. Correlation between Factor z-scores.

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 1					
Factor 2	0.133				
Factor 3	0.200	-0.013			
Factor 4	0.137	0.117	0.416		
Factor 5	0.251	0.229	-0.003	0.174	
Factor 6	0.086	0.308	0.023	0.096	0.214

Factor Analysis and Rotation

After the generation of the correlation matrix, Q methodology utilizes factor analysis “to produce a set of factors onto which the participants load on the basis of the item configurations they have created” (Watts & Stenner, 2005, p. 80). In other words, Q methodology seeks to create factors that group similar responses together and produces factors that represent the thematic groups that emerge from the data. The goal of the factor analysis is to explain as much variance in the participants’ responses as possible for the study, with the caveat that deciding how many factors to extract involves an objective examination of the data as well as a more subjective analysis of the subject being studied (Watts & Stenner, 2012).

R statistical software was utilized to analyze the data for this study. To determine the appropriate number of factors to include in this analysis, eigenvalues (EV) or the number resulting from summing the squared loadings of all Q sorts on a particular factor, were generated (Watts & Stenner, 2012). Keep in mind that only EVs of greater than one are considered significant, so only factors with EVs of one or greater should be kept in an analysis (Watts & Stenner, 2012). Additionally, factor rotation was utilized to determine which factors should be included for interpretation. Varimax rotation was used as it seeks to maximize the amount of variance explained while simultaneously highlighting key features of the group (Watts & Stenner, 2005; Watts & Stenner, 2012). By-hand rotation was not utilized because this study focused on the characteristics of the group, not specific individuals (Watts & Stenner, 2012).

The factor analysis for this study began with a 4-factor solution, then the number of factors was increased to a 5-factor solution, based on the EV of 3.5 for the 4-factor solution. Similarly, based on the EV of 2.6 for the 5-factor solution, a 6-factor solution was run. The 6-factor solution produced an EV of 2.2, significantly loaded 29 participants, and described 58

percent of the variance in comparison to the 5-factor solution explaining only 53.5 percent of the variance. A 7-factor solution was also run, but because there was one factor with only one person and the factor with two people included one negative loading, the 6-factor solution was deemed the best overall solution for this study. Table 6 displays the results of each of the factor solutions considered, and Table 7 illustrates the details of the factors created in the selected 6-factor solution. As noted earlier, a varimax rotation was used to maximize the variance explained by each factor in this study (Webler et al., 2009).

Table 6. Factor Solutions, Arranged by Factor.

Factors	Significant Loads	Variance Explained (%)	Eigenvalue	Reliability	Highest Factor Correlation	Range of People on Factors
4	29	48.3	3.5	.94 to .98	0.390	4 to 11
5	29	53.5	2.6	.89 to .97	0.376	2 to 9
6	29	58.0	2.2	.89 to .97	0.416	2 to 9
7	29	62.1	2.1	.80 to .97	0.400	1 to 8

Note. 6 factor solution. 7 factor had 1 single person factor, with 2 person factor having 1 negative load.

Table 7. Factor Characteristics.

Factor	Participants Loaded	Eigenvalues	Variance	Reliability	SE of Factor Scores
1	9	5.4	14.60	0.97	0.16
2	5	4.3	11.50	0.95	0.22
3	5	3.9	10.50	0.95	0.22
4	5	3.1	8.40	0.95	0.22
5	3	2.6	7.00	0.92	0.28
6	2	2.2	6.00	0.89	0.33
Total Variance			58.00		

Factor Loadings

As noted by Webler et al. (2009), factor loadings represent the relationships between each perspective highlighted in the analysis on the given topic. High factor loadings indicate a higher degree of similarity with the social perspective, or the “coherent patterns of opinion about a topic” (Webler et al., 2009, p. 12). Thus, these loadings typically are viewed as indicating the viewpoints of the particular factor (Watts & Stenner, 2012). As noted above in Table 7, EVs, variance explained, and having at least two significant loadings were the criteria utilized in determining the six factors for this study. Table 8 illustrates the factors that were “flagged” in the analysis and included in the final determination of factors, with Table 9 describing the same information using p-values.

Table 8. Flagged Factor Loadings.

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
P1	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
P2	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
P3	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
P4	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
P5	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
P6	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
P7	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
P8	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
P9	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
P10	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
P11	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
P12	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
P13	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
P14	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
P15	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
P16	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
P17	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
P18	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
P19	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
P20	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
P21	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
P22	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
P23	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
P24	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
P25	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
P26	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
P27	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
P28	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
P29	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
P30	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
P31	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
P32	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
P33	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
P34	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
P35	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
P36	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
P37	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE

Table 9. Six Factor Solution for Perceptions of Ed.D. Programs, based on p-value.

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
P1	-0.0942	0.7870	0.0517	-0.0856	-0.0661	-0.0970
P2	0.0454	0.6004	-0.2826	0.3180	0.2995	0.1225
P3	0.0335	0.2085	0.7390	0.0279	-0.0351	0.0131
P4	0.6091	0.2108	0.1967	0.3238	0.0679	-0.2771
P5	0.3266	0.2936	0.4005	0.1600	0.3610	0.1328
P6	0.1243	-0.2614	0.6219	0.4812	-0.0956	-0.0103
P7	0.0721	0.0429	0.2803	0.7073	0.1538	-0.1343
P8	0.0500	-0.1999	0.2149	0.6105	0.1522	0.1468
P9	0.5911	-0.1955	0.0815	0.0343	0.2612	0.0410
P10	-0.1269	0.3672	0.1477	0.1942	0.0891	-0.2274
P11	0.6648	-0.0046	-0.1750	0.1424	0.0578	-0.2664
P12	0.3131	-0.3938	0.5879	0.0751	0.0525	-0.0523
P13	-0.0349	0.7313	0.0115	0.0861	0.2476	0.1784
P14	0.8155	0.1390	0.0027	0.0123	-0.1014	0.0137
P15	0.1433	-0.0353	0.4327	0.5037	-0.0903	-0.1458
P16	0.3033	0.0884	0.3276	0.0668	0.1122	0.0369
P17	0.1263	0.3727	0.2414	-0.3613	0.3830	-0.2283
P18	-0.1203	0.3729	0.6827	0.0492	-0.0735	0.1961
P19	-0.3726	0.0045	0.0246	0.3293	0.1111	0.5565
P20	0.0223	0.1383	0.0109	0.1607	0.7955	0.0664
P21	0.1597	0.6198	-0.0632	0.3790	0.1372	0.0139
P22	0.0112	0.3419	0.1038	0.6910	0.1023	0.2077
P23	0.3027	0.0185	-0.3173	-0.1002	0.6893	0.0046
P24	0.6660	-0.1616	0.4338	-0.0379	-0.0324	0.0644
P25	0.1542	-0.0308	0.1960	0.1002	0.5701	-0.0386
P26	-0.0537	-0.3746	0.2940	0.1774	0.2617	-0.5091
P27	0.7841	0.1807	0.1273	-0.0619	0.3146	0.0493
P28	-0.0339	0.2683	0.2845	0.1903	0.4825	0.4024
P29	0.3747	0.7362	0.0484	-0.1518	0.0262	0.2501
P30	0.3733	-0.4449	0.4422	0.1826	0.0478	0.1980
P31	0.3107	0.3324	-0.0424	-0.0689	0.1676	0.6149
P32	-0.0572	-0.1111	-0.1024	0.5931	-0.0718	-0.3556
P33	0.0938	-0.1995	0.7058	0.1702	0.1319	-0.1266
P34	0.5142	-0.0451	0.2183	-0.1002	0.0715	0.5397
P35	0.6038	-0.3568	0.0184	0.1170	0.1150	0.1719
P36	0.5870	-0.0403	0.1686	-0.0186	-0.0290	0.2365
P37	0.6892	0.0837	-0.1320	0.0411	0.1128	0.1432

*p < .05

The six factors that emerged as significant for this study were (1) Chose Ed.D. for Research Skills, (2) Chose Ed.D. for Leadership Development, (3) Chose Ed.D. for Enhanced Earnings and Job Prospects, (4) Chose Ed.D. for Credentials and Recognition, (5) Chose Ed.D. to Become a Change Agent, and (6) Chose Ed.D. for Personal Change. In addition to the factor loadings, the highest and lowest ranked items on the concourse, the distinguishing statements, and information provided in the post-sort questionnaire were used to determine the characteristics of each factor.

Factor Arrays

In Q method studies, it is common to convert the z-scores into factor arrays. As noted by Watts and Stenner (2012), “a factor array is, in fact, no more or less than *a single Q sort configured to represent the viewpoint of a particular factor*” (p. 140). While they also note that the use of factor arrays is not necessary for statistical analysis and interpretation, the use of whole numbers makes comparisons easier and mirror the format used by participants when completing the Q sort (Watts & Stenner, 2012). Overall, these factor arrays closely characterize the viewpoints of each factor. For this study, participants were asked to rank statements about the perceived benefits of their Ed.D. programs on a scale from Most Important Benefit (+5) to Least Important Benefit (-5). Table 10 illustrates the factor arrays for the six study factors.

Table 10. Factor Arrays for Six Study Factors.

Number	Statement	Factor Arrays					
		F1	F2	F3	F4	F5	F6
1	Gain skills needed to communicate effectively to various constituent groups	0	3	0	-1	-3	2
2	Enhance personal intellectual capital	5	2	4	5	5	5
3	Increase knowledge of current topics in the field	2	4	3	3	4	5
4	Ability to demonstrate knowledge and skills gained through dissertation in practice	3	0	-1	1	1	2
5	Ability to use data to inform decisions	3	4	3	3	-4	4
6	Greater understanding of needs of various constituent groups (students, community, etc)	-1	4	1	-2	-4	2
7	Ability to conduct a comprehensive action research plan (from identifying a problem to generating action steps)	4	2	-1	1	1	1
8	Ability to design programs with a strong theoretical underpinning	4	-1	-3	0	-3	-3
9	Ability to conduct quantitative research	4	-2	0	-3	-4	2
10	Gain research skills to address contemporary problems/problems of the practice	4	1	2	0	2	4
11	Understand how to conduct participatory action research	0	1	-3	-2	1	2
12	Ability to design effective program evaluations	1	0	0	-2	0	2
13	Produce actionable findings from dissertation to address problems of practice	1	0	-2	1	0	0
14	Ability to conduct qualitative research	5	-2	-3	-3	2	3

Table 10 (continued).

15	Become a more reflective practitioner	1	3	-1	2	5	5
16	Greater understanding of myself as a leader	-2	5	-2	5	3	3
17	Increased understanding of my strengths and weaknesses	-1	5	-1	-1	2	-2
18	Be seen as a role model by others in the field	1	-1	1	1	-2	-4
19	Become a self-directed learner	-4	2	-2	-5	3	2
20	Increased confidence in myself	-4	3	-1	2	4	0
21	Greater understanding of my personal identity	-5	1	-4	-3	-2	-1
22	Develop leadership skills for future roles	0	5	4	4	-1	3
23	Increase my ability to work with diverse communities	0	2	2	-3	-3	0
24	Ability to have an impact in the field	5	-3	1	0	3	3
25	Ability to institute changes related to equity and social justice for education	3	0	1	-1	4	1
26	Ability to debate policymakers on issues related to education or rebalance policy reform	2	-1	3	-5	-2	0
27	Increased capacity to influence change in my workplace	1	3	1	2	3	-4
28	Ability to create community partnerships	-4	1	1	-3	-3	0
29	Become a more effective advocate for my organization	0	1	3	0	-1	-4
30	Ability to collaborate with key stakeholders	-1	0	4	-1	-2	4
31	Ability to be a change agent in the field	2	1	0	2	5	-1
32	Willingness to challenge the status quo in my workplace	0	-2	-2	-2	3	-5

Table 10 (continued).

33	Become viewed as a steward of the practice - a dedicated leader with high standards who prepares for change	3	2	0	1	2	-1
34	Ability to effectively diagnose problems in my current organization	3	4	2	-1	-1	-2
35	Higher earnings	-1	-5	5	1	-5	-3
36	Flexibility in future career decision-making	0	-4	4	4	4	-2
37	Ability to meet changing job demands and requirements	0	1	0	1	-5	0
38	Better fit employment opportunities	-1	-5	0	-1	-3	-1
39	Having a more meaningful career	-1	-2	0	2	-2	3
40	Gaining additional credentials	1	-1	-2	5	0	-1
41	Improved job prospects	-1	-4	5	3	0	1
42	Higher long-term earning potential	-2	-4	5	3	-1	-5
43	Obtaining a senior leadership position within education	-2	-3	3	4	-2	-5
44	Opportunity to serve as adjunct faculty	0	-3	-4	-4	2	-1
45	Opportunity to serve on institution-wide or community-wide committees	-1	-1	-4	-4	1	0
46	Career growth as a clinical faculty member	-3	-4	-5	-5	-2	-2
47	More recognition at work	-2	-5	-5	3	-5	1
48	Increased motivation for my current job	-4	-2	-5	-1	-4	0
49	Option to explore both academic and non-academic careers	-3	-3	-1	0	1	0
50	Ability to improve my workplace	1	2	-3	0	1	-3
51	Sense of community among classmates	-5	-1	2	2	0	3
52	Sense of community with faculty members	-5	-1	-4	0	0	0

Table 10 (continued).

53	Ability to work in diverse teams	-3	0	-3	-1	-1	1
54	Strong relationship with a mentor in the field	-3	-1	-2	-4	2	-1
55	Gain a network of peers for future collaborations	-2	0	2	1	0	-1
56	Professional networking opportunities	-2	-2	1	0	1	2
57	Ability to design practical solutions to problems in my workplace	1	1	2	4	-1	-3
58	Ability to interpret scholarly research	2	0	-1	-2	-1	-2
59	Develop a different worldview	-3	3	-1	-2	0	1
60	Ability to communicate scholarly research results to others	2	0	0	-4	1	-3
61	Recognized as a scholar/practitioner by colleagues in the field	2	-3	1	0	0	0

Note. The complete list of concourse items with references can be found in Appendix X.

Consensus Statements

Consensus statements are statements that are not distinguished between any factors, indicating that the participants all mostly agree with the opinion shared in the statement (van Exel & de Graaf, 2005). Although there were some similarities across statements by factor, no consensus statements emerged in this study. A further discussion of the similarities that did emerge can be found in Chapter Five.

Distinguishing Statements

Distinguishing statements are characterized as statements that are identified based on the significant different in ranking for a particular factor over other identified factors (Watts & Stenner, 2012). From a statistical perspective, they are statements that have a score on two factors that exceeds the difference score required to be statistically significant (van Exel & de

Graaf, 2005). In this study, the distinguishing statements were utilized to help define the six factors that emerged.

Factor One: Chose Ed.D. for Research Skills. Factor One, with nine participants, accounts for the largest number of participants in this study. It explains 14.6% of the variance and includes 31% of the P-set that loaded into a factor. The name of Factor One highlights that this group largely chose to participate in an Ed.D. to gain research skills and academic training. Table 11, which illustrates the highest and lowest ranked statements, and Table 12, which provides a full crib sheet for Factor One, illuminate that the theme across all the highly-rated statements for this factor relate to research skills. More specifically, the items participants rated higher than all other factor groups include gaining both qualitative (14) and quantitative research skills (9), interpreting research (58), utilizing research to solve problems of practice (4,10, 13), and generally being recognized as a scholar-practitioner (61).

Table 11. Highest and Lowest Ranked Items for Factor One.

Rank	Number	Statement
(Highest)		
5	2	Enhance personal intellectual capital
5	14	Ability to conduct qualitative research
5	24	Ability to have an impact in the field
(Lowest)		
-5	21	Greater understanding of my personal identity
-5	51	Sense of community among classmates
-5	52	Sense of community with faculty members

Similarly, participants in this group were equally consistent in the items they believe are the least important benefits of the Ed.D. degree. Those items largely relate to personal growth and development (16, 20, 21), including gaining leadership skills or more self-awareness. Additionally, generating a network and sense of community with classmates (51) and faculty (52) was not important.

Table 12: Factor Interpretation Crib Sheet for Factor One.

Rank	Number	Statement
(Highest)		
5	2	Enhance personal intellectual capital
5	14	Ability to conduct qualitative research
5	24	Ability to have an impact in the field
(Items Ranked Higher in Factor 1 Array than in Other Factor Arrays)		
3	4	Ability to demonstrate knowledge and skills gained through dissertation in practice
4	7	Ability to conduct a comprehensive action research plan (from identifying a problem to generating action steps)
4	8	Ability to design programs with a strong theoretical underpinning
4	9	Ability to conduct quantitative research
4	10	Gain research skills to address contemporary problems/problems of the practice
1	13	Produce actionable findings from dissertation to address problems of practice
1	18	Be seen as a role model by others in the field
3	33	Become viewed as a steward of the practice - a dedicated leader with high standards who prepares for change
2	58	Ability to interpret scholarly research
2	60	Ability to communicate scholarly research results to others
2	61	Recognized as a scholar practitioner by colleagues in the field
(Items Ranked Lower in Factor 1 Array than in Other Factor Arrays)		
2	3	Increased knowledge of current topics in the field
-2	16	Greater understanding of myself as a leader
-4	20	Increased confidence in myself
-4	28	Ability to create community partnerships
-3	49	Option to explore both academic and non-academic careers
-3	53	Ability to work in diverse teams
-2	55	Gain a network of peers for future collaborations
-2	56	Professional networking opportunities
-3	59	Develop a different worldview
(Lowest)		
-5	21	Greater understanding of my personal identity
-5	51	Sense of community among classmates
-5	52	Sense of community with faculty members

Note. Items tied with another factor in highest or lowest score were included.

A review of the distinguishing statements from this group, illustrated in Table 13, reiterates the distinction in the positive and negative themes within this group. Factor One views

the research-related statements much more positively than the other factors, especially gaining an ability to design programs with a strong theoretical underpinning (8), which is viewed negatively by Factors Two, Three, Five, and Six, and neutral by Four. A similar response is noted to the statement about gaining an ability to interpret scholarly research (58). On the other hand, Factor One views becoming a self-directed learner as less important than all factors, except Factor Four, and Factor One is more neutral about gaining flexibility in future career decision-making than all other factors (Factors Two and Six view this outcome as less important, whereas Factors Three, Four, and Five view it as more important).

Table 13. Distinguishing Statements, Factor One.

Number	Statement	Factor Arrays					
		F1	F2	F3	F4	F5	F6
4	Ability to demonstrate knowledge and skills gained through dissertation in practice	3	0	-1	1	1	2
7	Ability to conduct a comprehensive action research plan (from identifying a problem to generating action steps)	4	2	-1	1	1	1
8	Ability to design programs with a strong theoretical underpinning	4	-1	-3	0	-3	-3
9	Ability to conduct quantitative research	4	-2	0	-3	-4	2
19	Become a self-directed learner	-4	2	-2	-5	3	2
20	Increased confidence in myself	-4	3	-1	2	4	0
36	Flexibility in future career decision-making	0	-4	4	4	4	-2
47	More recognition at work	-2	-5	-5	3	-5	1
51	Sense of community among classmates	-5	-1	2	2	0	3
58	Ability to interpret scholarly research	2	0	-1	-2	-1	-2

Additional perspective was collected through a post-sort questionnaire, including questions seeking clarification on the highest (+5) and lowest (-5) rated questions. The rationales for the highest ranked responses reiterate the themes presented in the sort, including “I want to be a scholar practitioner advancing my field of practice” and “I’d like to become an expert in my field upon completion of my dissertation.” These participants view the Ed.D. as a way to gain the research skills and title needed to implement the changes they desire to make in the field. In terms of the lowest ranked responses, the participants consistently believe they either already possess self-awareness and an understanding of themselves or do not believe it is the responsibility of a doctoral program to help students in personal development. One participant said “I would hope that most people motivated enough to pursue a doctorate would already be self-directed learners.” Two other participants more directly stated, “I don’t need a doctoral program to have a greater understanding of my personality” and “I do not need a program to understand my strengths and weaknesses nor to gain confidence in myself.”

In terms of demographics, this group includes a mixture of males and females averaging 46 years old, a mixture of racial/ethnic groups, and a mixture of rationale for selecting the program between institutional reputation, program format, location, and faculty. Job roles vary greatly from a high school teacher to an English language specialist to a consultant. In summary, Factor One views research-focused and more academic outcomes as the most important benefits for selecting the Ed.D. while considering personal growth and development as the least important. Figure 6 shows a visual representation of the average responses for participants in Factor One.

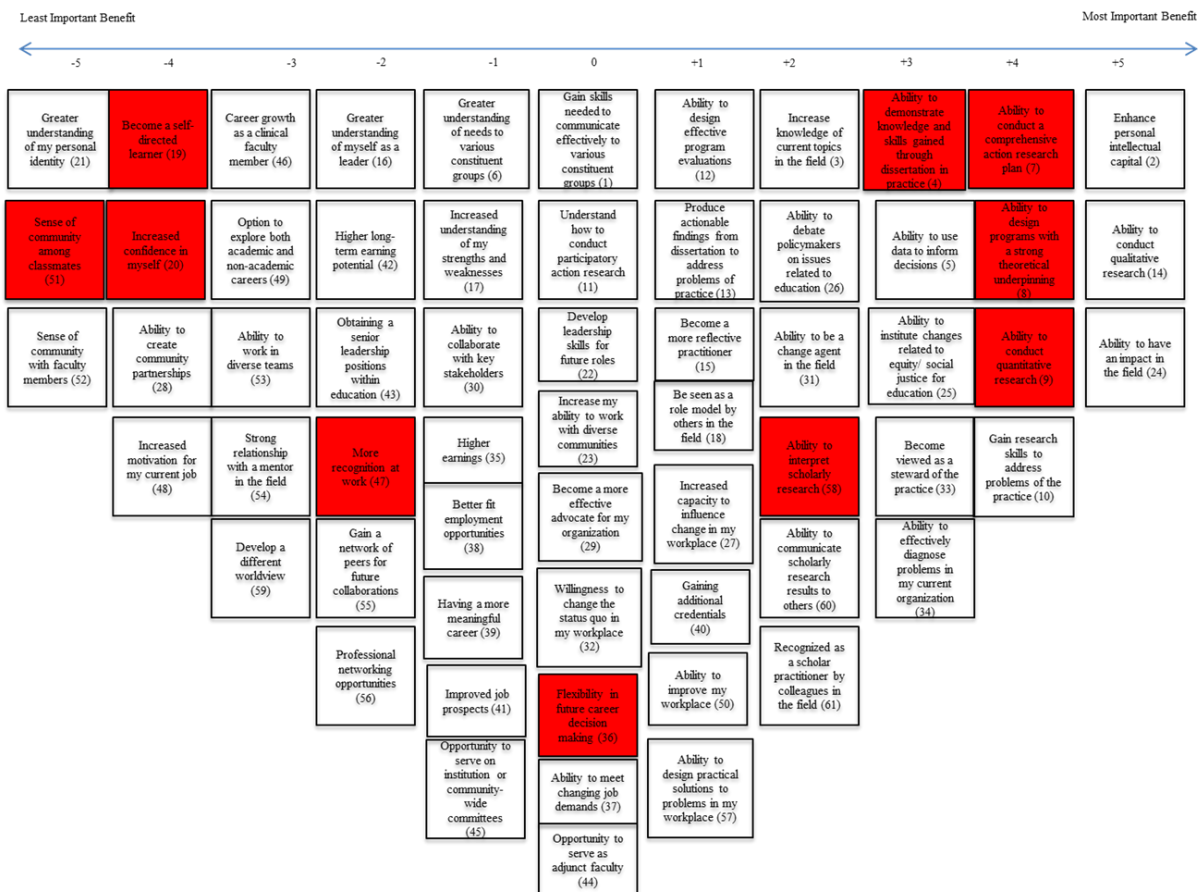


Figure 6. Model Sort for Factor One: Chose Ed.D. for Research Skills. Note. Distinguishing statements in red.

Factor Two: Chose Ed.D. for Leadership Development. Five participants loaded into Factor Two, which accounted for 11.5% of the variance and represents 17% of the P-set that loaded into a factor. The name of Factor Two illustrates the participants' opinions that gaining leadership skills and a greater understanding of themselves as leaders is the most important benefit of the Ed.D. program. In contrast to Factor One, while Factor Two is still focused on individual change, it does not focus on gaining particular skills, but more self-awareness and reflection. Table 14 of the highest and lowest ranked items and Table 15 displaying the more detailed crib sheet reinforce the importance the participants in this factor place on developing skills. In particular, items they ranked highly focus on understanding themselves as leaders (16),

developing leadership skills (22), greater understanding of personal identity (21), and increasing ability to work in diverse groups (23) and make change (27).

Table 14. Highest and Lowest Ranked Items for Factor Two.

Rank	Number	Statement
(Highest)		
5	16	Greater understanding of myself as a leader
5	17	Increased understanding of my strengths and weaknesses
5	22	Develop leadership skills for future roles
(Lowest)		
-5	35	Higher earnings
-5	38	Better fit employment opportunities
-5	47	More recognition at work

An examination of the lowest ranked statements shows that participants in Factor Two are not concerned with how the Ed.D. will impact their career in terms of earnings and job opportunities, with higher earnings (35), better fit opportunities (38), and recognition at work (47) being the lowest three items. Additionally, networking opportunities (56) and personal intellectual capital (2) were rated lower for this factor than all others, indicated again that these participants are interested in self-exploration and growth more than external gains or academic gains.

Table 15. Factor Interpretation Crib Sheet for Factor Two.

Rank	Number	Statement
(Highest)		
5	16	Greater understanding of myself as a leader
5	17	Increased understanding of my strengths and weaknesses
5	22	Develop leadership skills for future roles
(Items Ranked Higher in Factor 2 Array than in Other Factor Arrays)		
3	1	Gain skills needed to communicate effectively to various constituent groups
4	5	Ability to use data to inform decisions
4	6	Greater understanding of needs of various constituent groups (students, community, etc.)
1	21	Greater understanding of my personal identity
2	23	Increase my ability to work with diverse communities
3	27	Increased capacity to influence change in my workplace
1	28	Ability to create community partnerships
4	34	Ability to effectively diagnose problems in my current Organization
1	37	Ability to meet changing job demands and requirements
2	50	Ability to improve my workplace
3	59	Develop a different worldview
(Items Ranked Lower in Factor 2 Array than in Other Factor Arrays)		
2	2	Enhance personal intellectual capital
-3	24	Ability to have an impact in the field
-4	36	Flexibility in future career decision-making
-2	39	Having a more meaningful career
-4	41	Improved job prospects
-3	49	Option to explore both academic and non-academic careers
-2	56	Professional networking opportunities
-3	61	Recognized as a scholar practitioner by colleagues in the field
(Lowest)		
-5	35	Higher earnings
-5	38	Better fit employment opportunities
-5	47	More recognition at work

Note. Items tied with another factor in highest or lowest score were included.

The distinguishing statements, shown in Table 16, reiterate the idea that Factor Two is less concerned with career-related benefits and more concerned with personal growth and development. This difference is most notable through statement 41, improved job prospects,

where Factor 2 rated it a -4 and all other factors were closer to neutral or positive. Similarly, all other factors were neutral or positive for statement 24, ability to have an impact in the field, and this factor rated that statement a -3. In general, when considering the inherent internal focus on personal growth exhibited by this factor, these distinctions fit within that assessment.

Table 16. Distinguishing Statements, Factor Two.

Number	Statement	Factor Arrays					
		F1	F2	F3	F4	F5	F6
2	Enhance personal intellectual capital	5	2	4	5	5	5
17	Increased understanding of my strengths and weaknesses	-1	5	-1	-1	2	-2
24	Ability to have an impact in the field	5	-3	1	0	3	3
30	Ability to collaborate with key stakeholders	-1	0	4	-1	-2	4
38	Better fit employment opportunities	-1	-5	0	-1	-3	-1
41	Improved job prospects	-1	-4	5	3	0	1

Additional perspective was collected through a post-sort questionnaire, including questions seeking clarification on the highest (+5) and lowest (-5) rated questions. The rationales for the highest ranked responses reiterate the themes presented in the sort, including “Enroll in program to gain new knowledge with no relation to change careers” and “I already hold a position of authority and want to make it substantial and justifiable with knowledge and credibility this program will give me.” These participants view the Ed.D. as a way to gain leadership skills and spend time on self-reflection and development. In terms of the lowest ranked responses, the participants consistently were just not that interested in career-related outcomes or in spending too much time on theoretical tasks commonly associated with research. Two participants summed up the common sentiment with the statements “not terribly interested in theoretical and career” and “no interest in research and publishing.”

In terms of demographics, this group includes a mixture of males and females averaging 48 years old, a mixture of racial/ethnic groups, and a mixture of rationale for selecting the program between institutional reputation, program format and location. Job roles vary greatly from a retired business owner to a relationship manager to a teacher. In summary, Factor Two views personal growth and development, with an emphasis on leadership skills, as the most important benefits for selecting the Ed.D. while earnings and job prospects are the least important. Figure 7 shows a visual representation of the average responses for participants in Factor Two.

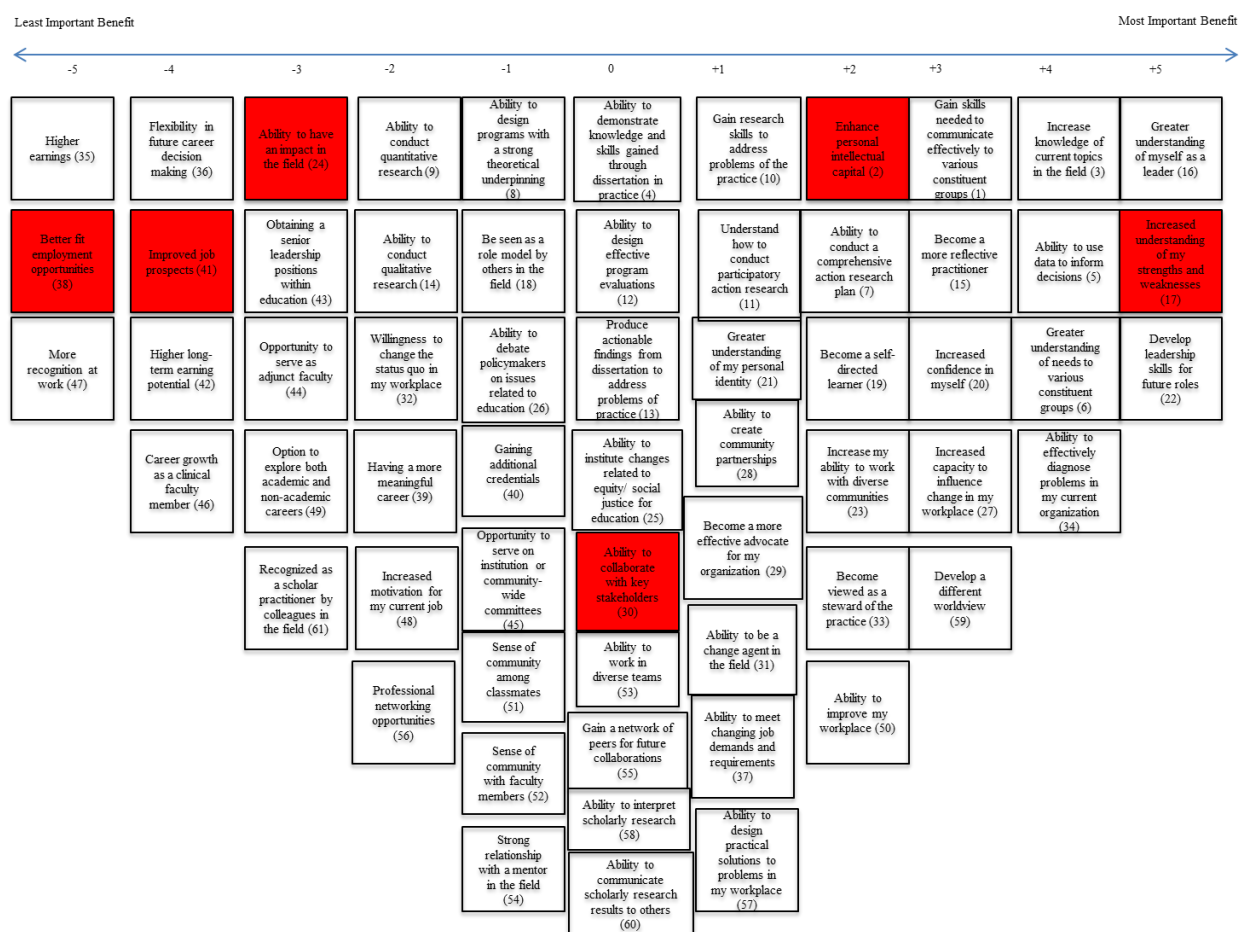


Figure 7. Model Sort for Factor Two: Chose Ed.D. for Leadership Development. Note. Distinguishing statements in red.

Factor Three: Chose Ed.D. for Enhanced Earnings and Job Prospects. Factor Three, with five participants, explains 10.5% of the variance and includes 17% of the P-set that loaded into a factor. The name of Factor Three illuminates the opinions of these participants who chose to pursue the Ed.D. for monetary gains and job opportunities. These opinions are shown in their highest ranked statements in Table 17 and in the other highly rated statements in Table 18, including higher earnings (35), higher long-term earning potential (42), flexibility in future career decision-making (36), and better fit employment opportunities (38).

Table 17. Highest and Lowest Ranked Items for Factor Three.

Rank	Number	Statement
(Highest)		
5	35	Higher earnings
5	41	Improved job prospects
5	42	Higher long-term earning potential
(Lowest)		
-5	46	Career growth as a clinical faculty member
-5	47	More recognition at work
-5	48	Increased motivation for my current job

In contrast, the lowest ranked items and the more detailed crib sheet, show that Factor Three participants are not concerned with gaining professional development opportunities or recognition at their current roles, indicating that these participants are really focused on gaining recognition that will help pursue future opportunities. Interestingly, while job prospects are the key interest of this group, it is evident that the types of roles they are seeking are non-academic in nature. This distinction is illustrated through the rating of statements about career growth as a clinical faculty member (46) and opportunity to serve as adjunct faculty (44), rated as a -5 and -4, respectively. Additionally, there are highly rated statements about creating community partnerships (28) and collaborating with key stakeholders (30), but, the collective review of the

statements reiterates that these statements were likely rated due to their ability to generate future opportunities, not for personal growth.

The distinguishing statements, shown in Table 19, reiterate the distinct belief of Factor Three participants that the most important benefit of the Ed.D. program relates to job prospects and monetary gains. This view is most noticeable through statement 35, higher earnings, which Factor 3 rated as +5 and four other factors were negative. Factor 4, the only other positively rated factor for this statement, rated it at +1, which is much more neutral than Factor 3. A similar distinction is made with statement 41, improved job prospects, and 42, higher long-term earning potential. Contrastingly, for statement 15, become a more reflective practitioner, Factor 3 was the only factor to rate this statement negatively. Interestingly, Factor 3 is more neutral or moderate on statement 19, become a self-directed learner, but, as noted above, these views seem to relate to outcomes, not personal growth and development.

Table 18. Factor Interpretation Crib Sheet for Factor Three.

Rank	Number	Statement
(Highest)		
5	35	Higher earnings
5	41	Improved job prospects
5	42	Higher long-term earning potential
(Items Ranked Higher in Factor 3 Array than in Other Factor Arrays)		
1	18	Be seen as a role model by others in the field
2	23	Increase my ability to work with diverse communities
3	26	Ability to debate policymakers on issues related to education or rebalance policy reform
1	28	Ability to create community partnerships
4	30	Ability to collaborate with key stakeholders
4	36	Flexibility in future career decision-making
0	38	Better fit employment opportunities
2	55	Gain a network of peers for future collaborations
(Items Ranked Lower in Factor 3 Array than in Other Factor Arrays)		
-1	4	Ability to demonstrate knowledge and skills gained through dissertation in practice
-1	7	Ability to conduct a comprehensive action research plan (from identifying a problem to generating action steps)
-3	8	Ability to design programs with a strong theoretical underpinning
-3	11	Understand how to conduct participatory action research
-2	13	Produce actionable findings from dissertation to address problems of practice
-3	14	Ability to conduct qualitative research
-1	15	Become a more reflective practitioner
-2	16	Greater understanding of myself as a leader
-2	40	Gaining additional credentials
-4	44	Opportunity to serve as adjunct faculty
-4	45	Opportunity to serve on institution-wide or community-wide Committees
-3	50	Ability to improve my workplace
-3	53	Ability to work in diverse teams
(Lowest)		
-5	46	Career growth as a clinical faculty member
-5	47	More recognition at work
-5	48	Increased motivation for my current job

Note. Items tied with another factor in highest or lowest score were included.

Table 19. Distinguishing Statements, Factor Three.

Number	Statement	Factor Arrays					
		F1	F2	F3	F4	F5	F6
15	Become a more reflective practitioner	1	3	-1	2	5	5
19	Become a self-directed learner	-4	2	-2	-5	3	2
35	Higher earnings	-1	-5	5	1	-5	-3
41	Improved job prospects	-1	-4	5	3	0	1
42	Higher long-term earning potential	-2	-4	5	3	-1	-5

The post-survey questionnaire results closely resemble the results noted from the sort. The rationales for the highest ranked responses, included “career advancement is key, while it may appear greedy,” “I mainly entered this program for career growth,” and the +5 statements “relate to higher earning potential and opportunity to accept higher paying roles.” Thus, it is clear that career advancement and compensation are the overwhelming reason these participants selected to pursue an Ed.D. In terms of the -5 statements, participants stated they were not interested in research or faculty roles in the future. One participant, in particular, felt very strongly about the statements related to personal growth and development, stating “I cannot foster change without changes in my power dynamic. The reflective leadership pieces are way overdone in the field of education. It is a soft science that boils down to the same leadership reflections I have done since middle school. Ugh.” Clearly, an emphasis on tangible, outward outcomes is evident from this group.

Demographically speaking, some of the emphasis on money makes sense as this group is the youngest, with an average age of 33. Otherwise, there is a mixture of males and females, all White, and a mixture of rationales for selecting the program between program format, institutional reputation, and location. Roles range from high school teacher to Director of Athletics to student affairs administrators, which are the majority of the participants in the group.

Figure 8 provides a visual representation of the views of Factor Three, illustrating the emphasis on monetary gains and job prospects as the key benefits these participants seek from the program.

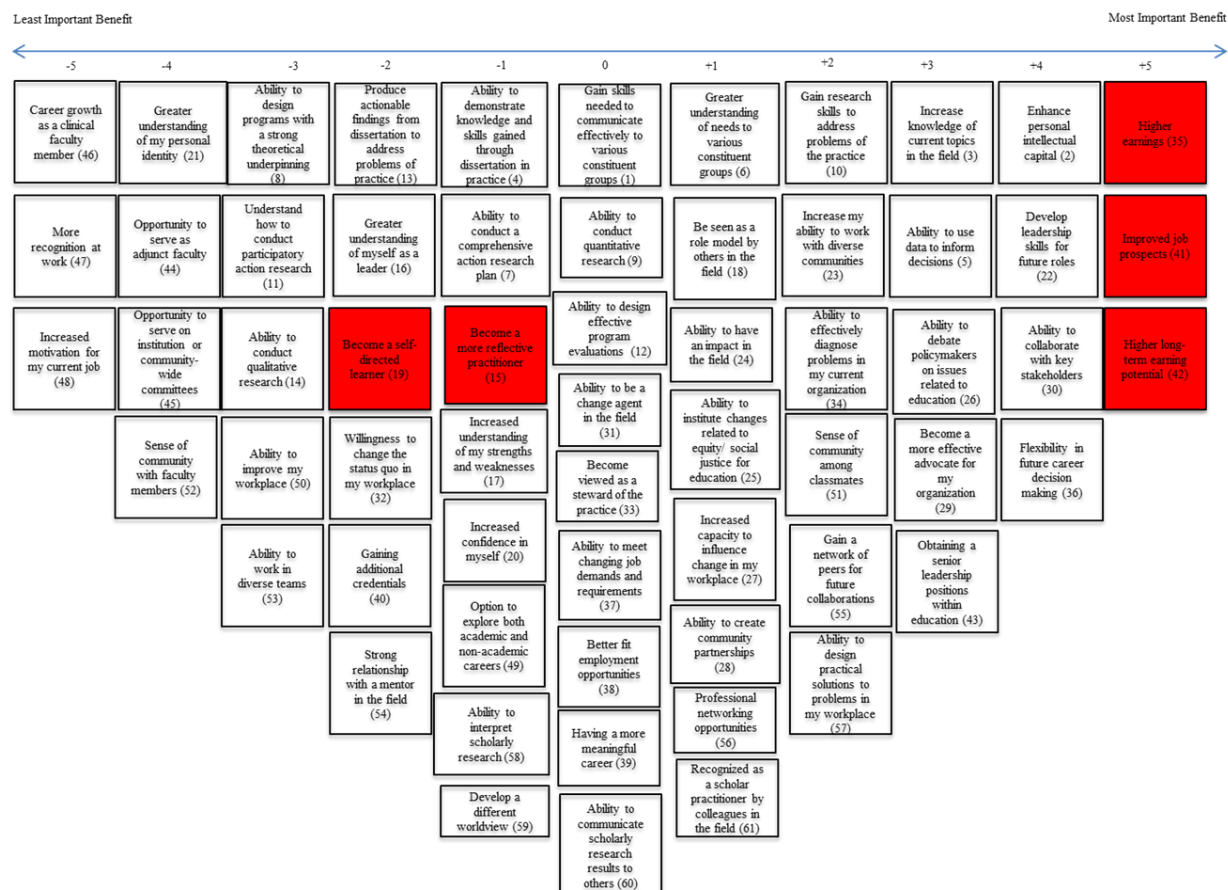


Figure 8. Model Sort for Factor Three: Chose Ed.D. for Enhanced Earnings and Job Prospects. Note. Distinguishing statements in red.

Factor Four: Chose Ed.D. for Credentials and Recognition. Factor Four, with 5 participants, explains 8.4% of the variance in the study and includes another 17% of the P-set that loaded into a factor. The name of Factor Four highlights the fact that this group of individuals selected their Ed.D. programs to gain credentials, but also recognition. The desire for this group to gain credentials is evident in the highest ranked items, as displayed in Table 20, including the statement of “gaining additional credentials” (40), ranking as a +5.

Table 20. Highest and Lowest Ranked Items for Factor Four.

Rank	Number	Statement
(Highest)		
5	2	Enhanced personal intellectual capital
5	16	Greater understanding of myself as a leader
5	40	Gaining additional credentials
(Lowest)		
-5	19	Become a self-directed learner
-5	26	Ability to debate policymakers on issues related to education or rebalance policy reform
-5	46	Career growth as a clinical faculty member

The desire for recognition, another feature of Factor Four, is noticeable in the full crib sheet, as noted in Table 21. In particular, items 18 (be seen as a role model by others in the field) and 47 (more recognition at work) were rated higher by Factor Four than any other factor. Interestingly, this group appears more interested in the credentials than in the academic learning that comes from obtaining the degree as items related to conducting, interpreting, and communicating research to others (14, 58, 60) were rated lower by this group than any other group. Similarly, becoming a self-directed learner was one of the lowest ranked items.

Table 21. Factor Interpretation Crib Sheet for Factor Four.

Rank	Number	Statement
(Highest)		
5	2	Enhanced personal intellectual capital
5	16	Greater understanding of myself as a leader
5	40	Gaining additional credentials
(Items Ranked Higher in Factor 4 Array than in Other Factor Arrays)		
1	13	Produce actionable findings from dissertation to address problems of practice
1	18	Be seen as a role model by others in the field
4	36	Flexibility in future career decision-making
4	43	Obtaining a senior leadership position within education
3	47	More recognition at work
0	52	Sense of community with faculty members
4	57	Ability to design practical solutions to problems in my workplace
(Items Ranked Lower in Factor 4 Array than in Other Factor Arrays)		
-2	12	Ability to design effective program evaluations
-3	14	Ability to conduct qualitative research
-3	23	Increase my ability to work with diverse communities
-1	25	Ability to institute changes related to equity and social justice for Education
-4	44	Opportunity to serve as adjunct faculty
-4	45	Opportunity to serve on institution-wide or community-wide Committees
-4	54	Strong relationship with a mentor in the field
-2	58	Ability to interpret scholarly research
-4	60	Ability to communicate scholarly research results to others
(Lowest)		
-5	19	Become a self-directed learner
-5	26	Ability to debate policymakers on issues related to education or rebalance policy reform
-5	46	Career growth as a clinical faculty member

Note. Items tied with another factor in highest or lowest score were included.

The distinguishing statements from this group, as shown in Table 22, reiterate the importance of credentials, as this group feels much stronger about gaining credentials (40) than all other factors. Additionally, when considering the desire for recognition, Factor Four views higher earnings (35) and higher long-term earning potential (42) more positively than every other factor, except for Factor Three, the Factor characterized by seeking the benefits of higher

earnings and new job prospects. Interestingly, Factor Four is the only factor that ranked statement 12, ability to design effective program evaluations, negatively and also ranked statement 26, ability to debate policymakers on issues related to education or rebalance policy reform, lower than any other factor. These results, and the lack of interest in self-directed learning, indicate that this group seeks the benefits and recognition of the credentials more than the research skills (like Factor One) or the leadership skills (like Factor Two). Factor Four is the most similar to Factor Three, but the participants who loaded into Factor Three were more explicit in their desire for higher earnings and job prospects. Thus, Factor Four is distinct in seeking the broader benefits of credentials and recognition.

Table 22. Distinguishing Statements, Factor Four.

Number	Statement	Factor Arrays					
		F1	F2	F3	F4	F5	F6
12	Ability to design effective program evaluations	1	0	0	-2	0	2
19	Become a self-directed learner	-4	2	-2	-5	3	2
26	Ability to debate policymakers on issues related to education or rebalance policy reform	2	-1	3	-5	-2	0
35	Higher earnings	-1	-5	5	1	-5	-3
40	Gaining additional credentials	1	-1	-2	5	0	-1
42	Higher long-term earning potential	-2	-4	5	3	-1	-5

A review of the post-sort questionnaire reiterated the themes presented in the sort. For the highest ranked items, it is clear that this group is interested in credentials, with participants stating, “I chose this path to widen my future job opportunities as a practitioner” and “these prepare me for what I may do later in my career – they impact me right now.” For the lowest ranked items, the lack of scholarly pursuits is evident in the statements, “no interest in teaching” and “I don’t see myself pursuing an academic or faculty position.” Clearly, similar to Factor

Three, this group is interested in career benefits of the degree, just with a slightly different emphasis on credentials.

In terms of demographics, this group is predominantly females (four females, one male), all White, with the average age of 37. The rationale for selecting the program varied, including program format, program reputation, and location of the program. Job roles were quite disparate, including biopesticide researcher, Assistant Dean, and counselor. Overall, Factor Four views gaining additional credentials and recognition as the most salient benefits of their Ed.D. programs, while monetary gains are also important. As the second youngest factor in the study, the focus on recognition and earnings is not surprising. These desired outcomes, coupled with the lack of interest in gaining research-related skills or becoming a self-directed learner, further distinguishes this factor from the other factors in the study. Figure 9 shows a visual representation of the average responses for participants in Factor Four.

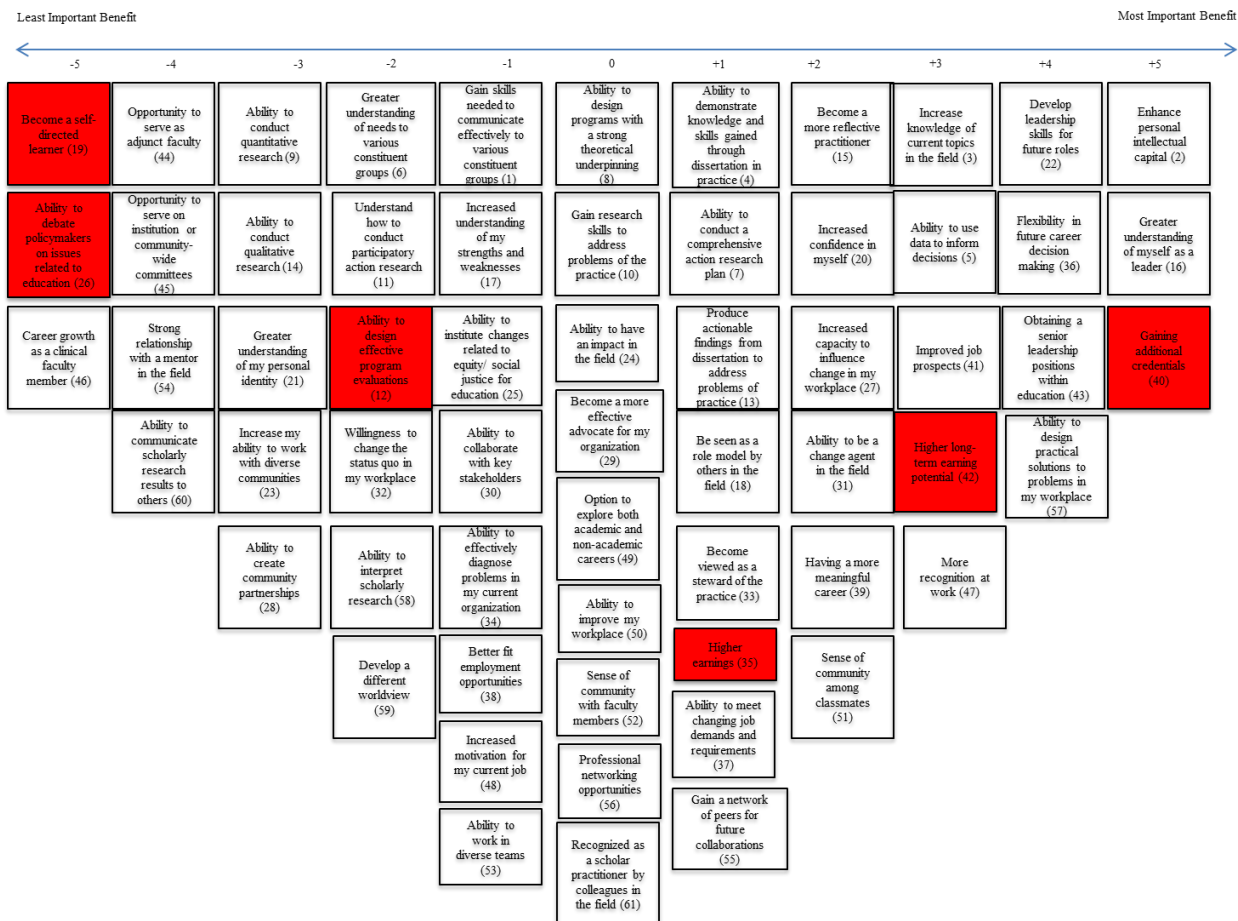


Figure 9. Model Sort for Factor Four: Chose Ed.D. for Credentials and Recognition. Note. Distinguishing statements in red.

Factor Five: Chose Ed.D. to Become a Change Agent. Factor Five, with three participants, explains 7% of the variance and accounts for 11% of the P-set that loaded into a factor. Implied within the name of Factor Five is the desire of the participants to increase their abilities to serve as change agents as a result of their Ed.D. programs. Yet, a deeper examination into the results of the Q sorts also illustrates a desire for opportunities. Table 23, which shows the highest and lowest ranked items, highlights the need for personal change (as noted in statements 2 and 15 about gaining intellectual capital and skills at reflecting) and the desire for the opportunity for impact (as noted in statement 31 about being a change agent in the field). The

lowest ranked statements show that external recognition and rewards are not important benefits of the Ed.D. for this group.

Table 23. Highest and Lowest Ranked Items for Factor Five.

Rank	Number	Statement
<i>(Highest)</i>		
5	2	Enhance personal intellectual capital
5	15	Become a more reflective practitioner
5	31	Ability to be a change agent in the field
<i>(Lowest)</i>		
-5	35	Higher earnings
-5	37	Ability to meet changing job demands and requirements
-5	47	More recognition at work

The full crib sheet for Factor Five, displayed in Table 24, shows the importance of opportunity and change for this factor as the items they ranked higher than other factors focus on opportunities to better oneself (19, 20), opportunities to increase career opportunities and options (36, 44, 45, 46, 49), and ability to be a change agent (25, 27, 32). Collectively, the lower ranking items are targeting higher wages and/or research skills, which are more characteristic of Factors One and Three.

The distinguishing statements, displayed in Table 25, highlight several interesting points about Factor Five. For example, they are the only group that rated statements 32, willingness to challenge the status quo in my workplace, and 54, strong relationship with a mentor in the field, positively. Contrastingly, they are the only group that rated statements 5, ability to use data to inform decisions, and 37, ability to meet changing job demands and requirements, negatively. Interestingly, while being a change agent is a +5 statement for this group and they feel positively about making change in the workplace, they ranked the items about understanding and communicating with constituent groups (6 and 1, respectively) negatively. Thus, it does appear that the group members have varied views of what change they view as the most important

benefits of their Ed.D. programs, although the overall themes of becoming change agents while not being overly concerned with noticing change in others are consistent.

Table 24. Factor Interpretation Crib Sheet for Factor Five.

Rank	Number	Statement
(Highest)		
5	2	Enhance personal intellectual capital
5	15	Become a more reflective practitioner
5	31	Ability to be a change agent in the field
(Items Ranked Higher in Factor 5 Array than in Other Factor Arrays)		
3	19	Become a self-directed learner
4	20	Increased confidence in myself
4	25	Ability to institute changes related to equity and social justice for education
3	27	Increased capacity to influence change in my workplace
3	32	Willingness to challenge the status quo in my workplace
4	36	Flexibility in future career decision-making
2	44	Opportunity to serve as adjunct faculty
1	45	Opportunity to serve on institution-wide or community-wide committees
-2	46	Career growth as a clinical faculty member
1	49	Option to explore both academic and non-academic careers
0	52	Sense of community with faculty members
2	54	Strong relationship with a mentor in the field
(Items Ranked Lower in Factor 5 Array than in Other Factor Arrays)		
-3	1	Gain skills needed to communicate effectively to various constituent groups
-4	5	Ability to use data to inform decisions
-4	6	Greater understanding of needs of various constituent groups (students, community, etc.)
-3	8	Ability to design programs with a strong theoretical underpinning
-4	9	Ability to conduct quantitative research
-1	22	Develop leadership skills for future roles
-3	23	Increase my ability to work with diverse communities
-2	30	Ability to collaborate with key stakeholders
-2	39	Having a more meaningful career
(Lowest)		
-5	35	Higher earnings
-5	37	Ability to meet changing job demands and requirements
-5	47	More recognition at work

Note. Items tied with another factor in highest or lowest score were included.

Table 25. Distinguishing Statements, Factor Five.

Number	Statement	Factor Arrays					
		F1	F2	F3	F4	F5	F6
1	Gain skills needed to communicate effectively to various constituent groups	0	3	0	-1	-3	2
5	Ability to use data to inform decisions	3	4	3	3	-4	4
6	Greater understanding of needs of various constituent groups (students, community, etc)	-1	4	1	-2	-4	2
17	Increased understanding of my strengths and weaknesses	-1	5	-1	-1	2	-2
32	Willingness to challenge the status quo in my workplace	0	-2	-2	-2	3	-5
37	Ability to meet changing job demands and requirements	0	1	0	1	-5	0
54	Strong relationship with a mentor in the field	-3	-1	-2	-4	2	-1

The post-questionnaire survey supports the theme of opportunity and change for this group, while providing more insights on to what each group member considers opportunity and/or change. Two of the members seem focused on internal change, both stating, “it is a personal journey,” whereas the third seems externally focused on change and opportunity, saying “I want to make a change in my career and career field.” The rationale for the lowest ranked statements further supports this dichotomy with one person not having interest in the statements that were “more outward toward profession or research” while another sought to have opportunities beyond skills she already possesses. Collectively, these participants all chose to pursue an Ed.D. for new and/or different opportunities, even though their definitions of what types of change they are seeking might differ slightly.

Some of these differences make sense from a demographic perspective, especially considering the 18 year age range within the group, with the average age equaling 46 years of age. The younger participant is more focused on making an impact and creating change in the

field while the older participants are more interested in the opportunity for personal growth and change. Additionally, the job functions range from high school principal to professional development director. Otherwise, the group is relatively homogenous as all the participants are White females who selected their programs due to the program format. While this group has some similarities to other groups in terms of the importance of gaining intellectual capital, this factor distinguishes itself with that overarching goal of change/opportunity – either personal or as a change agent in the field. Figure 10 shows a visual representation of the average responses of Factor Five, which due to the rounding of z-scores is not a perfectly forced distribution sort.

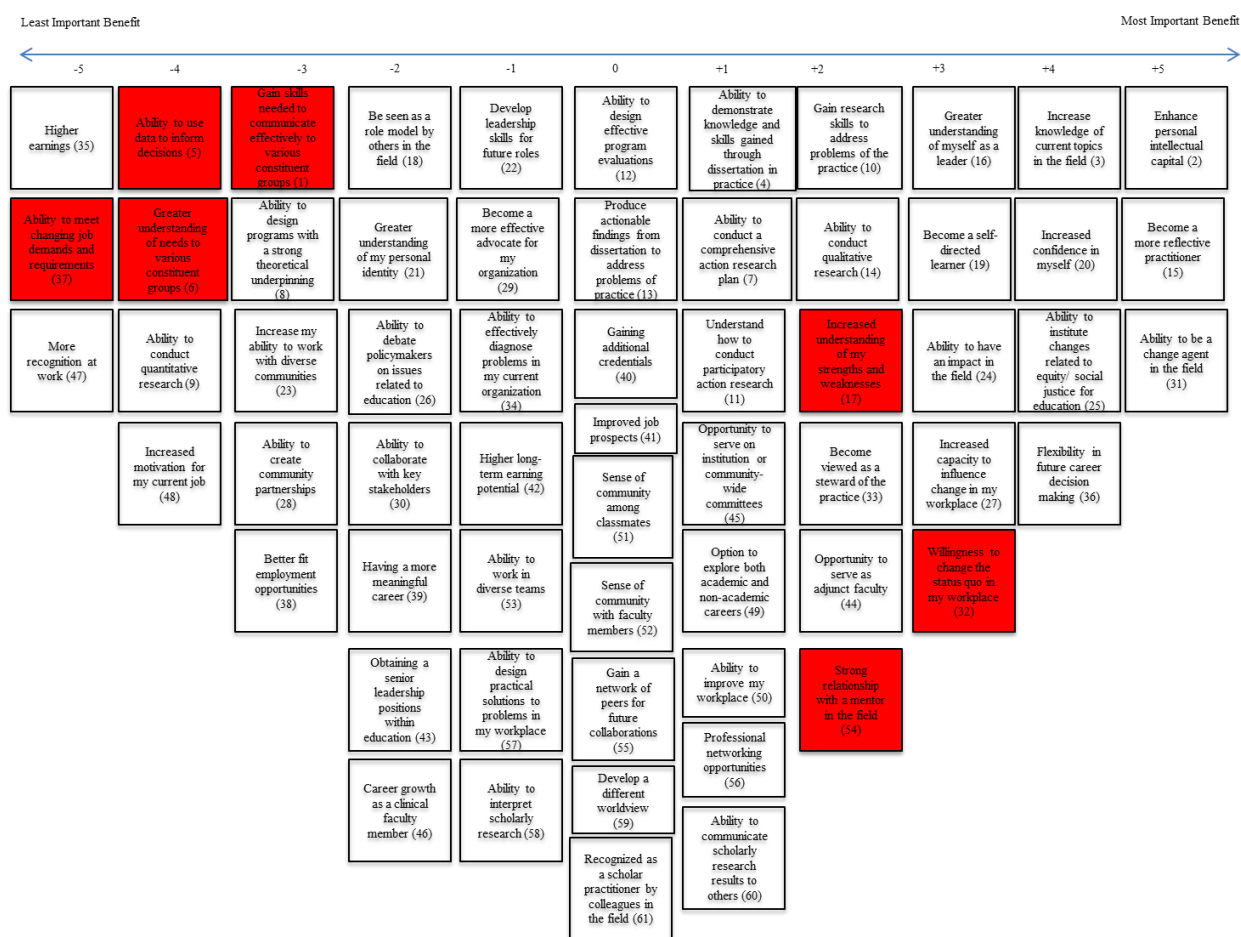


Figure 10. Model Sort for Factor Five: Chose Ed.D. to Become a Change Agent. Note. Distinguishing statements in red.

Factor Six: Chose Ed.D. for Personal Change. Factor Six, which loaded two participants or 7% of the P-set that loaded into a factor, accounts for 6% of the variance explained. The name of this factor highlights the desire of these participants to experience personal change as a benefit of their Ed.D. programs. This view fits with their highest ranked statements, shown in Table 26, especially statements 2, enhance personal intellectual capital, and 15, become a more reflective practitioner. On the other hand, the lowest ranked statements indicate an internal focus to the change they are expected because these participants are not interested in making change in their workplace (32) or obtaining senior leadership positions (43).

Table 26. Highest and Lowest Ranked Items for Factor Six.

Rank	Number	Statement
(Highest)		
5	2	Enhance personal intellectual capital
5	3	Increase knowledge of current topics in the field
5	15	Become a more reflective practitioner
(Lowest)		
-5	32	Willingness to challenge the status quo in my workplace
-5	42	Higher long-term earning potential
-5	43	Obtaining a senior leadership position within education

These opinions are further expanded in the full crib sheet, shown in Table 27, with the majority of highly-rated statements focusing on change. For example, statements 5, 10, and 11 emphasize gaining skills and statements 51, 52, 53, and 56 focus on gaining a stronger peer group/community and mentors. Interestingly, the neutral response by Factor Six to statement 48, increased motivation at work, is the only non-negative response by a factor. Similarly, Factor Six is the only factor rating statement 53, ability to work in diverse teams, positively. From the lower-ranked statements, Factor Six is the only Factor to rank many of the statements about external change and being a change agent negatively, including statements 27, 31, and 33.

Table 27. Factor Interpretation Crib Sheet for Factor Six.

Rank	Number	Statement
(Highest)		
5	2	Enhance personal intellectual capital
5	3	Increase knowledge of current topics in the field
5	15	Become a more reflective practitioner
(Items Ranked Higher in Factor 6 Array than in Other Factor Arrays)		
4	5	Ability to use data to inform decisions
4	10	Gain research skills to address contemporary problems/problems of the practice
2	11	Understand how to conduct participatory action research
2	12	Ability to design effective program evaluations
4	30	Ability to collaborate with key stakeholders
3	39	Having a more meaningful career
-2	46	Career growth as a clinical faculty member
0	48	Increased motivation for my current job
3	51	Sense of community among classmates
0	52	Sense of community with faculty members
1	53	Ability to work in diverse teams
2	56	Professional networking opportunities
(Items Ranked Lower in Factor 6 Array than in Other Factor Arrays)		
-3	8	Ability to design programs with a strong theoretical underpinning
-2	17	Increased understanding of my strengths and weaknesses
-4	18	Be seen as a role model by others in the field
-4	27	Increased capacity to influence change in my workplace
-4	29	Become a more effective advocate for my organization
-1	31	Ability to be a change agent in the field
-1	33	Become viewed as a steward of the practice – a dedicated leader with high standards who prepares for change
-2	34	Ability to effectively diagnose problems in my current organization
-3	50	Ability to improve my workplace
-3	57	Ability to design practical solutions to problems in my workplace
-2	58	Ability to interpret scholarly research results to others
(Lowest)		
-5	32	Willingness to challenge the status quo in my workplace
-5	42	Higher long-term earning potential
-5	43	Obtaining a senior leadership position within education

Note. Items tied with another factor in highest or lowest score were included.

The full crib sheet highlights the emphasis on personal, not external, change as the focus on this group. Table 28, which showcases distinguishing statements, further illustrates the internal focus on the participants in Factor Six. As noted in the table, these participants feel more negatively about creating change in their workplace than any other factors, and they are consistent in that opinion across the various ways the statements were worded.

Table 28. Distinguishing Statements, Factor Six.

Number	Statement	Factor Arrays					
		F1	F2	F3	F4	F5	F6
27	Increased capacity to influence change in my workplace	1	3	1	2	3	-4
29	Become a more effective advocate for my organization	0	1	3	0	-1	-4
32	Willingness to challenge the status quo in my workplace	0	-2	-2	-2	3	-5
57	Ability to design practical solutions to problems in my workplace	1	1	2	4	-1	-3

The statements in the post-survey questionnaire are perfectly aligned with the statement rankings from the sort, with the rationale for the +5 statements indicated the top perceived benefit of their Ed.D. programs were “personal satisfaction and interests” and “deeper personal knowledge.” For the lowest ranked statements, one participant said “I don’t see myself as a change agent,” and the other stated, “Credentials and earnings are least important to me.” While those statements differ, they illustrate the lack of external focus in the quest for change.

In terms of demographics, the participants were female, averaging 54 years of age, varied racial/ethnic backgrounds, and both chose their programs for the format. One participant functions in an administrative role and one as an instructor, thus varied in typical work responsibilities. Overall, this factor is driven by personal change and less concerned about external changes, especially the idea of being a change agent within their organizations/fields.

Figure 11 displays a visual representation of the average responses of Factor Six, which due to the rounding of z-scores is not a forced distribution normal Q sort.

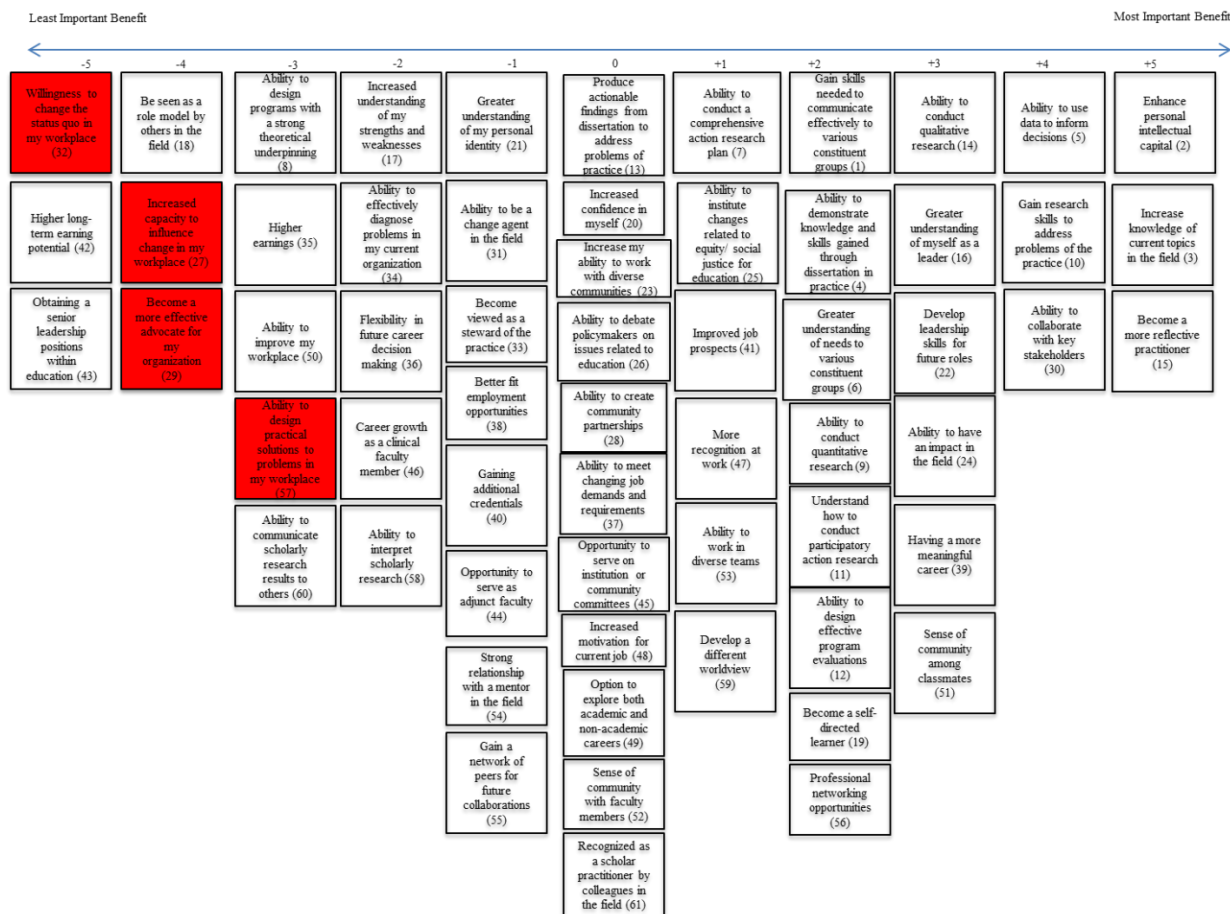


Figure 11. Model Sort for Factor Six: Chose Ed.D. for Personal Change. Note. Distinguishing statements in red.

Summary

The purpose of this chapter was to present the analysis of the data collected from Ed.D. students from select CPED-affiliated institutions regarding their perceptions of the benefits of their Ed.D. programs. Following Q methodology protocol, factor analysis was conducted on the Q sorts completed by participants. Those quantitative results were analyzed, as were the qualitative results from the post-questionnaire survey also completed by each participant. Six unique factors emerged as a result of the analysis.

Factor One, labeled Chose Ed.D. for Research Skills, represents the individuals who believe the main benefits of their Ed.D. programs are the qualitative and quantitative research skills gained through coursework and projects. They hope to be seen as scholar-practitioners as a result of the degree, but are not as interested in personal reflection and growth.

Factor Two, named Chose Ed.D. for Leadership Development, shows a group quite distinct from Factor One, in that these participants see the main benefit of their Ed.D. programs as increased self-awareness and reflection, with an emphasis on personal identity and introspection. This group is not as concerned with external recognition or monetary outcomes.

Factor Three, called Chose Ed.D. for Enhanced Earnings and Job Prospects, represents a contrast from Factor Two. This group, the youngest factor by age, is focused on job and career growth and views the Ed.D. as a path to increase earning potential. They are not as concerned with relationships or personal change.

Factor Four, the group who Chose Ed.D. for Credentials and Recognition, describes a group with similarities to other factors in terms of seeking external rewards from their Ed.D. programs, but in distinct ways. More specifically, this group is more interested in the credentials themselves (such as the letters behind one's name upon completion of the degree) than the academic learning, research skills, or leadership skills gained from the programs (like Factors One and Two). Similarly, the recognition does not necessarily relate to earning more money (like Factor Three). Thus, Factor Four is distinct for the broader view of credentials and recognition the participants see as the benefits of the Ed.D. degree.

Factor Five, labeled Chose Ed.D. to Become a Change Agent, can be characterized as the participants most interested in becoming change agents in the field, with a willingness to challenge the status quo. However, the new or different opportunities sought, seem to be based

on age and stage of life, thus some discrepancies exist within the group. Overall, the theme of change is what distinguishes this group from the other factors.

Factor Six, named Chose Ed.D. for Personal Change, is distinct in the internal focus on the change sought by the participants. In contrast, Factor Five also had an interest in broad-scale change within the workplace and/or the industry. That focus is lacking within Factor Six. Essentially, Factor Six has a more narrow focus on the type of change desired as a result of the Ed.D. program.

The descriptions of these factors clearly indicate that a variety of perspectives exist among Ed.D. students about the perceived benefits of their Ed.D. programs. The examination of the highest and lowest ranked items, the distinguishing statements, and the qualitative responses on the post-survey questionnaire further display the varied and distinct points of view from the participants.

CHAPTER FIVE: DISCUSSION AND IMPLICATIONS

This study examined student perceptions of the benefits of their Carnegie Project on the Education Doctorate (CPED)-affiliated Ed.D. programs. A Q set of 61 items was developed from the relevant, albeit limited, literature on graduate school choice and doctoral education. The 37 participants who completed the Q sort were asked to force-rank the concourse items on a scale of +5 (most important benefit) to -5 (least important benefit). To date, the researcher is not aware of any existing studies addressing student perceptions on the benefits of their Ed.D. programs. In addition to produce research to add to the limited literature base on doctoral education and Ed.D. programs, the benefits this knowledge can provide to Ed.D. program faculty and administrators made this study relevant and timely for the field.

This study examined the perceptions of Ed.D. students on the perceived benefits of their Ed.D. programs and sought to answer the following research question:

- Q1. What are the perceptions among students in CPED programs towards their program benefits and why?
- a. What are the highest and lowest ranked statements by group?
 - b. What are the distinguishing characteristics between groups of students in their perceptions of their program benefits?
 - c. Were there any common statements regarding student perceptions of program benefits among participants?

To answer the question, the study utilized Q methodology, as it is designed to examine attitudes and opinions of groups in a quantitative way. The study began with a comprehensive review of the existing literature, which is very limited regarding graduate school choice and practically non-existent related to Ed.D. programs. The key concepts derived from the literature review were

used as the basis for the creation of the final set of 61 statements included in the concourse. Chapters One and Two introduce the foundation for this research study and provide a comprehensive review of the relevant literature and related topics. Chapter Three provides more details of Q methodology, including justification for its use in this study, the research design and data collection process utilized in this study, and an overview of the analysis.

The results of the six factors that emerged from the study are presented in Chapter Four, including correlations, factor scores, highest and lowest ranked items, crib sheets, and distinguishing statements for each factor. The six factors were grouped by themes and named Chose Ed.D. for Research Skills, Chose Ed.D. for Leadership Development, Chose Ed.D. for Enhanced Earnings and Job Prospects, Chose Ed.D. for Credentials and Recognition, Chose Ed.D. to Become a Change Agent, and Chose Ed.D. for Personal Change.

This chapter explores the implications of the findings of this study for current practice, including how the results can be utilized by Ed.D. program faculty and administrators. Recommendations for future research on this topic and for Q studies in general are also included.

Conclusions

This section describes the results of this study in relation to the various parts of the research question posed by the researcher.

Finding one. *What are the perceptions among students in CPED programs toward their program benefits and why?*

Overall, a variety of perceptions and opinions emerged from the 37 participants regarding their Ed.D. program benefits. Upon further analysis, six distinct factors were created, with 29 participants loading into a factor. The factors were grouped based on key themes to illustrate the varied perceptions that existed across groups. According to the themes, the groups were named

by the researcher. The selected names highlight the unique themes evident in each factor and serve to distinguish the factors from one another where similarities existed. The six emerging factors that results from this study are as follows:

Factor One: Chose Ed.D. for Research Skills

Factor Two: Chose Ed.D. for Leadership Development

Factor Three: Chose Ed.D. for Enhanced Earnings and Job Prospects

Factor Four: Chose Ed.D. for Credentials and Recognition

Factor Five: Chose Ed.D. to Become a Change Agent

Factor Six: Chose Ed.D. for Personal Change

Chapter Four provided an in-depth review of each factor and how much variance each factor accounts for in the study. Additionally, the analysis includes the number of participants that loaded into each factor, key demographic characteristics of the participants, and an analysis of the highest and lowest ranked items, the distinguishing statements, and the full crib sheet interpretation. Collectively, as the factor names imply, a broad range of opinions were held by students regarding the perceived benefits of their Ed.D. programs.

Finding two. *What are the highest and lowest ranked statements by group?*

As noted in Chapter Four, a factor array was created and analyzed to identify the highest and lowest ranked items for each factor. These statements, as well as the distinguishing statements and full crib sheets, helped identify the unique characteristics of each factor. Table 29 illustrates the highest ranked items for each factor, by factor. A review of the statements shows that Factor One was interested in research, Factor Two in leadership development and self-assessment, Factor Three in earnings and jobs, and Factor Four in credentials and recognition.

The similarities between Factors Five and Six are evident, as is the key divergence, which is the interest in Factor Five's participants to be viewed as change agents in the field.

Table 29. Highest Ranked Statements, by Factor.

	Number	Statement
Factor One	2	Enhance personal intellectual capital
	14	Ability to conduct qualitative research
	24	Ability to have an impact in the field
Factor Two	16	Greater understanding of myself as a leader
	17	Increased understanding of my strengths and weaknesses
	22	Develop leadership skills for future roles
Factor Three	35	Higher earnings
	41	Improved job prospects
	42	Higher long-term earning potential
Factor Four	2	Enhanced personal intellectual capital
	16	Greater understanding of myself as a leader
	40	Gaining additional credentials
Factor Five	2	Enhance personal intellectual capital
	15	Become a more reflective practitioner
	31	Ability to be a change agent in the field
Factor Six	2	Enhance personal intellectual capital
	3	Increase knowledge of current topics in the field
	15	Become a more reflective practitioner

The lowest ranked statements also illustrate themes across the factors in regards to what the individuals view as the least important benefits of their Ed.D. programs. As Table 30 shows, the groups focused on personal growth and development, mainly Factors Two, Five, and Six, were not as concerned with earnings. Additionally, Factor One participants were not as interested in gaining personal and professional connections or a strong sense of self, which has a slight similarity to Factor Four's lack of interest in self-directed learning. Factor Three's statements are

less clear in isolation, but when viewed with the full crib sheet, show less interest in recognition in a current role and a stronger focus on utilizing the degree for external recognition, such as a new job.

Table 30. Lowest Ranked Statements, by Factor.

	Number	Statement
Factor One	21	Greater understanding of my personal identity
	51	Sense of community among classmates
	52	Sense of community with faculty members
Factor Two	35	Higher earnings
	38	Better fit employment opportunities
	47	More recognition at work
Factor Three	46	Career growth as a clinical faculty member
	47	More recognition at work
	48	Increased motivation for my current job
Factor Four	19	Become a self-directed learner
	26	Ability to debate policymakers on issues related to education or rebalance policy reform
	46	Career growth as a clinical faculty member
Factor Five	35	Higher earnings
	37	Ability to meet changing job demands and requirements
	47	More recognition at work
Factor Six	32	Willingness to challenge the status quo in my workplace
	42	Higher long-term earning potential
	43	Obtaining a senior leadership position within education

Finding three. *What are the distinguishing characteristics between groups of students in their perceptions of their program benefits?*

The distinguishing statements identified in the analysis were utilized in determining the themes, and ultimately names, of the six factors that emerged in the study. Table 31 showcases

all of the distinguishing statements by factor, including the factor arrays to show the differences across factors. As an overview, Factor One views research more positively, including the interpretation of research, and views self-directed learning as less important than the other factors. Factor Two emphasizes personal growth and development, while viewing being a change agent and gaining job prospects as less important than others. Factor Three, the youngest group by age, strongly emphasized earnings, with the highest ratings across the statements related to earnings and job prospects (statements 35, 41, and 42). Factor Four highlights broad benefits and credentials that will result from the degree. Factors Five and Six are a bit more varied in their statements. Notable about Factor Five is the varied view of change with willingness to be change agent viewed more positively than others while noticing change in others is viewed more negatively. Interestingly, while Factor Six emphasizes personal change, those participants are also the most negative about any statements related to workplace change.

Aside from the distinguishing statements, the full crib sheets, as shown in Chapter Four, help to further distinguish the factors from one another. Although slight variations exist in the demographic characteristics, those features do not appear to greatly influence the participants that loaded into each group (aside from the notation of the youngest group being the most focused on earnings). However, it is clear that these groups hold distinct views from each other as it relates to the benefits they are seeking from their Ed.D. programs.

Table 31. Distinguishing Statements, by Factor.

Number	Statement	Factor Arrays					
		F1	F2	F3	F4	F5	F6
(Factor One)							
4	Ability to demonstrate knowledge and skills gained through dissertation in practice	3	0	-1	1	1	2
7	Ability to conduct a comprehensive action research plan (from identifying a problem to generating action steps)	4	2	-1	1	1	1
8	Ability to design programs with a strong theoretical underpinning	4	-1	-3	0	-3	-3
9	Ability to conduct quantitative research	4	-2	0	-3	-4	2
19	Become a self-directed learner	-4	2	-2	-5	3	2
20	Increased confidence in myself	-4	3	-1	2	4	0
36	Flexibility in future career decision-making	0	-4	4	4	4	-2
47	More recognition at work	-2	-5	-5	3	-5	1
51	Sense of community among classmates	-5	-1	2	2	0	3
58	Ability to interpret scholarly research	2	0	-1	-2	-1	-2
(Factor Two)							
2	Enhance personal intellectual capital	5	2	4	5	5	5
17	Increased understanding of my strengths and weaknesses	-1	5	-1	-1	2	-2
24	Ability to have an impact in the field	5	-3	1	0	3	3
30	Ability to collaborate with key stakeholders	-1	0	4	-1	-2	4
38	Better fit employment opportunities	-1	-5	0	-1	-3	-1
41	Improved job prospects	-1	-4	5	3	0	1
(Factor Three)							
15	Become a more reflective practitioner	1	3	-1	2	5	5
19	Become a self-directed learner	-4	2	-2	-5	3	2

Table 31 (continued).

35	Higher earnings	-1	-5	5	1	-5	-3
41	Improved job prospects	-1	-4	5	3	0	1
42	Higher long-term earning potential	-2	-4	5	3	-1	-5
(Factor Four)							
12	Ability to design effective program evaluations	1	0	0	-2	0	2
19	Become a self-directed learner	-4	2	-2	-5	3	2
26	Ability to debate policymakers on issues related to education or rebalance policy reform	2	-1	3	-5	-2	0
35	Higher earnings	-1	-5	5	1	-5	-3
40	Gaining additional credentials	1	-1	-2	5	0	-1
42	Higher long-term earning potential	-2	-4	5	3	-1	-5
(Factor Five)							
1	Gain skills needed to communicate effectively to various constituent groups	0	3	0	-1	-3	2
5	Ability to use data to inform decisions	3	4	3	3	-4	4
6	Greater understanding of needs of various constituent groups (students, community, etc)	-1	4	1	-2	-4	2
17	Increased understanding of my strengths and weaknesses	-1	5	-1	-1	2	-2
32	Willingness to challenge the status quo in my workplace	0	-2	-2	-2	3	-5
37	Ability to meet changing job demands and requirements	0	1	0	1	-5	0
54	Strong relationship with a mentor in the field	-3	-1	-2	-4	2	-1
(Factor Six)							
27	Increased capacity to influence change in my workplace	1	3	1	2	3	-4
29	Become a more effective advocate for my organization	0	1	3	0	-1	-4
32	Willingness to challenge the status quo in my workplace	0	-2	-2	-2	3	-5
57	Ability to design practical solutions to problems in my workplace	1	1	2	4	-1	-3

Finding four. *Were there any common statements regarding student perceptions of program benefits among participants?*

Interestingly, no consensus statements were identified in this study. Despite this finding, some common statements emerged between individual sets of factors. For example, Factors One, Four, Five, and Six all ranked statement 2, enhance personal intellectual capital, as a +5 statement. These four groups all had a focus on either increasing research skills, credentialing, or seeking personal change indicating that increasing intellectual capital helps to fulfill that benefit.

Similarly, Factors Four, Five, and Six all ranked statements 49, option to explore both academic and non-academic careers, 52, sense of community with faculty members, and 61, recognized as a scholar practitioner by colleagues in the field, as neutral statements. While these statements are not necessarily similar to each other, the similarities of the rankings by these three groups illustrates that these statements do not fit these factors' definitions of change.

Additionally, Factors Two, Three, and Five all ranked statement 47, more recognition at work, as a -5 statement. Factors Two and Five also both ranked statement 35, higher earnings, as a -5 statement. These commonalities are interesting because Factor 2 focuses on leadership development and Factor Five focuses on change, but both are not focused on earnings and job prospects. The fact that Factor Three, which is focused on earnings, did not want recognition, illustrates the nuances that exist within the factors and the participants' opinions.

While this finding briefly describes some commonalities, Chapter Four provides a more in-depth discussion of the distinguishing statements and how the factors compare with one another.

Application to Theoretical Framework

Human capital theory was utilized as a theoretical framework in this study due to its basic tenets related to the benefits of education for individuals and society (Becker, 1962). While opportunity costs for higher education are different for working professionals (Jepsen & Montgomery, 2012), a key component for individuals considering higher education, including doctoral degrees (Ampaw, 2010; Becker, 1962). Collectively, among the six factors that emerged as a result of this study, the key aspects of human capital theory are represented.

Factor Three represents the individuals most closely aligned with Becker's (1962) original economic model of human capital theory as this group indicated a strong preference for higher earnings and job prospects as a result of their Ed.D. programs. In fact, all three of their +5 statements (which were all distinguishing statements) related to earnings and jobs, including higher earnings (35), improved job prospects (41), and higher long-term earning potential (42). Their qualitative statements illustrate a clear focus on future earnings, with statements such as the benefits they view as most important "relate to higher earning potential and opportunity to accept higher paying roles."

The individuals in Factor One, on the other hand, gave responses more aligned with Schultz's (1961) macro-level perspective of human capital theory because this group focused on gaining skills. In particular, this group's preference to learn how to conduct and present research follows Schultz's (1961) premise of investing in on-the-job training and continuing education (Sweetland, 1996). The highest ranked statements illustrate the desire to gain skills as do the qualitative statements like "I'd like to become an expert in my field upon completion of my dissertation."

When expanding the views of human capital theory to include knowledge gained, personal development, and increased credentials (Ampaw, 2010; Scott, 2016), Factors Two, Four, Five, and Six all illustrate some component of the theory. Factors Two and Six relate to personal development, Factor Four highlighted an interest in credentials, and Factor Five was a blend of the traditional earnings and personal change. Therefore, even though not all participants selected their Ed.D. programs for the economic benefits of the programs, the broader tenets of human capital theory related to generating a more productive, educated workforce are uniformly applicable to this study.

Similarly, Super's (1990) life-span, life-space theory was also utilized as a theoretical framework in this study. As a reminder, Super's (1990) theory focuses on matching occupational choice to identity (Savickas, 1997), with the hope of gaining flexibility in career decision-making over the course of a career (Kosine & Lewis, 2008). Several overarching themes from Super's (1990) theory are applicable to the results of the six factors that emerged in this study.

Interests in career choice and job opportunities (Betz, 1994; Imel, 2002) are seen in factors Three, Four, Five, and Six. More specifically, participants loaded into Factors Four, Five, and Six, all rated statement 36, flexibility in future career decision-making, as a +4 statement. Clearly, this statement shows a strong link to the idea of flexibility espoused by Super's (1990) theory (Kosine & Lewis, 2008). Similarly, participants loading into Factor 6, rated statement 39, having a more meaningful career, higher than any other factor. This statement also relates to the concept of career choice (Imel, 2002).

Interestingly, this group of participants also followed Patton and Lokan's (2001) assertion that individuals become more confident in occupational decisions as they mature. Within this study, the youngest factor by average age, Factor Three, was the most concerned with jobs and

earnings while the oldest by average age, Factor Six, was more focused on personal satisfactions and interests. Thus, the results of this study confirm the basic principles of Super's (1990) life-span, life-space theory, albeit not uniformly, when examining the participants' perceived benefits of their Ed.D. programs on their careers.

Discussion

The findings of this study illustrate the varied reasons the selected participants chose their Ed.D. programs, with their reasons mirrored in the conceptual framework and the literature. Within this study, the factors that emerged indicate that groups of students are interested in gaining knowledge and skills, advancing their abilities in research and communication, developing their skills as leaders, and earning credentials for positive post-graduation labor market outcomes. More specifically, the younger students (Factors Three and Four) were the most interested in career outcomes, whereas the older students (Factor Six) were more focused on personal change and development. Additionally, Factor One seemed to align more with the desire to gain research skills that is typically linked with a Ph.D. degree more so than the practitioner-focused Ed.D. degree. Interestingly, given the importance of program format in program selection, it raises the question as to whether these individuals truly wanted an Ed.D. degree or rather a doctoral degree that fit within their current lifestyle and location.

With both theoretical frameworks being largely supported by the results, it is evident that career outcomes and economic implications are important criteria for students. Therefore, institutions affiliated with CPED, given its efforts to advance the Ed.D. degree as a distinct degree for scholar-practitioners, can leverage this research to support the Ed.D. remaining a degree designed for and targeting working professionals. This current study, as the first study found by the researcher to address student perceptions of Ed.D. program benefits through a

combination of personal and professional reasons, lays the foundation for future research on these topics.

Limitations

This study was designed to explore the opinions of Ed.D. students in CPED-affiliated programs regarding the perceived benefits of their Ed.D. programs. Given that the included Ed.D. programs all target working professionals, it is likely that not everyone invited had the time to complete the questionnaire. Additionally, the questionnaire was sent through email during the fall semester through program directors, which is a busy time of year for faculty and administrators alike. Thus, timing of the invitation and response rates may have been reduced due to this method and timeframe. Similarly, given that the study was limited to programs affiliated with CPED, and more specifically CPED programs in the United States, the results cannot be generalized to all Ed.D. programs.

In terms of the instrument, while all participants who responded completed the full questionnaire correctly, several indicated having a difficult time placing items they felt similarly about due to the forced response method. They also indicated additional concourse items they felt should be added to address additional aspects of their opinions that were not present, including the importance of the program targeting working professionals, the cohort model of most programs, and the ability to publish papers as a result of the program. In addition, using a remote collection process, the researcher did not have time to ask clarifying questions on the narrative responses. Future studies should consider adding additional concourse items and consider the collection method.

Implications for Ed.D. Programs

The findings of this study illustrated six distinct groups of opinions among Ed.D. students in select CPED-affiliated programs regarding the perceived benefits of their programs. These opinions are represented by the six thematically-named factors that emerged from the Q sort and subsequent factor analysis. With the current push in higher education towards performance-based funding (“Performance-based funding,” 2015) and student outcomes (U.S. Department of Education, 2014), these findings can be used by Ed.D. programs in the United States to help guide admissions, course design, and programmatic decisions.

Implications for admissions committees.

As noted throughout this paper, the decision to pursue a doctoral degree is a multi-faceted one, with individuals selecting programs for career advancement, advanced knowledge and credentialing, or more practical reasons like program format and location (Cawthon, et al., 2001; Ingram, et al., 2000; Kallio, 1995; Kolman, et al., 1987; Zhang, 2005). This study reiterates the distinct choices and considerations student use when selecting programs. Interestingly, the majority of the participants overwhelmingly indicated that they selected their program due to the program format (albeit, based on their own individual definitions of program format), so the design and structure of the program should be highlighted.

Furthermore, within the role of program admissions it is important to gauge prospective students’ goals for selecting a program. For example, of the six factors that emerged, Factor One: Chose Ed.D. for Research Skills includes students who are potentially better suited for a Ph.D. than an Ed.D., based on their specific interests in gaining research skills and if they hope to use the research knowledge gained to add to the academic research base and/or solve problems of the practice. Additionally, admissions officers/committees should be prepared to share career

expectations with Factor Three: Chose Ed.D. for Enhanced Earnings and Job Prospects to ensure a realistic view of career outcomes. Students with views similar to Factor Four: Chose Ed.D. for Credentials and Recognition will likely also have concerns over outcomes. For prospective students similar to those students who loaded into Factor Two: Chose Ed.D. for Leadership Development, Factor Five: Chose Ed.D. to Become a Change Agent, and Factor Six: Chose Ed.D. for Personal Change, admissions officers/committees should consider sharing professional development opportunities in their materials and webinars to address applicants' needs for personal growth.

Overall, it is important to determine the goals and expectations of prospective students before they enter programs to give them a realistic view of how the programs can meet those perceptions. The varied responses to this study suggest that including an interview to the admissions process will help select students with goals aligned with program offerings – a practice common for most other practitioner-focused degrees, such as a Master of Business Administration (MBA), Juris Doctor (JD), and Doctor of Medicine (MD).

Implications for course design/faculty.

Given the wide variety of student expectations presented in this study, it is important for faculty members to be aware of the various goals students have when planning course assignments and projects. For example, can in-class assignments provide options for more in-depth research for Factor One, have a component of self-reflection for Factor Two, and help prepare students to present at a conference for Factor Four? Similarly, can the program include an internship course for credit to encourage career advancement for Factor Three and job and self-exploration for Factors Five and Six?

Obviously, faculty must ensure key content/concepts are taught in each course, but taking an extra step to consider course design can offer a more tailored, potentially beneficial, experience for students. Furthermore, the majority of the participants indicated a positive response to a dissertation in practice (statement 4), conducting a comprehensive action research plan (statement 7), and understanding how to conduct participatory action research (statement 11), illustrating that CPED-affiliated schools need to continue to adapt courses to these CPED-supported concepts (“About Us,” 2016). While this study did not officially include statements about coursework, the results indicate a preference towards action-based learning.

Implications for program administrators.

In addition to the considerations listed above for the admissions process and within course design, the findings of this study present several points of consideration for program administrators. With Factors Two, Five, and Six focusing on either personal growth and leadership development or personal change, professional development opportunities and speakers are likely of interest to these students. One strategy to consider is creating a link to alumni as speakers and/or mentors. Concurrently, Factor Three’s interest in job prospects provides another strong incentive to create links to alumni within the field for advice and potential job connections.

In general, in providing oversight for programs, program administrators should consider program redesigns to include these areas of interest to students, particularly those focused on mentoring and networking. The results of this study show that at least a portion of students view activities outside the classroom as paramount to their experiences, even though most Ed.D. students are working professional students. Thinking beyond the classroom experience when

designing programs and allocating resources could help programs meet the mixed goals of Ed.D. students presented in this study.

Recommendations for Future Research

While this study only included programs affiliated with CPED, those included institutions represent a diverse cross-section of programs based on location, program format, type of institution, and age of the program. For example, some programs operating within the CPED framework focus more on K-12 educators while others focus more on community college leadership or workforce development. Future studies, which include a delineation of programs based on the aforementioned criteria, will help provide deeper insights into students' perceptions of the benefits of their programs. Similarly, based on the varied answers given in this study across the group based on age, additional qualitative follow-up with individuals in various age brackets could create a more in-depth set of findings. Finally, given that the majority of participants indicated that they selected their programs due to the program format, a follow-up study could examine more specifically which aspects of the format they find the most helpful. Based on the qualitative comments in this study, including questions about cohorts and more about the background of the class would add additional depth to the literature and broaden the knowledge of this topic to program faculty and administrators in charge of making programmatic decisions.

Recommendations for Future Q Studies

Based on the recommendation of previous research using the Q-software website for data collection (Kandalec, 2016), this study included more detailed instructions on accessing the survey and saving the responses. However, given that the majority of the respondents were unfamiliar with Q methodology and the procedures involved in the process, several participants

indicated confusion with the initial sort process of ranking the statements positive, negative, or neutral and how that sort related to the final sort. Additionally, given that the tool is web-based and only allows participants to view one statement at a time, several participants stated a preference for viewing all the statements at once before beginning the sorting process. Moving forward, in addition to the detailed instructions, including a list of the statements for participants should be considered.

Based on the opinions expressed in the post-survey questionnaire regarding additional concourse items to consider and the difficult of placing similar type items in the forced distribution sort, the possibility of an open-ended Q sort should be considered. Similarly, adding a question to specify years in the field and which school participants are attending could further add context to the factors that emerged in this study. Adding the ability to sort individuals by institution increases the options for further statistical analysis, including the potential to utilize hierarchical linear modeling to add depth to the analysis. Continuing to refine the statements included in the sort and post-survey questionnaire can help in developing a shorter instrument, such as a survey, to further gauge student perceptions of benefits of Ed.D. programs in a more generalizable way.

Summary

This study utilized Q methodology to examine the perceptions and opinions of students in CPED-affiliated Ed.D. programs about the benefits of their programs. Thirty-seven people completed the study, with responses from all individuals being included in the analysis. In following Q methodology protocol, the participants were asked to sort and rank 61 concourse statements in a forced-distribution format on the scale of +5 (most important benefit) to -5 (least important benefit). The included statements were drawn from relevant literature in the field of

graduate school choice and doctoral education. Additionally, the participants completed a post-survey questionnaire to provide demographic information and share additional insights on their highest and lowest rated statements.

Overall, 29 participants loaded into six factors, themed Chose Ed.D. for Research Skills, Chose Ed.D. for Leadership Development, Chose Ed.D. for Enhanced Earnings and Job Prospects, Chose Ed.D. for Credentials and Recognition, Chose Ed.D. to Become a Change Agent, and Chose Ed.D. for Personal Change. Interestingly, while there was some overlap amongst the groups over certain statements, there were no consensus statements, but many distinguishing statements for each group. Thus, each group represented a unique perspective on the perceptions of the benefits of Ed.D. programs that can help administrators and faculty of Ed.D. programs in marketing and planning their programs in the future.

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<http://eprints.cdlib.org/uc/item/7qf3t0x6>

APPENDICES

Appendix A: Program Director Recruitment Email

Dear Program Director:

I am emailing you today due to your role as the Program Director of/key contact for a doctoral program affiliated with CPED. Given your work within that organization, I am sure you are aware of the lack of scholarly research on Ed.D. programs, particularly program outcomes. I am writing to seek your approval for your current Ed.D. students to participate in a study addressing this very topic.

This study is being conducted by Lisa P. Thomson, a doctoral student at North Carolina State University, under the supervision of Dr. James E. Bartlett II, Associate Professor of Leadership, Policy, and Adult Higher Education at North Carolina State University. It is a Q methodology study focusing on current student perceptions of their Ed.D. program outcomes upon graduation.

If you agree for your program to participate, I will send you a follow-up email with pertinent details to forward to your students. Additionally, I will be happy to share any results of the study with you.

Should you have any questions or concerns, please feel free to contact me at lpthomso@ncsu.edu or 973-738-9023, or you may contact my researcher supervisor, Dr. James E. Bartlett II at james_bartlett@ncsu.edu.

I look forward to working with you and your students.

Sincerely,

Lisa P. Thomson

Appendix B: Participant Recruitment Email

You are invited to participate in a brief research study on the perceptions of current Ed.D. students about their program outcomes upon graduation. The results of this study aim to increase the recognition of Ed.D. degrees as distinct degrees for educators. You have been identified as an eligible participant based on your status as a student in a CPED-affiliated Ed.D. program.

This study is being conducted by Lisa P. Thomson, a doctoral student at North Carolina State University, under the supervision of Dr. James E. Bartlett II, Associate Professor of Leadership, Policy, and Adult Higher Education at North Carolina State University.

Your participation in this study will require you to complete a ranking of statements encompassing many opinions held by doctoral students on their program outcomes, followed by the completion of a brief questionnaire. It is estimated that this study should take between 30 and 45 minutes to complete. The study is available [here](#). It would be greatly appreciated if your responses could be completed by **XXX**.

The research team will do everything possible to ensure your privacy. Your final statement sorts and questionnaires will be kept in strict confidence. Your identity will not be revealed in any publication that may follow this study. In addition, the survey software will not retain any data from participants choosing not to complete the entire survey. Should you choose to withdraw your consent at any time during the survey, simply close your browser window and your responses will be discarded.

Please contact me at lpthomso@ncsu.edu or 973-738-9023 for any questions/concerns you may have. In addition, you may contact my research supervisor, Dr. James E. Bartlett II at james_bartlett@ncsu.edu.

Thank you for your time and for agreeing to take part in this [study](#).

Sincerely,

Lisa P. Thomson

Appendix C: References used for Initial Concourse Creation

- Ampaw, 2010
- Amrein-Beardsley, Zambo, Moore, Buss, Perry, Painter, Carlson, Foulger, Olson, & Puckett, 2012
- Becker, 1960
- Becker, 1962
- Belzer & Ryan, 2013
- Blaug, 1976
- Bontis, 1996
- Brennan, Kenway, Thomson, & Zipin, 2002
- Caboni & Proper, 2009
- Chan, Heaton, Swidler, & Wunder, 2013
- De Lisi, 2013
- Gemme, 2005
- Harvey, 2000
- Hochbein & Perry, 2013
- Imel, 2002
- Johnsrud & Banaria, 2004
- Kolman, Gallaher, Hossler, & Catania, 1987
- Kosine & Lewis, 2008
- Lester & Costley, 2010
- Loss, 2009
- Mincer, 1989
- Nafukho, Hairston, & Brooks, 2004
- Olaniyan & Okemakinde, 2006
- Paulsen & Toutkoushian, 2008
- Perna, 2003
- Perry, 2015
- Perry & Imig, 2008
- Rueda et al., 2013
- Sawyer, 2013
- Smart & Peterson, 1997
- Stacy, 2013
- Swanson & Holton, 2009
- Sweetland, 1996
- Wellington & Sikes, 2006
- Wergin, 2011
- Zambo, 2011
- Zambo, 2013
- Zambo, R., Zambo, Buss, Perry, & Williams, 2014

Appendix D: Initial Concourse

1. Improved job prospects (Harvey, 2000; Wellington & Sikes, 2006)
2. Higher earnings (Harvey, 2000; Wellington & Sikes, 2006)
3. Higher long-term earning potential (Becker, 1960; Harvey, 2000; Wellington & Sikes, 2006)
4. Monetary gains (Perna, 2003)
5. Recognition as a scholar-practitioner (Smart & Peterson, 1997)
6. Higher lifetime earnings (Blaug, 1976)
7. Increased standard of living (Olaniyan & Okemakinde, 2006; Sweetland, 1996)
8. Enhanced intellectual capital (Bontis, 1996)
9. Ability to meet changing job demands and requirements (Mincer, 1989)
10. Flexibility in future career decision-making (Kosine & Lewis, 2008)
11. Better fit employment opportunities (Harvey, 2000)
12. More meaningful career (Imel, 2002)
13. Additional credentials (Kolman, Gallagher, Hossler, & Catania, 1987)
14. Career success similar to previous graduates (Johnsrud & Banaria, 2004)
15. Increased job satisfaction due to additional training and development (Swanson & Holton, 2009; Nafukho, Hairston, & Brooks, 2004)
16. Increased knowledge (Ampaw, 2010; Wellington & Sikes, 2006)
17. Personal growth and development (Ampaw, 2010; Becker, 1962; Paulsen & Toutkoushian, 2008)
18. Obtaining a senior leadership position within an educational organization (Caboni & Proper, 2009)
19. Ability to examine problems of practice relevant to current organization (Caboni & Proper, 2009)
20. Research skills to address contemporary problems (Loss, 2009)
21. Increased exposure to problems in the field through interactions with community leaders (Loss, 2009)
22. Professional networking opportunities (Loss, 2009)
23. Ability to reframe educational problems through dialogue with others (Wergin, 2011)
24. Understanding of how to conduct participatory action research (Wergin, 2011)
25. Ability to use data to inform decisions (Perry, 2015)
26. Have a plan of action created to solve a problem in the workplace (Perry, 2015)
27. Becoming a leading practitioner in the field (Perry & Imig, 2008)
28. Ability to analyze data (Perry & Imig, 2008)
29. Develop a habit of critical reading (Perry & Imig, 2008)
30. Increased connection with leaders in the field (Perry & Imig, 2008)
31. Network for collaboration on issues (Perry & Imig, 2008)
32. Greater understanding of needs of various constituent groups – students, community, etc (Perry & Imig, 2008)
33. Ability to solve real world problems (Chan, Heaton, Swidler, & Wunder, 2013)
34. Established mentoring relationships (Chan, Heaton, Swidler, & Wunder, 2013)
35. Ability to create community partnerships (Belzer & Ryan, 2013)
36. Ability to advocate for organization (Belzer & Ryan, 2013)
37. Ability to use theoretical knowledge to inform practice (Belzer & Ryan, 2013)

38. Ability to diagnose problems in current organization (Belzer & Ryan, 2013)
39. Ability to think analytically (Belzer & Ryan, 2013)
40. Becoming a change agent (Belzer & Ryan, 2013)
41. Produce actionable findings from dissertation designed to address problems in practice (Belzer & Ryan, 2013)
42. Obtain knowledge about ways to effectively improve student achievement (Belzer & Ryan, 2013)
43. Gain skills needed to effectively improve student achievement (Belzer & Ryan, 2013)
44. Leadership development (De Lisi, 2013)
45. Ability to rebalance policy reform to include voices of practitioners (De Lisi, 2013)
46. Career growth as a clinical faculty member (De Lisi, 2013)
47. Knowledge of how to enhance teaching (De Lisi, 2013)
48. Create revised forms of scholarly communication with peers (De Lisi, 2013)
49. Serve as bridge between faculty and practitioners (De Lisi, 2013)
50. Apply knowledge to real world problems (De Lisi, 2013)
51. Advance own professional career (De Lisi, 2013)
52. Have an impact in the field (De Lisi, 2013)
53. Possess research skills needed to address problems of practice (Hochbein & Perry, 2013)
54. Ability to collaborate with key stakeholders (Hochbein & Perry, 2013)
55. Ability to blend practical knowledge with professional skills and training (Hochbein & Perry, 2013)
56. Institute changes related to equity and social justice for education (Hochbein & Perry, 2013)
57. Ability to interpret scholarly research and communicate it to constituents (Hochbein & Perry, 2013)
58. Ability to debate policymakers on issues related to field (Hochbein & Perry, 2013)
59. Ability to design practical solutions for problems in the field (Hochbein & Perry, 2013)
60. Ability to design effective evaluations to assess programs (Hochbein & Perry, 2013)
61. Ability to contribute and change practice as a scholar practitioner (Sawyer, 2013)
62. Gain network of peers to collaborate with on future projects in the field (Sawyer, 2013)
63. Become a more reflective practitioner (Sawyer, 2013)
64. Collaborative dialogue (Sawyer, 2013)
65. Intertwine knowledge of theory to practice (Sawyer, 2013)
66. Identify underused partnerships (Sawyer, 2013)
67. Utilize expertise to build new connections with colleagues and potential partners (Sawyer, 2013)
68. Develop a vision for future programs and changes (Sawyer, 2013)
69. Become viewed as a steward of the practice – a dedicated leader committed to high standards and preparing action for change (Zambo, 2011)
70. Comfort in challenging the status quo in the workplace (Zambo, 2011)
71. Ability to identify educational problems (Zambo, 2011)
72. Ability to conduct rigorous research (Zambo, 2011)
73. Ability to make a positive difference in the lives of others (Zambo, 2011)
74. Increased insights into the profession's values and norms (Zambo, 2011)
75. Greater understanding of myself as a scholar-practitioner (Zambo, 2011)
76. Greater understanding of myself as a leader (Zambo, 2011)

77. Clearer understanding of my leadership style and how to be an effective leader (Zambo, 2011)
78. Strong relationship with a mentor in the field (Zambo, 2013)
79. Obtaining a mentor to broaden my views on the field (Zambo, 2013)
80. Apply theory to practice (Zambo et al., 2014)
81. Gain tips and techniques to better solve problems in the field (Zambo et al., 2014)
82. Ability to blend practical and professional knowledge (Zambo et al., 2014)
83. Demonstrate knowledge and skills gained through dissertation in practice (Zambo et al., 2014)
84. Gain credentials to retain position (Zambo et al., 2014)
85. Grow professionally and advance career (Zambo et al., 2014)
86. Be seen as a role model by others (Zambo et al., 2014)
87. Gain skills needed to communicate effectively (Zambo et al., 2014)
88. Enhance leadership skills (Zambo et al., 2014)
89. Ability to be a change agent (Zambo et al., 2014)
90. Develop meaningful partnerships (Zambo et al., 2014)
91. Ability to connect theory to practice (Zambo et al., 2014)
92. Increased ability to work with diverse communities (Zambo et al., 2014)
93. Ability to use knowledge and experience to influence policy (Zambo et al., 2014)
94. Design programs with strong theoretical underpinning (Stacy, 2013)
95. Ability to interpret quantitative and qualitative data (Stacy, 2013)
96. Ability to conduct quantitative research (Stacy, 2013)
97. Ability to conduct qualitative research (Stacy, 2013)
98. Increased understanding of personal strengths and weaknesses (Stacy, 2013)
99. Ability to work in diverse teams (Stacy, 2013)
100. Build professional network (Stacy, 2013)
101. Opportunity to serve as adjunct faculty (Stacy, 2013)
102. Opportunity to serve on institution-wide or community-wide committees (Stacy, 2013)
103. Contact with diverse role models in the field (Gemme, 2005)
104. Option to explore both academic and non-academic careers (Gemme, 2005)
105. Personal development (Lester & Costley, 2010)
106. Skill development (Lester & Costley, 2010)
107. Increased confidence (Lester & Costley, 2010)
108. More recognition at work (Lester & Costley, 2010)
109. Career advancement (Lester & Costley, 2010)
110. Increased motivation for current job (Lester & Costley, 2010)
111. Identify new career opportunities (Lester & Costley, 2010)
112. Ability to address critical issues within the workplace (Brenna et al., 2002)
113. Professional enrichment (Brenna et al., 2002)
114. Become a scholar practitioner (Rueda, Sundt, & Picus, 2013)
115. View theoretical material through a practical lens (Rueda, Sundt, & Picus, 2013)
116. Capacity to influence change in the workplace (Amrein-Beardsley et al., 2012)
117. Develop leadership skills (Amrein-Beardsley et al., 2012)
118. Ability to conduct an action research plan in its entirety (from identifying a problem to generating action) (Amrein-Beardsley et al., 2012)
119. Implement interventions for change (Amrein-Beardsley et al., 2012)

120. Greater understanding of personal identity (Amrein-Beardsley et al., 2012)
121. Become a reflective practitioner (Amrein-Beardsley et al., 2012)
122. Become a self-directed learner (Amrein-Beardsley et al., 2012)
123. Sense of community among classmates (Amrein-Beardsley et al., 2012)
124. Sense of community with faculty members (Amrein-Beardsley et al., 2012)
125. Increased confidence (Amrein-Beardsley et al., 2012)
126. Increased professional efficacy (Amrein-Beardsley et al., 2012)
127. View oneself as a researcher (Amrein-Beardsley et al., 2012)
128. Different worldview (Amrein-Beardsley et al., 2012)
129. View topics more analytically (Amrein-Beardsley et al., 2012)
130. Increased knowledge of topics in the field (Amrein-Beardsley et al., 2012)
131. Ability to advance career (Amrein-Beardsley et al., 2012)
132. Ability to improve workplace (Amrein-Beardsley et al., 2012)

Appendix E: Final Concourse

1. Gain skills needed to communicate effectively to various constituent groups
2. Enhance personal intellectual capital
3. Increase knowledge of current topics in the field
4. Ability to demonstrate knowledge and skills gained through dissertation in practice
5. Ability to use data to inform decisions
6. Greater understanding of needs of various constituent groups (students, community, etc)
7. Ability to conduct a comprehensive action research plan (from identifying a problem to generating action steps)
8. Ability to design programs with a strong theoretical underpinning
9. Ability to conduct quantitative research
10. Gain research skills to address contemporary problems/problems of the practice
11. Understand how to conduct participatory action research
12. Ability to design effective program evaluations
13. Produce actionable findings from dissertation to address problems of practice
14. Ability to conduct qualitative research
15. Become a more reflective practitioner
16. Greater understanding of myself as a leader
17. Increased understanding of my strengths and weaknesses
18. Be seen as a role model by others in the field
19. Become a self-directed learner
20. Increased confidence in myself
21. Greater understanding of my personal identity
22. Develop leadership skills for future roles
23. Increase my ability to work with diverse communities
24. Ability to have an impact in the field
25. Ability to institute changes related to equity and social justice for education
26. Ability to debate policymakers on issues related to education or rebalance policy reform
27. Increased capacity to influence change in my workplace
28. Ability to create community partnerships
29. Become a more effective advocate for my organization
30. Ability to collaborate with key stakeholders
31. Ability to be a change agent in the field
32. Willingness to challenge the status quo in my workplace
33. Become viewed as a steward of the practice – a dedicated leader with high standards who prepares for change
34. Ability to effectively diagnose problems in my current organization
35. Higher earnings
36. Flexibility in future career decision-making
37. Ability to meet changing job demands and requirements
38. Better fit employment opportunities
39. Having a more meaningful career

40. Gaining additional credentials
41. Improved job prospects
42. Higher long-term earning potential
43. Obtaining a senior leadership position within education
44. Opportunity to serve as adjunct faculty
45. Opportunity to serve on institution-wide or community-wide committees
46. Career growth as a clinical faculty member
47. More recognition at work
48. Increased motivation for my current job
49. Option to explore both academic and non-academic careers
50. Ability to improve my workplace
51. Sense of community among classmates
52. Sense of community with faculty members
53. Ability to work in diverse teams
54. Strong relationship with a mentor in the field
55. Gain a network of peers for future collaborations
56. Professional networking opportunities
57. Ability to design practical solutions to problems in my workplace
58. Ability to interpret scholarly research
59. Develop a different worldview
60. Ability to communicate scholarly research results to others
61. Recognized as a scholar practitioner by colleagues in the field

Appendix F: Q Sort Instructions

The researcher is seeking to identify your opinions on various program benefits of your Ed.D. program. The sort will require you to rank statements from +5 to -5. Please follow the instructions below to complete the sort.

1. To begin the online sort, click the active link found within your email invitation.
2. Once you arrive at the customized page on Q-sortware, select the button on the left side that says Ed.D. Program Outcomes to begin the sort. An introductory screen will provide you an overview the study. Read that information, then select OK.
3. First, read each statement as it appears and sort the statements into three piles based on important program benefit (left hand side), neutral program benefit (middle), and not important program benefit (right hand side). To sort, drag the statement to the appropriate column. The number of items in each column can be different.
4. Once all the statements have been placed, select Continue to advance to the next screen.
5. Next, from the columns, please drag and drop the statements onto the appropriate grid in relation to what is most important and not most important. Drag from the stack of most important first, placing the 3 most important in the far right column (+5).
6. Return to the most important column and continue sorting the remaining statements.
7. After you complete that column, drag from the stack of not important next, placing the 3 most unimportant statements in the far left column (-5).
8. Return to the not important column and continue sorting the remaining statements.
9. After you have exhausted those statements, you can place the statements from the neutral column.
10. Upon completing the sorting process, you should have the following number of statements in each position:
 - a. 3 statements under +5 and -5
 - b. 4 statements under +4 and -4
 - c. 5 statements under +3 and -3
 - d. 6 statements under +2 and -2
 - e. 8 statements under +1 and -1
 - f. 9 statements under 0
11. There are no correct answers for this activity, so feel free to move the statements during the process until you are satisfied with the order. The numbers of the statements are randomly assigned and are only for reporting purposes. Each column will indicate OK with a check mark when the appropriate number of statements are in the column.
12. Once you are satisfied with your final sort, click Continue to complete a few short answer questions that will assist the researcher in understanding your card sort.
13. Click OK once you complete the short answer questions to complete the sort and submit your responses.

Thank you for your time in completing the sort.

Appendix G: Additional Q Sort Questions

1. Explain your reasons for your “+5” statements.
2. Explain your reasons for your “-5” statements.
3. Were there any cards difficult to place? Why?
4. Is there a statement that you would have liked to see?
5. Please select your gender:
 - a. Male
 - b. Female
 - c. Other
6. Please select your race:
 - a. American Indian
 - b. Asian
 - c. Black
 - d. Hispanic
 - e. White
7. Please list your age.
8. Please select the type of institution you attend:
 - a. Public
 - b. Private
9. What is the main reason you selected your program?
 - a. Institutional Reputation
 - b. Program Format
 - c. Location
 - d. Curriculum
 - e. Faculty
10. Please list your current job function.

Appendix H: Current Job Function/Role of P-Set

- Retired/business owner
- Relationship Manager
- Student Affairs-related role
- Full-Time Instructor/Program Coordinator
- Associate VP of Academic Affairs
- Lecturer
- Counselor
- English Language Arts teacher & Curriculum Advisor for Secondary Schools
- Teacher - secondary
- International Education/ Higher Education
- Instructional Specialist
- High School Teacher
- Instructor
- Director
- Administration
- Secondary Math Curriculum Advisor and Teacher
- Educator
- Director of Athletics
- Program Administrator
- Curriculum Support Specialist
- Higher Administration
- Assistant Dean New Student Programming
- Professional Development Director
- ELL Specialist
- High School Principal
- Law Enforcement
- Special Education Director
- Director of Education
- Teacher
- Adjunct
- K-6 Response to Intervention Tier 3 Teacher on Special Assignment
- Biopesticide researcher
- University-level academic administration
- Faculty Coordinator
- ESL Teacher / Department Head
- High School English teacher, site administrator, and acting principal in principal's absence
- Consultant

Appendix I: Full Correlation Matrix

	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11	p12	p13	p14	p15	p16	p17	p18	p19	p20	p21	p22	p23	p24	p25	p26	p27	p28	p29	p30	p31	p32	p33	p34	p35	p36	p37			
p1	1																																							
p2	0.407	1.000																																						
p3	0.190	-0.039	1.000																																					
p4	0.079	0.153	0.109	1.000																																				
p5	0.090	0.208	0.373	0.361	1.000																																			
p6	-0.146	-0.144	0.356	0.250	0.188	1.000																																		
p7	0.039	0.213	0.238	0.419	0.264	0.454	1.000																																	
p8	-0.208	0.000	0.211	0.213	0.199	0.447	0.387	1.000																																
p9	-0.271	0.025	0.039	0.176	0.287	0.238	0.086	0.072	1.000																															
p10	0.269	0.234	0.000	0.095	0.157	0.079	0.167	0.069	-0.160	1.000																														
p11	-0.067	0.104	-0.093	0.470	0.127	0.111	0.067	0.046	0.338	0.002	1.000																													
p12	-0.282	-0.257	0.306	0.306	0.259	0.535	0.213	0.155	0.306	-0.089	0.227	1.000																												
p13	0.431	0.486	0.144	0.181	0.236	-0.194	0.051	-0.012	0.009	0.137	-0.093	-0.412	1.000																											
p14	-0.023	0.067	0.102	0.565	0.255	0.079	0.097	-0.058	0.449	-0.164	0.475	0.039	1.000																											
p15	-0.056	-0.042	0.174	0.419	0.220	0.549	0.444	0.275	0.220	0.155	0.028	0.331	-0.007	0.241	1.000																									
p16	0.067	0.074	0.255	0.282	0.218	0.164	0.315	0.181	0.308	0.028	0.137	0.278	0.127	0.157	0.146	1.000																								
p17	0.326	0.028	0.183	0.183	0.201	-0.067	-0.012	-0.157	0.238	0.102	0.074	0.012	0.363	0.199	0.007	0.072	1.000																							
p18	0.190	0.072	0.558	0.097	0.294	0.370	0.120	0.113	0.028	0.155	-0.213	0.218	0.363	-0.016	0.315	0.347	0.148	1.000																						
p19	-0.019	0.109	-0.044	-0.146	-0.005	0.106	0.227	0.125	-0.130	-0.005	-0.225	0.012	0.106	-0.208	0.118	-0.090	-0.060	0.127	1.000																					
p20	0.127	0.363	0.019	0.090	0.331	-0.009	0.227	0.255	0.188	0.183	0.111	-0.009	0.234	-0.009	-0.005	0.127	0.255	0.037	0.162	1.000																				
p21	0.412	0.461	0.160	0.229	0.347	-0.058	0.285	0.150	0.019	0.280	0.093	-0.257	0.463	0.227	0.081	0.023	0.157	0.100	0.109	0.319	1.000																			
p22	0.088	0.458	0.238	0.257	0.391	0.252	0.377	0.414	-0.030	0.174	0.081	-0.002	0.419	0.053	0.289	-0.025	-0.181	0.296	0.238	0.206	0.389	1.000																		
p23	-0.130	0.313	-0.213	0.197	0.231	-0.229	-0.021	0.028	0.319	-0.081	0.178	-0.074	0.167	0.176	-0.113	0.139	0.194	-0.167	-0.141	0.509	0.123	-0.039	1.000																	
p24	-0.181	-0.229	0.347	0.350	0.313	0.375	0.111	0.229	0.428	0.037	0.324	0.317	-0.141	0.549	0.231	0.218	0.028	0.132	-0.296	0.074	0.044	-0.002	0.032	1.000																
p25	-0.058	0.174	0.081	0.259	0.333	0.181	0.155	0.174	0.109	-0.016	0.229	0.329	0.042	0.093	0.063	0.069	0.215	0.144	-0.032	0.340	-0.053	0.308	0.285	0.081	1.000															
p26	-0.248	-0.220	0.185	0.100	0.035	0.294	0.280	0.130	0.051	0.069	-0.007	0.350	-0.282	-0.141	0.229	0.000	-0.051	-0.150	-0.176	0.042	-0.046	-0.014	-0.037	0.141	0.245	1.000														
p27	0.035	0.157	0.157	0.581	0.458	0.044	0.042	0.037	0.468	-0.023	0.523	0.194	0.229	0.604	0.116	0.280	0.252	-0.002	-0.208	0.250	0.208	0.146	0.363	0.560	0.278	0.060	1.000													
p28	0.199	0.257	0.271	0.037	0.370	0.116	0.329	0.164	0.090	0.185	-0.127	0.005	0.438	-0.014	0.083	0.174	0.201	0.197	0.426	0.377	0.387	0.264	0.095	0.111	0.185	0.044	0.289	1.000												
p29	0.521	0.410	0.127	0.257	0.447	-0.211	-0.058	-0.116	0.025	0.130	0.183	-0.058	0.493	0.296	-0.162	0.225	0.287	0.338	-0.072	0.113	0.465	0.236	0.160	0.120	0.139	-0.407	0.433	0.185	1.000											
p30	-0.398	-0.273	0.220	0.238	0.285	0.456	0.241	0.421	0.296	-0.116	0.185	0.412	-0.220	0.141	0.234	0.266	-0.155	0.100	-0.025	0.086	-0.072	0.051	-0.074	0.569	0.162	0.192	0.333	0.095	-0.090	1.000										
p31	0.150	0.324	-0.019	0.060	0.306	-0.051	-0.199	-0.023	0.188	-0.037	0.106	-0.039	0.375	0.343	0.025	0.102	0.100	0.208	0.204	0.204	0.130	0.255	0.225	0.123	0.229	-0.345	0.398	0.264	0.532	-0.046	1.000									
p32	-0.072	0.016	-0.044	0.072	-0.058	0.310	0.389	0.231	0.137	0.028	0.111	0.100	-0.044	-0.095	0.206	0.046	-0.097	-0.072	-0.023	-0.030	0.120	0.229	-0.127	-0.234	0.079	0.248	-0.238	-0.137	-0.245	-0.095	-0.236	1.000								
p33	-0.155	-0.218	0.389	0.285	0.231	0.544	0.301	0.218	0.090	0.137	0.005	0.560	-0.014	0.016	0.428	0.118	0.095	0.296	-0.002	0.127	-0.063	0.144	-0.157	0.377	0.155	0.389	0.181	0.236	-0.157	0.438	-0.127	0.028	1.000							
p34	-0.056	0.046	0.132	0.236	0.243	0.199	0.097	0.028	0.273	-0.076	0.069	0.343	0.016	0.410	-0.021	0.241	0.088	0.037	0.072	0.056	-0.002	0.002	0.120	0.458	0.178	-0.176	0.428	0.324	0.266	0.303	0.461	-0.231	0.123	1.000						
p35	-0.271	-0.188	0.012	0.248	0.109	0.167	0.104	0.252	0.509	-0.227	0.296	0.255	-0.093	0.454	0.150	0.257	-0.012	-0.113	-0.123	0.097	-0.051	-0.009	0.231	0.438	0.097	0.023	0.387	0.095	-0.053	0.440	0.146	0.072	0.201	0.350	1.000					
p36	-0.002	-0.002	0.118	0.197	0.356	0.231	0.046	0.130	0.347	-0.100	0.201	0.387	-0.164	0.326	0.009	0.120	0.116	0.009	-0.125	0.032	0.201	0.014	0.137	0.412	0.150	-0.065	0.356	-0.016	0.375	0.382	0.236	0.012	0.106	0.516	0.299	1.000				
p37	-0.009	0.201	-0.016	0.310	0.127	-0.081	0.079	-0.005	0.352	0.051	0.396	0.120	0.106	0.461	-0.030	0.190	0.019	-0.197	-0.118	0.051	0.238	0.049	0.266	0.400	0.046	0.000	0.613	0.292	0.326	0.137	0.257	-0.083	0.134	0.428	0.449	0.426	1.000			