

ABSTRACT

STANIGAR, JENNIFER JILL. Views From Inside the “Black Box”: A Q-Methodology Study of Mentoring Support for Entrepreneurs. (Under the direction of Dr. Diane D. Chapman).

Aspiring entrepreneurs give and receive support in growth-fostering interactions with seasoned entrepreneurs, mentors, peers, and others. This dissertation investigates viewpoints held by entrepreneurs about their experiences of effective mentoring support. Little is known about how an entrepreneur learns through interacting with different mentors, or what they perceive as valuable in those interactions. This raised the question of how entrepreneurs would characterize the type of support they receive in high-quality interactions with mentors. Successful entrepreneurs often credit mentors for shaping their career trajectory and fostering the attainment of personally meaningful goals. The 21st century entrepreneurial startup environment exists in a state of constant challenge and change, described by Vaill (1996) as "continuous white water", wherein substantive, lifelong learning is an essential way of being. In the entrepreneurial context, learning is sought out to meet an entrepreneurs' changing needs at a particular moment in time. This study explores the relative importance of three support behaviors widely cited in the workplace mentoring literature: instrumental, psychosocial, and relational. The conceptual framework for this research uses the “black box” metaphor to represent the subjective experiences of mentoring. Q-methodology was selected to carry out the research, as it offers a way to study subjectivity and clusters of subjects who think in similar ways. The researcher developed a 50-item instrument for use in a card sorting activity followed by a questionnaire. The data were collected from 46 entrepreneurs operating in the Research Triangle Park region of North Carolina. Four unique viewpoints emerged from the factor analysis: Competence Builders, Self-Developers,

Network Expanders, and Respect Seekers. The analysis highlights statements that illustrate similarities and differences between viewpoints. In-depth interviews with representative members of each group helped draw meaning from the findings. Themes emerged around (1) methods and practices of entrepreneurship, (2) unlimited potential for learning and development, (3) support structures conducive to innovation, and (4) relational savvy needed in entrepreneurial mentoring. A matrix presents important processes and interactions transpiring inside the “black box” of mentoring for this set of entrepreneurs. This study found that, in general, effective mentoring support builds practical entrepreneurial competency and capacity, develops the self, empowers leadership, expands influence, values diversity, and respects action. A number of implications flow from the study. The findings could positively influence learning activities and relational practices of a founder-entrepreneur. Novice entrepreneurs could identify with particular aspects of mentoring support they may not have previously considered. Experienced entrepreneurs who want to mentor could consider expectations, costs, and benefits that surround mentoring, which may increase the likelihood of a successful match. Educators could design curriculum segments for degree programs in entrepreneurship, or improve current offerings to prepare future entrepreneurs. Programs could incorporate meaningful experiences that will match the needs and support the learning of entrepreneurs in their programs. Formal programs could establish guidelines and expectations around best practices. Social networks could attract and invite diverse perspectives at all levels of the ecosystem. Policy could be informed by support structures conducive to growth and the liability of newness associated with the novice entrepreneur. Future research could explore the connections to entrepreneurial identity, and the gendered nature of entrepreneurial activity.

Keywords: entrepreneurship education, mentoring support, entrepreneurial learning, entrepreneurial mentoring, relational models, exchange norms, reflective practice, Q-methodology, subjectivity research, interbehaviorism, entrepreneurial mindset, protean orientation, boundaryless career

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Views From Inside the “Black Box”: A Q-Methodology Study of Mentoring Support for
Entrepreneurs

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DEDICATION

This dissertation is dedicated to my beloved parents, Donald Gene Denton and Donna Marie Radcliffe Denton. They raised me to be a strong woman, gave me roots and wings, impressed on me the importance of a work ethic, fed my curious mind, and whet my appetite for travel and adventure. During disappointing and discouraging times in life, they listened, counseled and encouraged me to believe in myself and move forward in the direction of my dreams. Their love and devotion in thought, word and deed have been of tremendous support during the writing of this document. I would not have been able to produce this research and attain my goal of earning a PhD without their steadfast and selfless devotion during this time.

BIOGRAPHY

Jennifer J. Stanigar earned her doctorate at North Carolina State University. Her early career was spent in senior management positions in business and industry. Recognizing an opportunity, she struck out on her own at first, then with a partner, then a family member into the world of small business entrepreneurship for ten years. In a mid-career shift, she discovered a passion for adult learning and workforce development. Jennifer continues to deepen this work in her various roles as an educator, researcher, consultant, instructional designer, and yoga teacher in the Raleigh, NC area.

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Chapter One: Introduction

Mentoring support helps novice entrepreneurs through the start-up and development of a new venture (Deakins, Graham, Sullivan, & Whittam, 1997; St-Jean & Audet, 2012, 2013) and has been shown to have a positive impact on new venture performance (Haughton, 2014; Mazra & Guy, 2012). Perceptions of mentoring relationship quality are subjective and vary from low, medium, to high levels on the quality continuum (Ragins, 2005). At its best, mentoring is a positive relationship that is mutually beneficial and can result in high-quality relationships (Chandler, Kram, & Yip, 2011; Higgins & Kram, 2001; Ragins, 2012), yet substantial research has focused on the average and negative experiences of mentoring (Eby, McManus, Simon, & Russell, 2000; Ragins, 2012; Ragins & Verbos, 2007; Scandura, 1998). Mentoring scholars suggest that research be done to examine the instrumental, psychosocial, and relational processes that are correlated with effective mentoring and how they differ from average relationships (Ragins, 2012), and across different organizational contexts.

In entrepreneurship, mentoring support, or lack thereof, may impact the success or failure of a new venture. There is scant evidence of mentoring practices in the startup realm. The problem is we have a limited understanding of what constitutes effective mentoring support for entrepreneurs. This is a subjective measure that likely has some similarities (common among entrepreneurs) and differences (nature and purpose of mentorship).

The few studies that have looked at mentoring for entrepreneurs “do not usually enter into the relationship’s black box” (St-Jean, 2012, p. 201). The metaphor of a ‘black box’ is used to represent the unique behavior inside a fictional box where inputs are transformed into outputs, and where the available data is hidden from the observer so that nothing is known

about the inner workings (Bunge, 1963). This research study investigated the subjective interactions and processes that the participants' perceived as effective mentoring. The findings from this study revealed a set of indicators (behavior, process, action) that contribute to a satisfying relationship. The study of subjectivity in mentoring is appropriate in the career context of entrepreneurship where each path is unique, and where learning and development are accomplished through experience and social relationships.

Entrepreneurship is a boundaryless career (Hytti, 2010), meaning it is a contemporary career concept that embodies a myriad of options for personal and professional development. As independent career actors, entrepreneurs have a protean orientation, meaning they are self-directed, values driven, and responsible for guiding their own learning and development (Hall, 1996). As such, they seek out career development opportunities, such as mentoring, through developmental relationships that are embedded in their social network (Hall, 2004; Terjesen & Sullivan, 2011). Mentoring delivers startup support to entrepreneurs to help entrepreneurs navigate and face the complex, uncertain, and ambiguous nature of starting a business (Lichtenstein, Carter, Dooley, & Gartner, 2007). Mentoring relationships provide instrumental and psychosocial support to facilitate goal attainment, as well as personal and emotional development (Eby et al., 2013). Recent conversations in the literature suggest that positive and high-quality mentoring relationships feature relational mentoring (e.g., mutuality, reciprocity) (Cotton & Shen, 2013; Eby et al., 2013; Ragins, 2012).

The purpose of this study was to explore the subjective viewpoints of entrepreneurs who have experienced mentoring during new venture creation. A card sorting activity provided an opportunity for participants to express the importance of different indicators of

effective mentoring. The findings revealed how mentoring in an entrepreneurial context differs from workplace and academic mentoring. This provides entrepreneurs with more knowledge to understand and navigate their mentoring relationships. The findings have implications for the practice of entrepreneur-practitioners, mentors, administrators, educators, as well as policy and research implications.

Background

The essence of entrepreneurship is the creation of new ventures that deliver innovative products and services, generate revenues, and create jobs resulting in long-term economic growth and social value (Baron, 2007; van Gelderen et al., 2008). Entrepreneurs apply “human creativity, ingenuity, knowledge, skills, and energy to the development of something new, useful, and better than what currently exists, creating social or economic value” (Baron, 2012, p. 4). The work of the entrepreneur is situated in conditions of considerable risk and uncertainty. Entrepreneurs face abundant challenges in an environment that is “unpredictable, chaotic, and marked by rapid change” (Baron, 2012, p. 105), described by Vaill (1996) as ‘continuous white water’. To learn how to overcome these challenges, entrepreneurs are motivated to seek out business advice, emotional support, and the perspectives of experienced and seasoned entrepreneurs who serve as mentors (Deakins & Freel, 1998; St-Jean, 2013). This continuous pursuit of learning and development makes entrepreneurship an interdisciplinary career practice, in contrast to traditional career pathways, such as those in many organizational settings.

The 21st century career actor, a member of the contemporary workforce, rarely has a single career within a single organization, described in 1965 by Whyte as “the organization

man”. A new milieu of employment opportunity is emerging called the boundaryless career, in lieu of a job for life (Arthur, 1994; Arthur & Rousseau, 1996; Briscoe & Hall, 2006; Hall, 1996, 2004). The choice of a career is no longer bounded by organizational settings and structures; it permits freedom and is inclusive of dynamic arrangements. Boundaryless refers to non-traditional career moves that may involve switching jobs across functional areas or between organizations, sectors, and locations (Arthur, 1994). A boundaryless career emphasizes the acquisition of new knowledge and skills as well as psychological ways of viewing success, such as through self-awareness, feelings, or motivation (Briscoe & Hall, 2006; Eccles & Wigfield, 2002). Entrepreneurship may be the epitome of the boundaryless career, as it typifies ideas and possibilities (Hytti, 2010). If a boundaryless career brings to mind limitless possibilities, then the concept of protean career orientation represents the capacity to make choices about one’s career (Vallacher & Wegner, 1989).

A protean orientation refers to the mindset of an independent career actor, one that is concerned with the “whole life space” (Briscoe & Hall, 2006), with a goal of psychological success (Hall, 1996, 2004). There is a widely held view that career success is the tangible achievement of power and wealth, which stands in contrast with psychological success, defined as a sense of accomplishment that comes from achieving personally meaningful goals. Those having a protean orientation are self-directed in their career development and driven by core values (Briscoe & Hall, 2006; DiRenzo, 2010; Hall, 1996, 2004).

Since the protean career actor’s definition of success is not tied to objective measures such as salary or rank, the context is personal and subjective. The characteristics of protean orientation can reasonably be applied to entrepreneurs who drive their own learning, seek

needed expertise, transform ideas into action, and create new and innovative businesses (Baron, 2007). Continuous learning is central to the entrepreneurial process (Baron, 2007; Cope, 2005). Due to the scope of functions entrepreneurs are required to perform to be successful, the need for increased knowledge and skills is an understandable imperative, at every point in the business cycle, from inception to exit.

An entrepreneurial startup is an emerging organization (Wooten, Timmerman & Folger, 1999), and as such, traditional vertical organizational structures do not exist to support career development pathways. Not to mention compared to existing organizations, startups are less stable, predictable, or secure due to the uncertain and high-risk context. As such, a high probability of failure is a basic fact of life for entrepreneurs. According to the U.S. Small Business Administration, 50% of all new businesses fail within the first five years (USSBA, 2014). Despite the risks involved, entrepreneurs are driven by the desire to shape their future and may be inspired to pursue entrepreneurship in what Shepard (1984) calls “the search for a path with heart”. While entrepreneurs may have fewer structured pathways for career development, interpersonal relationships are an important source of support (Hall, 1996; Hytti, 2010; St-Jean, 2011).

Entrepreneurs derive the resources for their learning and development through deliberate social relationships, both formal and informal. The life stage perspective of career development relies on age ranges as markers for predictable life events and associated career advancement (Levinson, Darrow, Klein, Levinson, & McKee, 1978). Contemporary career development takes place through multiple episodic short-term interactions that foster learning and personal growth (Kram & Ragins, 2007). Individuals in interdisciplinary careers tap

their social network and network relationships to identify “key developers” with the expertise and skills that they need (Cotton & Shen, 2013). Entrepreneurs must learn to seek help to meet specific needs and objectives they face during a business startup. As such, opportunities for learning and development are embedded in social networks of formal and informal developmental relationships with mentors, coaches, advisors, educators, and peers (Burlew, 1991; Chandler et al., 2011; Lunsford, 2014; Ragins, 2012). Entrepreneurship scholars have reiterated the importance of mentorship to entrepreneurial learning and development (Bisk, 2002; St-Jean & Audet, 2012; Terjesen & Sullivan, 2011). In addition to business development advice, mentors fulfill other needs of the entrepreneur including connections to expertise, coaching, counseling, encouragement, friendship, and role modeling. While research suggests the importance of mentoring in the entrepreneurial context, little is known about how it may differ from workplace or academic mentoring and what makes it unique.

Traditionally, workplace mentoring has been defined as an intense one-on-one developmental relationship between a senior, more experienced mentor who is paired with a junior, less experienced protégé for the purpose of providing career development and psychosocial support (Kram, 1983, 1985). The career function of mentoring aids advancement within an organization, while psychosocial support serves the individual on a personal level by helping to build self-worth (Kram, 1985). After three decades of research, there is a vast knowledge base of workplace mentoring, the findings of which have been summarized in previous meta-analyses (Allen, Eby, Poteet, Lentz, & Lima, 2004; Eby et al., 2013; Kammeyer-Mueller & Judge, 2008). There are indications that the terms used to

describe mentoring support in the literature are shifting along with the career context. Most recently, Eby and colleagues (2013) refer to the functions as *instrumental* and *psychosocial* support. Instrumental support refers to practical, task-related assistance, while psychosocial support pertains to personal and emotional guidance.

Recent mentoring literature recognizes a paradigm shift taking place as a result of changes in the workplace, and new forms and hybrids of mentoring (Cotton & Shen, 2013; Kram & Ragins, 2007). Contemporary scholarship reframes mentoring as a developmental relationship and suggests a shift from a one-way provider-client relationship to a power-free, two-way, mutually beneficial relationship (Dobrow, Chandler, Murphy, & Kram, 2011; Fletcher & Ragins, 2007; Ragins, 2005, 2012).

The traditional conceptualization of mentoring is further enhanced by *relational* mentoring support such as mutual growth and reciprocal exchange within the career context, as suggested by Ragins (2005, 2012). This shift in thinking implies that a contemporary view of mentoring provides benefits to both partners (Cameron, Dutton, & Quinn, 2003; Chandler et al., 2011; Higgins & Kram, 2001; Ragins, 2012). This heralds a new view of mentoring through a positive lens that focuses on optimal relational states.

Relationship quality is gaining importance in mentoring research since the existing literature has hardly explored effective and influential mentoring relationships. This is “where mentoring is most generative, fulfilling, and developmental for both people in the relationship” (Eby et al., 2013, p. 443). High-quality connections evoke feelings of vitality, positive energy, a sense of positive regard, and felt mutuality (Stephens, Heaphy, & Dutton, 2012). This kind of relationship produces outcomes of self-awareness, self-esteem, new

skills, zest, well-being, and a desire for more connection (Dutton & Heaphy, 2003; Fletcher & Ragins, 2007). Scholars suggest that the quality of mentoring relationships fall along a continuum from high-quality on one end, to average or marginal in the middle, to negative or even dysfunctional on the opposite end (Ragins, 2005; Ragins, Cotton, & Miller, 2000; Scandura, 1998). When a mentoring relationship is mutually beneficial and reciprocal, it is said to provide relational support. It is reasonable to presume that such a relationship is perceived to be at the higher end of the quality continuum (Ragins, 2012).

Measurements of relationship quality found in the literature are typically self-reported evaluative perceptions that may include satisfaction with the mentoring relationship, satisfaction with the other person, or overall perceptions of relationship quality. Yet, knowing what impacts relationship quality is an elusive measure; it is the subjective experience of those involved in the relationship that defines the quality of the connection (Stephens et al., 2012). The inner workings of any mentoring relationship are considered a “black box” to outsiders (Chandler et al., 2011, p. 532).

Subjective experiences are the values, attitudes, beliefs, feelings, and opinions of the person who experiences the phenomenon. Subjectivity is described as the “condition of viewing things exclusively through the medium of one’s own standpoint or situation” (Stephenson, 1981, p. 73). It is self-referent and centers on the processes that underlie human thought. Feelings of approval-disapproval and pleasure-displeasure are at the heart of subjectivity (Brown, 1995). The study of subjectivity, therefore, attempts to explore an individual’s point of view relative to some topic where there are feelings and emotional states. In mentoring relationships, exploring subjectivity provides a window into the “black

box” of interactions and processes that are important to high-quality relationships (Chandler et al., 2011; Higgins & Kram, 2001).

High-quality relationships contribute to increased social capital for entrepreneurs (Gedajlovic, Honig, Moore, Payne, & Wright, 2013). Resources embedded in social relationships and networks have the potential to influence the learning, development, and growth of the entrepreneur and the business. Research has shown that mentoring support makes a positive difference to new venture formation, growth, and survival (Deakins et al., 1997; Haughton, 2014; Mazra & Guy, 2012). Therefore, understanding more about how mentoring can support entrepreneurial learning and development is important to target the factors that may reduce the attrition rate of business startups and improve growth rates (Deakins et al., 1997; Sullivan, 2000; USSBA, 2014). We know very little about the types of mentoring support that are important to entrepreneurs (Bishop, 2012; Deakins et al., 1997; St-Jean & Audet, 2012). By exploring the viewpoints of entrepreneurs about effective mentoring, there is the potential to impact new venture performance and help speed growth.

The next section of this chapter will explain the nature of the problem, the problem statement, and the purpose of the study. After that, the theoretical and conceptual frameworks are presented. The chapter will then describe the significance of the study, the research questions, and provide an overview of the methodology. The chapter concludes with the limitations and delimitations of the study, contributions to theory and practice, and definitions of important terms.

Nature of the Problem

The phenomenon of entrepreneurship is “complex, entailing so many different tasks, activities, and functions that no one individual can be competent at all of them” (Zimmerman, 2008, p. 83). As a result, most individuals enter entrepreneurship “in a substantial learning situation” (Gibb & Ritchie, 1982, p. 35). Entrepreneurs learn through participation in social networks and interacting with other entrepreneurs who serve as mentors (Deakins & Freel, 1998). Being part of a mentoring relationship helps entrepreneurs to build social capital through the provision of knowledge, skills, and other resources needed for the startup development, growth, and survival of a new business.

Each mentoring relationship will vary in the type of mentoring support provided. Given the factors that impact an entrepreneur’s career development needs, it is reasonable to expect that instrumental support serves the business development needs, while psychosocial and relational support are important to help entrepreneurs deal with the personal and emotional challenges of their chosen path. Entrepreneurial learning is situated in a context of complexity, uncertainty, ambiguity, potential for and rebounding from failure, stress, and loneliness (Waters, McCabe, Kiellerup, & Kiellerup, 2002). However, it remains unclear the extent to which entrepreneurs value psychosocial and relational support vis-à-vis instrumental support in their mentoring relationships (Bisk, 2002).

With the support of experienced mentors, entrepreneurs increase their chance of survival (Bisk, 2002; Deakins et al., 1997). Yet we know very little about how effective mentoring support for entrepreneurs manifests in dynamics of interpersonal exchange within the relationship. Despite the importance of growth-fostering relationships, little research has

been conducted to understand the factors that might improve their effectiveness (Allen, Eby, & Lentz, 2006; Wanberg, Welsh, & Hezlett, 2003). While mentoring research has made strides in the ways to distinguish high-quality mentoring relationships from marginal and dysfunctional relationships (Dutton & Ragins, 2007; Ragins, 2005; Scandura, 1998), we lack an understanding of how behavioral dynamics may be related to perceptions of effective mentoring. Scholars have appealed for a deeper understanding of the underlying interactions and processes that lead to the development of high-quality mentoring relationships (Chandler et al., 2011; Ragins, 2012; Ragins & Verbos, 2007; Wanberg et al., 2003). This knowledge is crucial in the case of entrepreneurship, where high-quality mentoring can mean the difference between success and failure of the founder's vision and growth of the venture.

Research on the exchange process that takes place in entrepreneurial mentoring is still in its infancy, and more studies are needed to move theoretical development forward (Bishop, 2012; Terjesen & Sullivan, 2011; Young & Perrewé, 2000). There remain questions about how mentoring in the entrepreneurial context stands in relation to the contemporary view of a mutually beneficial relationship. Research could help us understand the viewpoints of entrepreneurs who have had this experience. The few studies that have looked at mentoring for entrepreneurs “do not usually enter into the relationship's black box” (St-Jean, 2012, p. 201), the place where these behavioral dynamics are at play. Further research into entrepreneurs' perspectives of effective mentoring experiences and the interpersonal processes involved will “help clarify the conditions under which these relationships are maximally satisfying and impactful” (Hezlett & Gibson, 2005; Terjesen & Sullivan, 2011).

Problem Statement

The dynamic processes and interactions that occur within the “black box” of a mentoring relationship are poorly understood (Chandler et al., 2011; St-Jean, 2011; Ragins, 2012). Because of this, we know little about the indicators that are paramount to the development of effective mentoring for entrepreneurs, and in what ways these indicators contribute to the perception of high-quality relationship states as well as positive business and personal outcomes. Much of the existing research on mentoring has employed cross-sectional surveys that report average mentoring experiences. Scholars agree past research has been overly focused on protégé outcomes (Chun, Sosik, & Yun, 2012). There have been no studies of mentoring in the entrepreneurial learning context that consider the inherent subjectivities of social behavior and have identified groups of entrepreneurs who think alike.

Purpose of the Study

The purpose of this study was to investigate entrepreneurs’ subjective viewpoints about effective mentoring support in a way that exposed different ways of thinking. The researcher found no research studies that had been able to reveal the subjective experiences of entrepreneurs within a mentoring relationship. The results of this study were a set of unique viewpoints that shed light on what potentially makes one mentoring relationship more effective and impactful than another.

Theoretical Framework

Two theories that framed this study were social exchange theory and relational models theory. The presence of these theories did not presuppose the use of a deductive approach to generate hypotheses to be tested by a chosen methodology. Instead, they provided a framework for understanding the interpersonal dynamics of social behavior and the exchanges that take place between two people in a mentoring relationship.

Social Exchange theory (Homans, 1958; Thibaut & Kelley, 1959) says that social behavior is an exchange of material and nonmaterial goods guided by the need to maximize the likelihood of meeting one's self-interests. This concept grew out of Homans' earlier work on efficiency (1950), where he analyzed the elementary forms of social behavior in small groups (i.e., interaction, sentiment, and activity). Homans described this behavior in relationship as social exchanges - an "ongoing circular process of action and reaction" (Homans, 1950, p. 93). In social exchanges between two people, there is an expectation of an equitable exchange of costs and benefits. How one determines the quality of the relationship is based on the costs and benefits associated with it, through a comparison of alternatives, and through negotiated exchanges between two individuals who have different levels of power, resources, and dependence (Thibaut & Kelley, 1959). Social Exchange theory is grounded in the concepts of equity and reciprocity, and provides a reasonable explanation for understanding the social process that happens in a mentoring relationship. In this study, the theory raises questions about how the types of exchange that occur in the relationship might influence behaviors, attitudes, and outcomes of the relationship.

Relational Models theory (Fiske, 1992) provides a basis for understanding, naming, and evaluating the dynamics of interpersonal exchange within a mentoring relationship. Fiske (1992) put forward four models, or patterns, of relating to others that were used to describe aspects of the relationships expressed by the participants in this study.

The first pattern, communal sharing (CS), considers members as having things in common that make them socially equivalent and undifferentiated. In CS relationships, it is natural to be kind and altruistic. The second pattern is authority ranking (AR), where relationships are based on asymmetry among people and some kind of linear order in a hierarchy. In AR, people differentiate themselves by authority, rank, and magnitude order.

In the third pattern, equality matching (EM), relationships are based on balance, correspondence, turn taking and reciprocity. Each person is entitled to the same amount of resources as the other, and the direction and magnitude of imbalances are important. Lastly, in market pricing (MP) relationships, the focus is on *proportionality* based in ratios and rates. MP prevails when the medium of exchange is money, equity, or percent share in a business venture, but it also refers to getting as much out of the relationship as one puts into it—some kind of market equivalency. The use of this theory is relatively new in the developmental relationship and mentoring literature (Cotton & Shen, 2013; Young & Perrewé, 2000), yet it provides a way to better understand the behaviors and dynamics of exchange associated with effective mentoring support and the study of high-quality connections.

Conceptual Framework

The conceptual framework for this study has key concepts that can be depicted graphically (Figure 1.1). The relationships between the concepts are explained below.

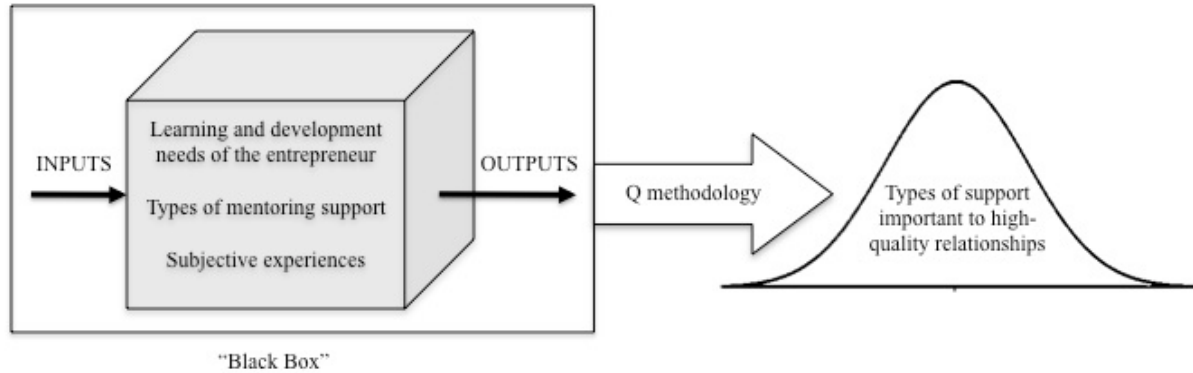


Figure 1.1. Conceptual framework.

On the left side of Figure 1.1 is a representation of the inputs, outputs, and inner workings of a mentoring relationship. It is called a “black box” because the nature and function of the interactions and processes that transform inputs to outputs are nonlinear, apparent to those inside but hidden from the observer. The entrepreneur has unique learning needs related to the interdisciplinary career context and the practice of entrepreneurship. The interaction that takes place between two members of a mentoring relationship is a product of differing amounts and types of mentoring given and received. Every mentoring relationship is unique because it involves human beings exhibiting social behavior, and the perception of relationship quality is a subjective experience for both members. Feeding into the black box are inputs (e.g., individual traits, experiences from prior relationships, different perspectives, access to resources) that will influence the current relationship and result in outputs (e.g., knowledge, skills, attitudes, satisfaction, performance, self-knowledge).

To learn about the interpersonal dynamics of the relationship, we needed a tool to open the black box and examine the subjectivity within. To explore the phenomenon inside the black box, this study used a research approach known as Q-methodology that allowed for the study of subjectivity. The topic of this study is on the types of support behavior that entrepreneurs believe are important to have in an effective mentoring relationship. Through the use of a card sorting technique, called a Q sort, entrepreneurs arranged a set of predefined statements about mentoring in such a way that revealed their perspective on the topic and how they were thinking at the time of the sort. The normal distribution curve, shown on the right of Figure 1.1, is a proxy for the representative composite viewpoints expressed by participants through the card sorting technique. Four viewpoints emerged in the factor analysis. These viewpoints represented new knowledge and perspectives about entrepreneurial mentoring that, until now, had not been explored in the literature.

Significance of the Study

There are three primary reasons why this study is significant: (1) entrepreneurship and the survival of small businesses are important to our economy and workforce, (2) there is a need for new approaches to explore the human and behavioral aspects of entrepreneurship, and (3) the findings will have practical implications and theoretical significance to the topic of entrepreneurial mentoring.

Entrepreneurs are a major source of economic growth and jobs (Baron, 1998), and as such, the survival and growth of new ventures is an important workforce development topic. The U.S. Small Business Administration reports that in 2011 there were over 28 million small businesses and, between mid-2009 and 2013, small firms accounted for 60 percent of

net new jobs (USSBA, 2014). Despite these encouraging numbers, only 50 percent of new businesses will survive five years or more, while one-third survive 10 years or more. These survival rates have changed very little over time (USSBA, 2014). What makes one entrepreneur fail, where another is successful? How does mentoring support contribute to new venture growth and survival? Knowing more about what contributes to the successful performance of new ventures is a reasonable impetus for entrepreneurship research.

The study of entrepreneurship has largely been concerned with the economic concept known as the resource-based view of the firm and the use of positivist research approaches. The use of interpretive social science methodologies takes more of a human and behavioral view of the individual entrepreneur's learning (Rae, 2000). In addition, there is little agreement on a framework for the study of entrepreneurial learning and development (Shane & Venkataraman, 2000). We know that social connections play a vital role in the process of new venture development (Keating, Geiger, & McLoughlin, 2013), and mentoring has been shown to positively influence entrepreneurial success (Bishop, 2012; Carsrud & Brännback, 2009; Ozgen & Baron, 2007; St-Jean & Audet, 2012).

Gardner (1989) puts forward the idea that research on entrepreneurial behaviors must be based on fieldwork similar to Mintzberg's (1973) study of managerial work. "Researchers must observe entrepreneurs in the process of creating organizations. This work must be described in detail and the activities systematized and classified. Knowledge of entrepreneurial behaviors is dependent on fieldwork" (Gardner, 1989, p. 63).

This has led researchers to question whether business success could be linked to increased levels of human and social capital, something that occurs in the process of mentoring (Davidsson & Honig, 2003). One critique of social capital research is that it often ignores the factors or processes that lead to the development of relationships (Gedajlovic et al., 2013). This underscores the need for a research methodology that explores how entrepreneurs' characterize their effective relationships.

This study used a research approach to explore the subjective nature of mentoring relationships. With the identification of Q-methodology and a research design, the research questions were developed.

Research Questions

The research questions that guided this study were:

1. What viewpoints emerge about effective mentoring support for entrepreneurs?
2. What are the indicators of effective mentoring support for entrepreneurs?
3. How does each viewpoint reflect the indicators of effective mentoring?
4. How do high loading participants explain their viewpoint through the composite sort?

Overview of Research Method

Q-methodology was the preferred research tool in this study for two reasons. First, there was a need for an approach that embraced subjectivity and could explore the diversity of viewpoints that existed on the topic. Entrepreneurs are a diverse and idiosyncratic set of individuals who defy aggregation; they are outliers, found “in the tails of population distributions, and though they may be expected to differ from the mean, the nature of these differences is not predictable... [thus] any attempt to profile the typical entrepreneur is

inherently futile” (Low & Macmillan, 1988, p. 148). Q-methodology allows all voices to be heard. Each voice is expressed through a Q sort, a unique exposition of the participant’s thinking at the time of the data collection. A behavioral approach was selected for this study, to develop research questions, methodologies and techniques that will do justice to the complexity of entrepreneurship (Gartner, 1985).

The focus of this study was to explore the subjective views of entrepreneurs who have experienced mentoring relationships in order to identify what leads to effective mentoring. This called for an approach that provided entrepreneurs with an opportunity to reflect on the types of support and behavioral dynamics they have experienced in their mentoring relationships, and to express their point of view, which may be distinct from those of their peers. The selection of such an approach has support from contemporary mentoring scholars, as researchers are encouraged to use methods designed to capture the core characteristics of high-quality relationships such as “individuals’ subjective experiences and perceptions of the interaction” (Stephens et al., 2012, p. 394).

The second reason for selecting ‘Q’ is that over 90 percent of workplace mentoring research studies have used cross-sectional survey designs that aggregate results and report mean scores (Allen, Eby, O’Brien, & Lentz, 2008). One complaint about survey research is that it fails to capture the richness of mentoring relationships and reports the average experience rather than highlighting the positive end of the quality continuum (Ensher & Murphy, 2005; Ragins, 2012). Allen and colleagues (2008) suggest using qualitative approaches in mentoring because of the utility in helping us understand the role of mentoring in the contemporary career context. Q-methodology employs both qualitative and

quantitative methods in a combination that permits the naturalistic inquiry of a topic followed by a quantification of the participant's point of view through factor analysis and the rich interpretation of shared viewpoints. This approach was selected in response to "the importance of finding creative ways to capture what really takes place in mentorship" (Kendall, 2007, p. 103).

Q-methodology is a well-established, systematic research approach that is used to study subjectivity (Stephenson, 1953). Subjectivity pertains to the values, attitudes, beliefs, feelings, and opinions of an individual that form the basis of their point of view on a topic. The methodology can provide insight into underlying theoretical structures that are composed of subjective phenomena and allow the study of subjective experience without imposing the potential biases of cross-sectional surveys (Brown, 1991/1992). In contrast to reporting mean scores representing average perceptions, Q-methodology identifies *communality* (extent to which groups of participants sorted similar or different). Diversity among participants lends itself to thematic analysis to capture the phenomenon expressed by participants (Fereday & Muir-Cochrane, 2008; Shinebourne & Adams, 2008).

The researcher followed the six steps of a Q-methodology study (Brown, 1980):

- (1) Identify a concourse on the topic of interest;
- (2) Develop a representative set of statements (Q sample);
- (3) Specify respondents for the study (P sample) and conditions of instruction;
- (4) Administer the Q sort (rank ordering of statements);
- (5) Factor analysis; and
- (6) Interpret results.

The researcher began the research project by compiling a comprehensive set of statements about the topic, known as the *concourse*, through a combination of naturalistic inquiry using pilot interviews, as well as a comprehensive literature review. Items for the *concourse* were gathered from a variety of sources. The process of *concourse* development was largely inductive, allowing themes, patterns, and categories to emerge in the coding of the interviews. Statements in the *concourse* were edited for clarity and worded in such a way to reflect opinion rather than fact while retaining as much of the original phrasing from the sources as possible. From the *concourse*, a smaller subset of 40 to 80 statements, known as the *Q* sample, was selected through a process of reduction as themes and patterns emerged from the data (Stainton Rogers, 1995). Participants for this study were selected based on their ability to answer the research questions arising from their prior experience and familiarity with the topic. *Q* studies typically have a smaller number of participants than the number of statements in the *Q* sample.

Research using *Q*-methodology allowed participants to expose their thinking through a card sorting activity called the *Q* sort technique. Participants ranked and ordered the *Q* sample statements relative to one another, into a forced distribution grid with a scoring scale, and guided by a condition of instruction (Brown, 1980; McKeown & Thomas, 2013; Watts & Stenner, 2012). Participants filled out a post-sort questionnaire that provided demographic data as well as open-ended reflections on choices that were made in the *Q* sort. This information provided evidence to assist the researcher in the interpretation of the findings.

Following data collection, the *Q* sort data was subjected to three statistical procedures: correlation, factor analysis, and the computation of factor scores (McKeown &

Thomas, 2013). Four distinct factors emerged in this process that represented shared viewpoints within this group of participants. In the final step, the factors were subject to interpretation and descriptive accounts of the viewpoint were written up with the support of consensus and differentiating statements. During interpretation, to privilege the voice of the participants (high loading), additional data was gathered through ‘affinity group’ interviews. This provided participants with an opportunity to reflect alongside other participants who shared the same viewpoint. This final step asked participants to reflect on the results and is considered a contemporary approach in Q-methodology (Militello & Benham, 2010).

I selected Q-methodology because of its ability to explore the subjective viewpoints of the participants and to answer the research questions posed in the study. In addition, Q methodology was suitable for an exploratory study with a smaller sample size. After a yearlong research of workplace mentoring, entrepreneurial learning and development, and different types of mentoring support, my choice of method was influenced by the calls for researchers to use non-survey approaches in future studies on mentoring and by the focus on behavior and subjectivity. I believe the findings from this Q study have the potential to add new knowledge to mentoring that may be difficult to grasp using other research methods.

Limitations and Delimitations

This section describes the circumstances that may have affected the method, analysis, or findings in this study, and the ways in which the researcher tried to offset them. For convenience and to utilize the researcher’s existing contacts, the study population was comprised of regional entrepreneurs who were operating their business in the state of North Carolina, namely the Research Triangle Park and surrounding areas.

There were 46 participants in this study. The sample was selected from among hundreds of contacts based on their ability to provide insight into the topic (e.g., a positive experience of mentoring, willingness to expose their thinking). The participants in this study were entrepreneurs who thought they were able to discern the types of mentoring support that made their relationships optimal. Participants were selected using purposive sampling in an effort to obtain the most diverse set of viewpoints on the topic. While this was a non-representative sample of the larger population of entrepreneurs, it was consistent with the goal of the study to explore distinct viewpoints, and not to seek causal relationships. Due to the small sample size and the broad definition of the population under study, the ability to generalize these findings to the larger population of entrepreneurs is limited. Demographic findings in Q-methodology are mostly meaningless. In addition, the findings are related to entrepreneurs and might not apply to any other group.

There was an unequal distribution of race, ethnicity, and industry sector in terms of participant demographics. This finding reflected the homogeneous nature of regional entrepreneurs, which is predominantly Caucasian and male. However the researcher took care to recruit a mix of participants across gender, racial, ethnic, socio-economic, and industry sector groups.

There was a risk that some participants may not correctly interpret the meaning of a term used on the statement cards. When questions came up during the sorting about the meaning of a particular statement, the researcher asked the participant to sort the card based on what the statement means to them. One limitation of this method was that the final set of sample statements may have limited the perspectives available to the participants sorting the

cards. This was resolved in the post-sort questionnaire where sorters had an opportunity to comment on whether the Q sample was comprehensive, and what, if any, statements they felt were missing and what column would they place those missing statements.

Mentoring scholarship usually differentiates between formal and informal mentoring relationships. However this distinction was not made in this study because of the dynamic mix of formal, group, informal, and peer mentors, and because the purpose of the study was to understand all possible viewpoints about effective mentoring for entrepreneurs.

Another limitation of the study was related to researcher bias and how feelings about the phenomenon of entrepreneurship and mentoring may affect the interpretation. The final selection of the Q sample, condition of instruction, factor rotation solution, and factor interpretation were all examples of choices made by the researcher that shaped the findings of this study. In an effort to safeguard the study from bias, the researcher employed strategies to help reduce it. The Q sample was pilot tested with several people, which resulted in a number of revisions to improve clarity and understanding in the wording of the statements. To reduce bias in the interpretation of findings, a few high loading participants from each factor viewpoint were called back to participate in factor interpretation with the researcher. This process offered additional insight into the participants' viewpoints that the researcher may have overlooked during the initial interpretation. The possibility of researcher bias was offset by the ability to report the findings using quotes taken verbatim from the group interviews. The researcher did not need to find the words; rather, the participants voiced how they were thinking during the Q sort.

One methodological limitation is the length of time it takes to conduct a well-designed Q study. The concourse development and data analysis took longer than anticipated. Also, the findings are considered self-report data; as such the researcher did not observe participants engaging in mentoring activity. The card sort is an expression of the participants' thoughts at a specific moment in time, and is likely to change with further experience in mentoring relationships.

Contribution to Theory and Practice

The findings from this study make original contributions to the research and practice of entrepreneurial learning and development. The findings also increase our understanding of effective mentoring for entrepreneurs, which despite its importance has received scant attention in the literature. It does this by revealing four different viewpoints about what makes mentoring relationships effective. By understanding different views of effective mentoring for aspiring entrepreneurs, program managers can better match them with a formal mentoring arrangement, and create supportive environments. The findings have a number of implications for practice, education, policymaking, and research. Theory would benefit from a deeper understanding of the cognitive heuristics, or frameworks, entrepreneurs use to meet the changing demands of the business during startup and growth phases. Finally, this research is important to scholars and practitioners who are in a position to influence entrepreneurial learning (Carsrud & Brännback, 2009).

The findings have the potential to fill knowledge gaps in the mentoring literature – in the contemporary career development context and on the subjective experiences of interaction between mentoring partners. Being able to see into the “black box” of mentoring

relationships had been a deficiency in mentoring scholarship for many years, and could open a pathway for increased research into the study of subjectivity.

A potential contribution to research is through the use of Q-methodology as an exploratory approach to inform emerging theories about entrepreneurs by examining a few individuals to understand their perspectives. Results of Q studies have the potential to produce surprising findings that the researcher may not have previously theorized or imagined before. Using the participants' own words, the interpretations are rich with detail as they reflect on their choices during the card sorting.

There are a number of practical implications that flow from this study. The statements used in the Q sort activity could be transformed into a self-assessment for entrepreneurs and mentors to help them reflect on their support needs before, during, or after a mentoring relationship. This information could be useful as a professional leadership development tool in entrepreneurship education programs. By knowing more about what types of support they need, entrepreneurs can make better choices when asking for help and communicating their needs to a mentor. In addition, the findings from this study will help mentors and managers of entrepreneurship programs understand more about what entrepreneurs need from a mentoring relationship. This can inform mentor trainings and support tools used in structured programs. Overall, the findings have the potential to create more positive and high-quality mentoring relationships that have both tangible and intangible outcomes for new venture performance and survival.

Finally with its focus on learning, practice, and reflection, this study has implications for adult learning and human resource development (HRD) research and scholarship. In a

recent editorial, Werner (2014) cited leading HRD scholars Short and Bing (2003) who presented twelve core principles to guide the HRD profession, including “striving to create humane workplaces, developing a sense of social responsibility, embracing globalization, and fostering lifelong learning” (p. 132). In the realm of entrepreneurship, HRD theory can inform what little we know about the learning practices of interdisciplinary career actors, as their practice has importance to the advancement of the field.

In further support for the choice of methodology in this study, the field of HRD is moving toward “methodological pluralism” and the use of “novel and frame-breaking approaches” (Garavan & Carbery, 2014, p. 262). The use of Q-methodology in this study makes a contribution to the field by proposing a different way of looking at subjectivities, as ‘frames of mind’, ‘points of view’, ‘mental models’, and ‘mindsets’; this study may generate new knowledge on these organizational topics, thus addressing gaps in the literature.

Definition of Terms

The following section provides definitions for the terms used in this dissertation.

Black box. From engineering, a fictional representation of observable inputs and outputs, where functions that transform inputs to outputs are hidden from the observer (i.e., output is a nonlinear function of input) (Bunge, 1963; Rosenberg, 1982). From cognitive psychology, the effect of internal mental process on behavior, the inner workings of relational dynamics (i.e., processes, interactions) not apparent to the observer (Boulding, 1984).

Concourse. Refers to a comprehensive collection of statements that represent the topic in question. It may be derived through a combination of theoretical framework and naturalistic inquiry (Stephenson, 1953; McKeown & Thomas, 2013; Watts & Stenner, 2012).

Instrumental. A type of mentoring support focused on practical knowledge and skill development (i.e., task-related assistance, coaching, connection, learning facilitation).

Mentor. An experienced individual who is personally involved in the development of a protégé. Mentors provide career and psychosocial functions (Kram, 1985).

Mentoring relationship. Involves an experienced and knowledgeable individual (the mentor) who invests time, knowledge, and effort to provide developmental support and access to networks and resources to a less experienced individual (the protégé) in order to improve the protégé's knowledge, skills, and to enhance personal and career growth.

Relational mentoring. An interdependent and generative developmental relationship that promotes mutual growth, learning, and development (Ragins, 2005). The Relational Mentoring Index (RMI) measures relational functions of mentoring (Appendix A).

P sample. Refers to Q sort participants, also called Person-sample. Participants should be those who are conversant with the topic under study (McKeown & Thomas, 2013).

Protégé. The traditional beneficiary of mentoring, also called mentee, derived from the Latin word, *protegere*, meaning to protect.

Psychosocial. A type of mentoring support focused on personal and emotional guidance, growth and development (e.g., counseling, acceptance, encouragement, and role modeling).

Q-methodology. A qualitative research approach that combines quantitative methods useful to systematically study human behavior and subjectivity (e.g., perceptions, opinions, attitudes, values and beliefs of participants) (Stephenson, 1953). It provides data that are agreeable to mathematical analysis, allowing a researcher to examine the subjectivity of a situation by making connections that unaided perception may overlook (Brown, 1993).

Q sample. A set of 40 to 80 representative statements derived from the concourse.

Q sort. A card sorting activity where participants rank the Q sample on a scale in a forced distribution. Participants quantify statements by ranking them relative to one another.

Subjectivity. Something particular to a given person; self-referent and personal; a subjective experience; operant behavior. Existing in the mind of the one who experiences phenomena.

Chapter Summary

This chapter introduced the topic of effective mentoring support for entrepreneurs and the potential to impact the startup, development, and growth of new ventures. Perceptions of effective mentoring are subjective and fall along a quality continuum, yet little is known about how mentoring support results in satisfying relationships. The contemporary view of mentoring as a mutually beneficial relationship shifts the focus to the positive end of the quality continuum and provides a reason to explore views from inside the “black box” to discover what makes for an effective mentoring relationship. Q-methodology was selected for this research because it is conducive to answering the research questions: to explore the views and define the indicators of effective mentoring for entrepreneurs, and to associate them with groups of participants who think alike. The results of this study are four distinct viewpoints that existed in a group of entrepreneurs who were asked to reflect on their mentoring experiences and express them through the card sorting activity. Finally, the chapter suggested potential contributions to theory, as well as implications for research and practice. In Chapter Two, a systematic literature review examined select concepts about entrepreneurship and mentoring, as well as findings from related studies that show what we already know and what gaps still exist in the literature.

Chapter Two: Literature Review

Introduction

From the case put forward in Chapter One, this chapter will present literature to address why it is important to study ways entrepreneurs might learn and develop through high-quality mentoring. The review begins by looking at entrepreneurship as a field, the unique career development needs of entrepreneurs, and the importance of strong relationships within social networks. The chapter continues with a definition and some history of mentoring. The theoretical concepts of exchange orientation and relational models are presented to understand the dynamics of effective mentoring support. These topics are supported by select findings from related studies on mentoring support in the workplace and academia. The chapter concludes with a discussion of relationship quality and examples of outcomes from effective mentoring.

Entrepreneurship

Entrepreneurship, most simply defined, is the process of starting a new business; yet, it is also source of technological innovation and creativity that is flourishing at an accelerating pace in the early 21st century (Gartner, 1988; Low & MacMillan, 1988; Shane & Venkataraman, 2000). The essence of entrepreneurship is the creation of new ventures that deliver innovative products and services, generate revenues, and create jobs resulting in long-term economic growth and social value (Baron, 2007; van Gelderen et al., 2008). The term entrepreneurship corresponds to the activities of a founder-entrepreneur-practitioner who represents innovation, learning, and a process of adaptive change in organizational structures and career processes (Kuratko, 2005). Innovation is apparent in the emphasis on

‘design thinking’ and a ‘maker culture’ in entrepreneurship. A goal of innovation is to produce uniquely and value diversity, as opposed to sameness or mass production.

Entrepreneurial activity through new venture creation makes entrepreneurs “a priceless human resource for any society” (Baron, 1998, p. 290). An entrepreneur applies “human creativity, ingenuity, knowledge, skills, and energy to the development of something new, useful, and better than what currently exists, creating social or economic value” (Baron, 2012, p. 4). Success in entrepreneurship should not be reduced to small business creation or economic indicators alone (Neck & Greene, 2011), but should include an entrepreneur’s definition of success. This is as much about the achievement of personally meaningful goals as it is accumulating great wealth or fame. One goal of an entrepreneurial career is the development of one’s potential, or self-realization (Adamson, 1997; Carter, Gartner, Shaver, & Gatewood, 2003). As such, entrepreneurs are intrinsically motivated to pursue autonomy, meaningfulness, and self-growth (Butler, 2000; Franklin, 2013). Vesper (1982) raises the question of how organizations come into existence, and perhaps the next question would be, what role do entrepreneurs play in enabling organizations to come into existence? (Van de Ven, 1980). Morgan (1997) provides a number of metaphors for conceptualizing organizations, and entrepreneurs fit into what he calls a simple structure: informal and flexible, run in a highly centralized way, and ideal for quick changes and maneuvers.

Traits of entrepreneurs.

We have not yet succeeded in defining the entrepreneur (Gartner, 1988). Those who pursue entrepreneurship tend to be risk takers with a competitive nature (Kerrick, 2008). Entrepreneurs have a tolerance for ambiguity, and a preference for shaping their own destiny

(Baron, 1998). It is not a choice for the faint hearted, neither is it characterized by notions of stability, consistency, or predictability (Baron, 2012; Cope, 2005). The word entrepreneur may conjure the vision of a career filled with energy, excitement and innovation, although it may equally be seen as ambiguous, lonely, volatile, exhilarating, and frustrating (Krueger, 2007; Kuratko, 2005; Morris et al., 2013). Entrepreneurs have to be motivated to manage the uncertainty on a day-to-day basis and make things happen in order to generate income (Gibb, 1998). This establishes and reinforces the feeling that total responsibility for the success or failure of the venture rests on the shoulders of the founder. Entrepreneurs can face devastating consequences if the venture fails; yet, we know that entrepreneurs learn to reflect back on these experiences and see the lessons learned, adapt, seek guidance on new ideas, and move onto the next project, known as a serial entrepreneur.

Fortunately, to offset the unpleasant realities, entrepreneurs have high levels of optimism, enthusiasm, energy, and perseverance in the face of adversity (Baron, 2012). Passion is a powerful motivator to convert an entrepreneur's vision into reality. Starting a new business is an emotional rollercoaster with higher highs and lower lows than many other career choices, which makes feelings and emotions highly relevant to entrepreneurship (Baron, 2012). The term *affect* is used to describe the feeling/emotional dimension of entrepreneurial life. Positive affect includes positive moods, feelings, and emotions. These are important in the development of an entrepreneur since emotions and moods have an influence on cognition, and cognition exerts strong effects on emotions and moods. Positive moods also influence creativity (Baron, 2012).

The connection between positive mood states, creativity, and cognition is important to the psychology of entrepreneurship (i.e., the study of the behavioral and mental processes of entrepreneurs). Understanding the psychology of the entrepreneur and the development of positive affect is relevant to entrepreneurship and to building a supportive network of resources and heartfelt connection within community. The benefits of positive affect include increased generation of new ideas, greater confidence and self-efficacy, efficient decision making, and an improved ability to cope with stress and adversity, and the formation of more extensive and higher-quality relationships (Baron, 2012). It is reasonable to suggest that positive and high-quality relationships offer tremendous benefits to the entrepreneur and to the survival and growth of a new business.

Career development.

The process of establishing a new venture is a learning experience (Sullivan, 2000). Entrepreneurs have many options available for personal and professional development, but they must be proactive to drive their career development (Renko, 2012). The pursuit of learning and development makes entrepreneurship a contemporary career that stands in contrast to traditional career development pathways (DiRenzo, 2010; Lawley, 1997). In a contemporary career context, the ability to adapt and be flexible is prized and can shape the direction, potential, and success of an individual career. Entrepreneurship falls within the realm of practice, making it an interdisciplinary career as well. Being self-directed and values-driven seems intrinsic to aspiring entrepreneurs who favor the flexibility and self-expression entrepreneurship affords.

A study done by Lawley (1997) looked at horizontal proficiency rather than vertical competency. She interviewed people who simultaneously operated in multiple careers, those she termed “simultalents”. Her qualitative analysis came from the reflections of these individuals, so called ‘career blenders’ engaged in multiple careers simultaneously, and those who utilize an overlapping set of talents to achieve peak performance in concurrent work activities (Lawley, 1997). Sieber (1974) suggests that certain roles, when done in a supportive environment, actually create rather than drain energy—improving performance.

Using this concept, human energy is seen as a "perpetually renewing resource". An abundant amount of energy is found for things to which we are highly committed, and we often feel more energetic after having done it. Sieber (1974) found that involvement in diverse roles generated rewards that compensated for the tension and conflict associated with these roles. Whenever the benefits of being in a role exceeded the costs, personal energy was produced and self-esteem increased, and “the greater the number of roles, the greater the number of privileges enjoyed by the individual” (Sieber, 1974).

Protean orientation.

Entrepreneurship is a boundaryless and protean career choice as it refers to independent activities such as starting a business, and broader conceptualizations of a work attitude that emphasizes self-reliance, initiative, innovativeness, and risk-taking (Hall, 1996; Hytti, 2010; Mintz, 2003; van Gelderen et al., 2008). Boundaryless refers to non-traditional career moves that involve switching jobs across boundaries and between organizations, sectors, and locations (Arthur, 1994). A boundaryless career emphasizes new career skills and psychological ways of viewing career success (Briscoe & Hall, 2006). More people are

choosing boundaryless careers due to social and economic changes brought about by globalization, changing worker demographics, and technological innovation (Bishop, 2012).

Entrepreneurs have a protean career orientation; they are self-directed, values driven, and responsible for guiding their own learning and development (Anderson, 2000). This orientation is characterized by flexibility, individually defined goals, and encompassing the ‘whole life space’, where the criterion for success is subjective (Hall, 1996, 2004). The measure is derived from one’s field of experience and psychological success, as opposed to the traditional objective measures of success such as salary, organizational rank, or power (Arthur, 1994; Briscoe & Hall, 2006). The protean orientation refers to the mindset of an independent career actor who is driven by core values and whose career planning activities are self-directed (Briscoe & Hall, 2006). Wendt (2015) would posit that we cannot deny the subjectivity of a career actor—a conscious individual—one who carries out career planning activities in a deliberate way (e.g., intentional phenomena).

The “protean mindset” is influenced by a ‘psychosocial developmental’ perspective where individuals construct their career identities as they engage in relationships with others (Erikson, 1963). Being self-directed in career development means seeking help from others, which results in increased levels of social capital. Entrepreneurs are socially situated, thus social capital plays an essential role in entrepreneurial success. Research shows that those who have high levels of social capital can obtain guidance when they need it (Gedajlovic et al., 2013). Deficiencies in social capital may impact the mobility of an individual in a boundaryless career (DeFillippi & Arthur, 1994).

Social capital and networks.

Social capital is a foundational theory of entrepreneurship (Gedajlovic et al., 2013). It is defined as the resources and benefits that are rooted in social relationships (Bourdieu, 1977, 1986; Coleman, 1998; Granovetter, 1973; Nahapiet & Ghoshal, 1998; Portes, 1998). It is a mechanism and a practice to create and sustain resource-producing social capital (Baker & Dutton, 2007). As such, capacity-producing resources are released in the process of interacting, adding value, and building human capital. Positive social capital is not a static entity; it creates value for those in the connection, the wider network and community (Baker & Dutton, 2007). Many opportunities exist for aspiring entrepreneurs to build social capital. Small business development programs offer resources and mentors to help entrepreneurs formulate their early business concepts.

Entrepreneurs develop opportunities in social networks through information gathering, thinking through talking, resource assessing, and interaction with an extensive network of people (Michl, Welpel, Spörrle, & Picot, 2009). Social network connections are a source of mentors and other developmental relationships that can provide access to knowledge and support resources that build social capital (Aldrich & Kim, 2007). Social networks have many intangible benefits including support, advice, encouragement, increased cooperation and collaboration, and trust (Nahapiet & Ghoshal, 1998) and the development of a strategic behavioral orientation (Obstfeld, 2005). Intangible benefits such as these are hard to measure but are highly valued to those that obtain them. It is expected that entrepreneurs with strong social and political skills more easily develop high-quality social and developmental networks (Wang & Chugh, 2014). Establishing strong networks of

developers increases social capital (Higgins & Kram, 2001), accruing benefits such as access to knowledge, resources, support, and encouragement.

A developmental network is a subset of an individual's social network and consists of simultaneously held relationships that the protégé identifies as being important to their career development (Higgins & Kram, 2001). Mentoring is situated within the context of developmental networks (Higgins & Kram, 2001; Kram & Ragins, 2007). Mentoring relationships are social capital because they provide an opportunity to earn relationships with well-connected and successful people who can open doors and get key expertise that would otherwise take much longer to achieve.

Social capital is necessary to extract the benefits from social relationships, yet it is not a sufficient condition for entrepreneurial success. Once access is achieved, the entrepreneur must win the trust, confidence, and support of the people in their network. The quality of these interpersonal relationships will determine which resources they will be able to access. Beyond that, it is the human capital derived from these developmental relationships that contributes to the evolution of the entrepreneur and to the survival and growth of the venture (Davidsson & Honig, 2003; Duffy, 2007).

Bourdieu's theory of practice.

Bourdieu's theory of practice (1977) provides a unifying framework for generating new questions in interdisciplinary career research through incorporating concepts from other disciplines. This theory paves the way for a dialogue around educational practices to best support emerging entrepreneurial careers that cross boundaries, contexts, and disciplines.

In the first edition of his book *Innovation and Entrepreneurship*, Peter Drucker (1985) popularized the notion that ‘entrepreneurship is a practice’. From an educational research perspective, there is a direct link to Bourdieusian sociology and the logic of practice: ‘[(habitus) (capital)] + field = practice’ (Bourdieu, 1986). The logic of practice viewed through the lens of subjectivity research suggests that entrepreneurial practice is enacted in a context (field) along with individual schemata, systems, structures, and personal dispositions (habitus), in interaction with various forms of capital (e.g., human, social, cultural). The entrepreneurial journey can be viewed as ongoing practice, where learning and development remains a focus throughout the career.

Entrepreneurial learning and development.

The next generation workforce is going to be full of entrepreneurs from across social, political, and cultural lines, and continuous learning and development will be required for their success (Morris, Webb, Fu, & Singhal, 2013). Entrepreneurial learning encompasses a broad range of content and tasks (Cope, 2005); is retrospective and experience-based, as well as ongoing and future-oriented (Mezirow, 1997); and is stimulated by both routine and non-routine experiences (Deakins & Freel, 1998; Rae & Carswell, 2001).

Knowles’ (1984) used the term ‘andragogy’ to describe adult learners. Adult learning theories describe the ways in which adults learn. Adults pursue learning on a need to know basis in a variety of settings. As self-directed learners, they will seek opportunities for development and learning regardless of time or place. Transformative learning experiences are associated with momentary perspectives, as described by Rae (2015), and widely referred to as the ‘Eureka moment’ or the ‘A-ha’ that happens at the intersection of human learning

and creativity. Hoggan (in press) defined transformative learning as “a significant and permanent change in the way a person experiences, conceptualizes, and interacts with the world ... to make them more inclusive, discriminating, open, emotionally capable of change, and reflective”. This kind of learning can be an “intensely threatening emotional experience in which we have to become aware of both the assumptions undergirding our ideas and those supporting our emotional responses to the need to change...we have to encounter cognitive dissonance in order to experience transformation (Mezirow, 2000, p. 7). These are examples of learning theories that undergird the ways in which entrepreneurs learn, adapt, and change.

Entrepreneurial learning and development occurs through a variety of mechanisms, which produce different levels of learning, such as reflection-on-learning (Schön, 1983), and situated learning, or how individuals acquire professional skills (Lave & Wenger, 1991). It is reasonable to suggest that situated learning is taking place with entrepreneurs through what is called legitimate peripheral perception (LPP), a way for newcomers to become experienced members of communities of practice (CoP) or collaborative projects (Lave & Wenger, 1991).

In the face of the enormity of their learning task, entrepreneurs can reap greater outcomes by becoming reflective practitioners (Schön, 1983). This involves pausing to reflect on their work (and failure) and the *process* of their work, at regular intervals to see what can be improved, in effect *learning how to learn* from all the events and challenges faced on a daily basis in a startup (Cope & Watts, 2000). Nascent entrepreneurs are more likely to create a firm when they get feedback and learn from their actions over a period of time (Lichtenstein, Carter, Dooley, & Gartner (2007).

Novice entrepreneurs face myriad challenges during the startup phase. This is a particularly difficult and intense period, placing multiple demands on an entrepreneur as they devote grueling hours to the development and growth of their idea. Due to limited resources, aspiring entrepreneurs are responsible for most or all of the basic business development tasks such as developing a business plan, securing financing, refining a new product, finding customers, and marketing activities, among others (Akola, 2006; Radu Lefebvre & Redien-Collot, 2013). They must rapidly acquire knowledge and develop new skills and capacities, then perform them in such a way that makes the venture viable and sustainable (de Clercq & Arenius, 2006). They are literally thrust into the role of CEO with limited training.

Entrepreneurs need to acquire, develop and use a variety of knowledge, skills, and attitudes to successfully manage and grow their ventures. There are five basic learning priorities for the entrepreneur, learning about: oneself, the business, internal or external environments and the entrepreneurial ecosystem, small business management processes, and the nature and management of relationships (Cope, 2005).

Wang and Chugh (2015) discussed the role of entrepreneurial learning (EL) in the organizational learning (OL) and entrepreneurship literature. The authors state, “entrepreneurial learning has become a promising research area with an increasing number of scholarly publications....and a high level of interest in applying experiential and organizational learning theories in the entrepreneurship process rather than building new entrepreneurial learning theory” (Wang & Chugh, 2015). As a result, differences between EL and OL have remained largely unspecified. Entrepreneurs face the challenge of integrating many types of adult learning scenarios (i.e., social, collective, experiential,

transformative, empowerment). Given that collective learning is social and interactive by nature (Capello 1999), entrepreneurial ecosystems are sites of collective activity where individuals interact socially to develop a shared understanding of that activity. Adult learning theorists Merriam and Caffarella (1999) contend, “adult learning does not occur in a vacuum” (p. 22). Entrepreneurs seek mentoring opportunities for the benefit of taking in the wisdom and perspectives of others.

Entrepreneurs may benefit from creativity-based, variance-seeking learning (i.e. exploratory learning), as well as unlearning (Hedberg, 1981). Baron (1998) points out that entrepreneurial thinkers possess a high level of cognitive heuristics and biases, described by Breslin (2011) as “simplified rules of thumb or strategies which entrepreneurs employ as they make decisions in the face of uncertainties” (p. 118). In practice, entrepreneurs may use mental shortcuts to form judgments and make decisions. They learn to use *counterfactual thinking*, a way to imagine alternative outcomes to something that has already occurred—outcomes contrary to what actually happened (Carsrud & Brännback, 2009).

Wang and Chugh (2015) saw a “fundamental paradigmatic shift of entrepreneurship from a static, trait-based approach to a dynamic, learning-based approach...[that] may contribute to a further shift of entrepreneurship into the interdisciplinary arena” (p. 32). Breslin & Jones (2012) present an evolutionary perspective of entrepreneurial learning. An evolutionary approach focuses on *what* evolves and *how* it evolves over time in relation to changes in the environment. Learning behavior is viewed as “experimental trial and error incursions into tomorrow” (Breslin & Jones, 2012, p. 32). Learning is context specific, resulting from the interaction between entrepreneurial behavior and the environment within

which such behavior occurs. The authors suggests that "we must become immersed within the interacting ecological processes related to the entrepreneur, other related stakeholders and all aspects of the environment in question" (Breslin & Jones, 2012, p. 302).

Gartner (1988) argued that successful entrepreneurs develop the skill of learning to learn. This is an interesting argument, with the successful entrepreneur characterized as a more powerful learner or faster adapter than other business leaders. This notion of learning to learn reflects aspects of absorptive capacity (Cohen & Levinthal, 1990), defined as a "set of routines and processes by which firms acquire, assimilate, transform, and exploit knowledge to produce a dynamic organizational capability" (Zahra & George, 2002, p. 186).

As the entrepreneur learns through experience, they also begin to learn the skills of learning itself (Breslin & Jones, 2012). Evidence suggests these higher-level skills are context-specific: the ability to evaluate and utilize knowledge is a function of prior related knowledge; learning becomes more difficult in novel domains (King & Kitchener, 2015).

Absorptive capacity.

Cohen and Levinthal (1990) say that the ability to recognize the value of new information from outside, then to assimilate and apply it to commercial ends is critical to innovative capabilities. This ability is known as absorptive capacity. The level of absorptive capacity is a function of prior related knowledge and diverse resources. Higher levels are linked to innovative performance. The domains of design, engineering, science, technology and art offer informational intersections worthy of further exploration. Dubitzky, Kötter, Schmidt, and Berthold (2012) discuss the concept of 'creative information exploration' based on Koestler's (1964) concept of bisociation. A bisociative mode of thinking makes

connections between previously unconnected matrices or domains of information (Ko, 2004; Koestler, 1964). Creative information exploration seeks to discover new, surprising and valuable relationships. “When two matrices of thought interact with each other, the result is either their *fusion* into a novel intellectual synthesis or their *confrontation* in a new aesthetic experience” (Dubitzky et al., 2012, p. 11, emphasis original).

Creativity and innovation.

Development and creativity are both processes (Sawyer, 2003). The creative process is charged with emotion (Haefele, 1962), yet in large part creativity is about problem solving. New solutions and insights are outcomes of the creative process.

Gardner (1983) organized a large amount of empirical research that found artistic development “a valid and valuable area of cognitive development...to embrace music, dance, athletics...and intrapersonal capabilities” (p. 155). This raises questions about whether a comparable approach could be developed for creativity. Is anything new truly possible? Goswami (2014) puts creative work into two categories: technological invention and a discovery of deeper truths. This suggests a consciousness-based paradigm, a quantum or ‘new science’ view that favors interpretive research into the human condition (Goswami, 2014). Quantum physics is “the physics of possibilities...of meaning, feeling, intuition...you choose everything you experience from these possibilities...understanding life as one long series of choices that are...the ultimate act of creativity” (Goswami, 2014, p. 15).

Having access to a diverse set of individuals and expertise in the network is important to help move ideas forward. Yet, research on social diversity in a group (e.g., race, ethnicity,

gender) has found issues related to lack of trust, concern about disrespect, and difficult communication (Brooks, 2014). Research conducted by Phillips (2014) found,

To build teams or organizations capable of innovating, you need diversity...it enhances creativity...encourages the search for novel information and perspectives, leading to better decision making and problem solving... improves the bottom line of companies...leads to unfettered discoveries and breakthrough innovations...simply being exposed to diversity can change the way you think (para. 2-3).

Entrepreneurial mentoring.

Entrepreneurial mentoring involves a developmental relationship between an aspiring entrepreneur (protégé) and an experienced entrepreneur or ‘developer’ who serves as a mentor (Bisk, 2002). Mentoring is considered the most useful source of general advice for the new entrepreneur (Deakins & Freel, 1998; St-Jean, 2012). Novice entrepreneurs can benefit greatly from having an experienced mentor who has successfully grown a business and overcome the common obstacles faced by startups (Ozgen & Baron, 2007; St-Jean, 2012). It is a channel for new ideas and insights to become embodied in the emerging organization, through individual and organizational learning (Lichtenstein et al., 2007).

Mentoring is a source of professional development for entrepreneurs to enhance entrepreneurial competencies that directly impact business performance (Bisk, 2002; Deakins & Freel, 1998; St-Jean, 2012). Technical and business development support is a common request of aspiring entrepreneurs. This is understandable due to the complexity and range of tasks that they are required to perform, such as business management, marketing, product development, and finance (Loué & Baronet, 2012; St-Jean, 2012). In addition to the acquisition of new skills and practical business knowledge, mentors help novice entrepreneurs avoid the dangers and pitfalls that could result from poor decision-making (Ozgen & Baron, 2007).

Mentorship supports personal growth and development through interpersonal sharing of experiences, strategies, and tactics to cope with failure and learn from adversity. Through exposure to their own hardships and stories of struggle, entrepreneurs become more resilient and better able to succeed in the future. Mentors are often positive role models, inspiring and influencing those around them to emulate the attitudes and behaviors that define their success. Allen (2003) reports the motives that underlie an individual's reason for mentoring. By illustrating what a mentor did in a similar situation, an entrepreneur is able to evaluate, rethink their positions, and make decisions about situations they face in their own startup.

A mentoring relationship is a form of social capital (Gaddis, 2009). Entrepreneurs seek out career development opportunities, such as mentoring, through relationships that are embedded in their social networks (Hall, 2004; Terjesen & Sullivan, 2011). It is unlikely that an entrepreneur will find a single mentor with all the knowledge and expertise they need, therefore tapping their social network may help them find the expertise they seek while establishing more connections within the network. In order to build quality social network connections, entrepreneurs require high levels of emotional intelligence and relational skills to establish effective relationships and generate enthusiasm in others (Baron, 2012). These skills are important to the formation of high-quality relationships since entrepreneurs face challenges to seek out their own career development and opportunities for learning.

Learning and development resources within entrepreneurial ecosystems are more loosely coupled compared to those available through human resources and talent development functions in an organization, which may explain why entrepreneurs have more difficulty finding experienced mentors (Terjesen & Sullivan, 2011). Entrepreneurs are

embedded in a network of people (i.e., family, friends, teachers, advisors) who provide mentor-like support, however they often need to connect with certain types of expertise. There are many ways to locate experienced entrepreneur/mentors: through accelerators, incubators, economic development organizations, startup events, angel investment groups, and early stage venture capital groups. In addition, there are startup business programs that provide mentoring support, which may result in more high-quality startups and persuade more people to enter entrepreneurship (Deakins et al., 1997).

Mentoring support in entrepreneurial context.

Mentoring is provided through different support functions (i.e., career and task-related, psychosocial), which stimulates the learning of novice entrepreneurs (St-Jean & Audet, 2012). As one might suspect, there are differences between mentoring support given and received in an organizational setting and in an entrepreneurial context. In one study, Waters, McCabe, Kiellerup, and Kiellerup (2002) looked at the role of mentoring in a new business startup program and whether the nature of mentoring functions differs from those in organizational contexts. Their findings showed that mentoring in the entrepreneurial context provided higher levels of psychosocial support than career-related support. Johnson and Ridley (2008) would support that perhaps the entrepreneurs in the study had high levels of anxiety and therefore required more personal and emotional support as opposed to practical business guidance. A recent study found conflicting results. St-Jean (2011) explored mentoring functions for novice entrepreneurs and found career-related functions were more important for entrepreneurial learning than psychosocial or role modeling functions (Appendix B).

Two researchers in Canada have conducted three of the very few studies on entrepreneurial mentoring. St-Jean and Audet (2009) studied novice entrepreneurs in a formal mentoring program and, in a surprising finding, found that protégés were indifferent to networking as a consequence of mentoring, and that networking does not influence their level of satisfaction. This leaves the question, how essential is access to the mentors' business network as a mentoring function?

St-Jean and Audet (2012) found that cognitive and affective learning were achieved through mentoring novice entrepreneurs. This study demonstrates a relationship between learning methods and learning context, confirming that certain mentor behaviors contribute to the development of specific learning content. For example, encouragement and modeling help develop affective learning, whereas coaching plays a maieutic role in the learning process. The word *maieutic* means midwife, and refers to a pedagogical method that brings forth new ideas and knowledge through question and answer and interrogation. It is an aspect of the Socratic Method where the respondent formulates concepts based on a logical sequence of questions.

Exploring this concept further, St-Jean and Audet (2013) conducted research about intervention style and found that a maieutic (logical questioning) approach combined with mentor involvement produce the best results. Mentor intervention styles may be considered facilitative and nondirective, collaborative, and instructive or directive. Situations where a mentor is directive and not as involved in the relationship may lead to unintended outcomes, and is potentially toxic (St-Jean & Audet, 2013). Their findings describe the ideal mentor as someone with high involvement and low directivity toward the protégé. The development of

entrepreneurial knowledge and skills during the early years of the business is one of seven variables that can impact the future survival of the business (Gartner, Starr, & Bhat, 1999).

Findings from other studies prompt questions about how entrepreneurial mentoring may differ from workplace mentoring. How do we effectively mentor aspiring entrepreneurs who have unique career needs and face many obstacles on the road to success? To explore these questions further, it is useful to turn to the literature on developmental relationships and how contemporary views of mentoring place emphasis on the positive and relational aspects.

Developmental Relationships

Since a protean career is considered more challenging to manage, developmental relationships provide value to individuals whose learning must be continuous, self-directed, relational, and found in work-related challenges (Rock & Garavan, 2006). Developmental relationships are those that “motivate individuals to learn and grow, expose them to learning opportunities, and provide needed support” (McCauley & Young, 1993, p. 220). Because the term could be used to describe a number of different types of support relationships, there is a need for a distinction among types of relationships.

To clarify how the different terms such as mentoring, coaching, sponsorship, and apprenticeship are used within the literature, D’Abate, Eddy, and Tannenbaum (2003) prepared this taxonomy of characteristics that describe developmental interactions including:

1. Participant demographics;
2. Interaction characteristics;
3. Organizational distance and direction;
4. Purpose of interaction;

5. Degree of structure; and
6. Behaviors exhibited (p. 365).

This taxonomy laid the groundwork, and work by Higgins and Kram (2001) may suggest two additional dimensions: network diversity and relationship strength. Their matrix distinguishes four types of developmental relationships: (1) entrepreneurial: with high network diversity and high relationship strength, (2) opportunistic: high network diversity, low relationship strength, (3) traditional: low network diversity, high relationship strength, and (4) receptive: low network diversity, low relationship strength.

Current thinking about developmental networks broadens the traditional view of mentoring by incorporating a “mutuality perspective” – a way of considering “the viewpoints of all members of developmental networks” not only from the perspective of the traditional beneficiaries of such relationships (i.e., protégés) (Dobrow et al., 2011, p. 2; Fletcher & Ragins, 2007; Higgins, Chandler, & Kram, 2007). A mutuality perspective values diversity and reveals additional benefits that can arise from developmental relationships.

Recent scholarship has inspired a contemporary view of developmental interactions (Chandler, Kram, & Yip, 2011). Relationships with strong interpersonal bonds tend to be characterized by reciprocity, mutuality, and interdependence (Higgins & Kram, 2001; Ragins, 2012). As this literature has evolved it has incorporated the theoretical foundations of positive organizational scholarship (POS) and high-quality connections (HQCs) into the fold of developmental interaction research (Cameron et al., 2003; Dutton & Heaphy, 2003; Dutton & Ragins, 2007; Kram & Ragins, 2007; Ragins, 2012; Stephens et al., 2012). The next sections will briefly describe these two theoretical contributions.

Positive organizational scholarship.

Positive organizational scholarship (POS) is a lens used to study optimal individual states. It emphasizes relational capabilities that exemplify the best of the human condition (Cameron et al., 2003). It is a field of study that looks at “the generative dynamics...that lead to the development of human strengths, foster resiliency, enable healing and restoration, and cultivate extraordinary individual and organizational performance” (Cameron & Spreitzer, 2012, p. 1). The term generative refers to the capacity to create or produce, giving rise to the focus on positive developmental outcomes such as “excellence, thriving, flourishing, abundance, resilience, or virtuousness” (Cameron et al., 2003, p. 4). A POS lens is useful to explore what elevates individuals and organizations to all that is good and inspiring, and enables and facilitates positive phenomena in an organizational context. POS is based on a *eudaemonic* assumption that human beings are inclined to strive for flourishing, happiness, and well-being in their work-related relationships (Cameron et al., 2003).

Positive work relationships imbue those involved with the capacity to create, enrich, energize, produce, or procreate (Dutton & Ragins, 2007). Career development and mentoring are examples of positive human resource development practices (Hezlett & Gibson, 2005). Relational capabilities are the dynamics through which positive outcomes are achieved. Being relationally savvy means having skills that improve one’s ability to form large, diverse, and effective developmental networks (Chandler, 2006; Shen, 2010). Relationally savvy people are more proactive in seeking out developmental opportunities through relationships (Shen, 2010). These individuals apply their skills to the development

of mutually beneficial relationships by engaging in appropriate levels of communication and gestures of gratitude (Chandler et al., 2010).

POS provides the rationale for including high-quality mentoring support relationships as one way to achieve positive learning and development outcomes in the entrepreneurial context. While some may argue that entrepreneurs are primarily concerned with economic outcomes and profitability, these assumptions of *homo economicus* and economic man are not inconsistent with those needed to generate the positive behavioral outcomes that are in the domain of POS (Godfrey, 2012).

High-quality connections.

A high-quality connection (HQC) is a “short-term, dyadic [i.e., between two people], positive interaction at work” (Stephens et al., 2012), which is enacted through the relational dynamics of POS. The positive aspects of HQCs are subjective experiences; known by how the relationship feels for both partners involved and by the beneficial outcomes they produce. The three subjective experiences that determine connection quality are: feelings of vitality in connection and a heightened sense of positive energy, feelings of positive regard, meaning that one feels loved, respected and cared for within the relationship, and a felt sense of mutuality as both partners are fully engaged participants-in-connection in the moment (Stephens et al., 2012).

HQCs have greater emotional carrying capacity that allows for the expression of both positive and negative emotions, higher levels of tensility to withstand strains, resiliency to bounce back after setbacks, and a higher level of connectivity and openness to new ideas and influences (Stephens et al., 2012). The concepts of POS and HQCs are helpful to understand

mentoring and what has influenced the contemporary view, in particular to the formation of high-quality relationships.

Mentoring

Mentoring has been described as the “most intense and powerful one-on-one developmental relationship, entailing the most influence, identification, and emotional involvement” (Wanberg et al., 2003, p. 41). The traditional definition of mentoring is a relationship between an experienced and knowledgeable individual (the mentor) who invests time, knowledge, and effort to provide developmental support to a less experienced individual (the protégé) in order to improve the protégé’s knowledge, skills, and enhance personal and career growth (Kram, 1985; Ragins & Scandura, 1999), and upward mobility (Scandura, 1992). This traditional view is rooted in the workplace mentoring literature. From three decades of mentoring scholarship have emerged contemporary views that suggest a shift from a one-way provider-client relationship to a power free, two-way, mutually beneficial relationship (Dobrow et al., 2011; Fletcher & Ragins, 2007; Ragins, 2005, 2012).

Contemporary view.

This vision of mentoring has emerged with new forms and hybrids of traditional approaches that are relevant to the changing career context. Chandler et al. (2011) propose a shift from thinking about mentoring as solely an interaction between two individuals, to mentoring as a property of whole systems. Thus, it has evolved from an intense, exclusive, multiyear relationship between a senior and junior colleague (Kram, 1983) to one of “developmental networks... [under conditions of] globalization, increasingly diverse workforces, flattened hierarchies, team-based organizations, new technologies, and a

persistently rapid pace of change” (Kram & Ragins, 2007, p. 659). Protégés may initiate multiple relationships (Burlaw, 1991) in effort to network with individuals who have complementary skills; a practice Ensher and Murphy (2005) define as “power mentoring”.

Carraway (2008) has provided perhaps the most modern definition of mentorship: a partnership between two people, where a mentor who possesses a greater level of skill, knowledge, experience and professional relationships works collaboratively with a protégé who is looking to enhance his or her skills, knowledge, experience, and professional relationships, in a mutually beneficial process. Since learning is a proximal outcome of effective mentoring, it is not surprising that it has been recommended as an essential tool for human resource development (HRD) (Hezlett & Gibson, 2005).

Mentoring has a positive influence on an individual’s development and the absence of mentoring is a detriment (Allen et al., 2004; Hezlett & Gibson, 2005). Outcomes associated with mentoring relationships include improved quality of work-life balance and health-related outcomes (Hurst & Eby, 2012). The benefits of mentoring are expected to develop individuals through learning and exposure to high-quality relationships (Levinson et al., 1978). Mentoring has been found to have profound positive outcomes for mentors and protégés and a number of benefits including career advancement, mutual growth, learning, and development in personal, professional, and career domains (Allen et al., 2006; Ghosh & Reio, 2013; Ragins & Verbos, 2007).

The majority of research on workplace mentoring has focused exclusively on protégé outcomes, with much less attention paid to mentors’ or the mentor-protégé dyad (Allen, 2007; Allen et al., 2008; Ragins & Kram, 2007; Ramaswami & Dreher, 2007; Wanberg,

Kammeyer-Mueller, & Marchese, 2006; Wanberg et al., 2003). There is very little research that examines mentoring entrepreneurs who are in the early stages of business development (Bisk, 2002; Deakins et al., 1997).

While a comprehensive overview of the mentoring literature is beyond the scope of this chapter, readers are invited to seek out the excellent summaries that exist in these meta-analyses (see Allen et al., 2004; Eby et al., 2013; Kammeyer-Mueller & Judge, 2008; Noe, Greenberger, & Wang, 2002). While the findings from hundreds of studies help us to understand more about mentoring and improve the conditions under which it takes place, it is helpful for the reader to have some history of mentoring and the metaphorical underpinnings.

History and metaphors.

The seminal works on mentoring began appearing in the scholarly literature in the late 1960s into the early 1980s (Erikson, 1963; Hunt & Michael, 1983; Kram, 1983; Levinson et al., 1978). These scholars introduced the idea of forming an occupational identity and how relationships with others can facilitate this task.

The theoretical foundations for research on mentoring has been drawn from career and life stage theories (Erikson, 1963; Kram, 1983; Levinson et al., 1978), that view mentoring others as a process occurring during the midcareer years when individuals may reassess their career and life accomplishments. Career theory suggests that mentoring others is an important developmental component and that these relationships provide enhancing functions that support psychosocial and career development at every career stage (Kram, 1985). However, there is agreement that the traditional stage models of development no longer describe most workers, and in fact have limited predictive utility in today's rapidly

changing workplace (Chandler et al., 2011; Sullivan, Carden, & Martin, 1998). This suggests the need for additional theoretical models that can explain some of the variance in mentoring behavior in the contemporary career context.

Levinson et al. (1978) are credited for popularizing the topic of mentoring. His description of the typical mentor is an older male of more senior status in the protégé's community, and is experienced by the protégé as "a responsible, admirable older sibling" (Levinson et al., 1978, p. 99). Levinson's work has energized the field by linking mentoring to adult development; however, it is dated by its male-centrism. Anderson and Shannon (1988) reviewed the mentoring literature dating back to Homer's *The Odyssey* and concluded that existing definitions "do not provide what we believe to be the essence of mentoring in light of its etymological and historical derivation" (p. 40). Derived from Homer,

Mentor was an Ithacan noble and trusted friend of Odysseus. He was charged with caring for Odysseus's son Telemachus when Odysseus departed for the Trojan War. Later in the poem, the goddess Athena assumes Mentor's form to guide, protect, and teach Telemachus during his travels. In this role, Mentor and Athena serve as coach, teacher, guardian, protector, and kindly parent.

Mentor shared wisdom, promoted Telemachus's career, and actively engaged him in a deep personal relationship (Johnson & Ridley, 2008, p. xi).

From the time this poem was written in the 8th century B.C., there has been an inherent positive connotation in mentoring, but the phenomenon is not clearly conceptualized leading to confusion about what is being measured or offered as an ingredient in its success. Mentoring appears to mean one thing to developmental psychologists, another thing to

business people, and a third thing to those in academic settings (Merriam, 1983, p.169). The term mentor is an overused word in contemporary culture (Parks, 2000) and it appears to have lost some of the original meaning. The essence of mentorship connotes a relationship that is more than instrumental, whereas in our society so much human interaction is reduced to a financial transaction, says Parks. One can hire a coach or an advisor, but there is no hiring a mentor; it is a unique relationship. There is a “giving of self” on the part of the mentor, and an intent and response on the part of the protégé, and a vulnerability experienced by both that transcends the other categories of relationship (Parks, 2000).

Daloz (1999) identifies a broader, metaphorical definition of mentoring with a conceptual picture that is not typically represented in empirical literature. This metaphorical and archetypal understanding of the word mentor is concerned with the transmission of wisdom. Mentoring can be seen through the metaphor of a journey in which the teacher serves as a guide. The teacher-mentor stands in relation to the learner-protégé who is seen as a powerful ally on the journey. A mentor leads us along the journey, and we trust them because they’ve been there before. Other metaphors that have been used to describe the mentor are: the navigator, the sage, the teacher, and the friend (Scanlon, 2009). Part of the role of mentor is to emphasize positive movement to guide and help protégés imagine what is possible and then move toward it. A mentor alternately supports and challenges a protégé to keep moving towards the goal (Daloz, 1999).

Guiding principles.

A guiding principle of mentoring is to engender trust and listen well. Another is asking questions that move the protégés' reflections to a level where meanings are made. Mentors offer the promise of something greater; a fuller and wiser participation in the world (Daloz, 1999). Mentors and protégés are reflective and growing beings responsive to their own ontology, because for all of us the world is emergent, and teaching and learning are in the end about relationship (Daloz, 1999). What makes a mentoring relationship different or unique from other helpful relationships? The answer to this question may stem from the dynamic between the two partners in a mentoring relationship, the interactions that are influenced by an individual's exchange orientation.

Exchange orientation.

Exchange orientation is a concept that comes out of Social Exchange theory (Homans, 1958), which is half of the theoretical framework for this study. It represents the behavior and beliefs, values, and relationship orientations that an individual associates with a relationship (Thibaut & Kelley, 1959). Because social exchange theory is grounded in the concepts of equity and reciprocity, it provides a reasonable explanation for understanding the process that happens during mentoring. Early research by Ensher (1997) found that social exchanges affect how protégés and mentors progress through each phase of their relationship.

Social exchange theory has been used as a framework in a number of mentoring studies (Eby, Lockwood, & Butts, 2006; Ensher & Murphy, 2011; Young & Perrewé, 2000). Rooted in economics, psychology and sociology, social exchange theory (Homans, 1958; Thibaut & Kelley, 1959) says that behavior in all human relationships is guided by the need

to maximize the likelihood of meeting one's self-interests. An evaluation of the relationship is based on the costs and benefits associated with it, a comparison of alternatives, and through negotiated exchanges between two individuals who have different levels of power, resources, and dependence (Thibaut & Kelley, 1959). A model is useful to simplify the complex relationships between the variables involved in one's exchange orientation.

Young and Perrewé (2000) developed a mentoring exchange model that focuses on the micro-level behaviors enacted by one partner and evaluated by the other as the core framework.

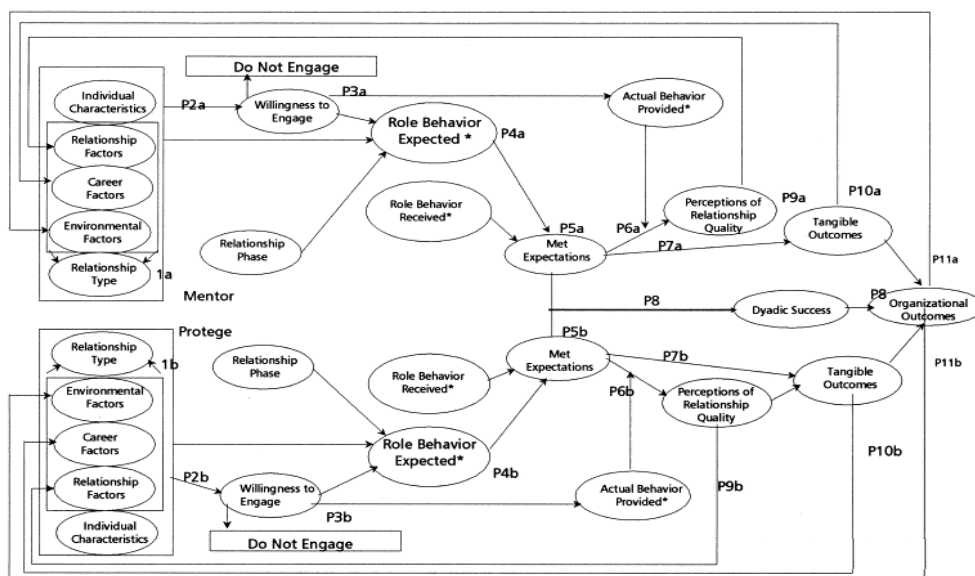


Figure 2.1. Mentoring exchange model (Young & Perrewé, 2000).

The model, shown in Figure 2.1, represents the exchange that takes place in mentoring, from the antecedent factors leading to a mentoring relationship to the exchange of behaviors performed by both partners throughout the mentoring relationship. This model indicates subjective variables (e.g., levels of met expectations, perceived outcomes) as well as tangible outcomes at the individual, dyadic, and organizational level. The model takes

into consideration the cyclical nature of mentoring relationships. This is seen as feedback loops that reflect the impact of prior mentoring outcomes on the antecedent factors, suggesting that the quality of prior relationships has some bearing on future relationships (Young & Perrewé, 2000). The perception of relationship quality is influenced by whether expected role behaviors were met in the actual behavior provided.

In mentoring, social exchange theory focuses on the type of exchange that occurs in a relationship (e.g., instrumental, relational) and how these exchanges might influence behaviors, attitudes, and outcomes of the relationship. For example, Thibaut and Kelley (1959) posit that power and resources are positively and linearly related, and that dependence and power are inversely related. The following sections describe the two approaches to mentoring that are guided by different exchange orientations – instrumental and relational.

Instrumental and relational approaches.

An instrumental approach to mentoring uses a transactional frame and values the relationship for what it can *do* rather than what it can *be* (author emphasis). An instrumental approach relies on exchange norms in the relationship. With exchange norms, partners give to each other with the expectation that they will receive a ‘return on their investment’.

Traditional mentoring is associated with an instrumental approach, where members of the relationship give to each other with the expectation that they will receive something in return (Homans, 1958). This results in expectations on the part of both mentors and protégés in the form of allegiance and other resources (Ragins & Scandura, 1999; Ragins, 2012).

Traditional mentoring suggests a one-sided relationship that leads to instrumental outcomes. The term “Godfather approach” has been used to suggest a patriarchal mentor

who doles out favors and protection and expects allegiance in return (Ragins & Verbos, 2007). In turn, protégés may be advised to use mentors as a career resource and to “trade them in” when a better one comes along.

In contrast, a relational approach is governed by communal norms whereby individuals give to their partners on the basis of need, rather than on the basis of expected returns (Clark & Mills, 1993). A relational approach indicates a different role of power in relationships; to be in “power with” rather than “power over”, which is a typical characterization of hierarchical workplace relationships (Fletcher & Ragins, 2007).

Relational approaches are borne out of relational theory, presented in this study as an alternative model of human growth and development in response to the gendered (i.e., masculine) bias that underpins mainstream theories of development (Gilligan, 1982; Miller, 1976). Relational theory (Miller, 1976) highlights an inner sense of connection to others. It takes into account outcomes and relational practices from prior relationships that are embedded in others (e.g., increased knowledge, competence) (Baldwin, 1992).

Buttner (2001) suggests that the “skills involved in relational practice include: empathy, authenticity, the ability to connect or build relationships with others’ ideas, and openness to being influenced by others’ emotional, physical and intellectual reality” (p. 256). These relational competencies include the capacity to form positive relationships. An individual’s level of self-awareness, empathy, and social skills affect their interactions and thus, impact the quality of their relationships (Kram & Ragins, 2007). Fletcher and Ragins (2007) identify relational skills as vulnerability, empathic and emotional competence, fluid expertise, authenticity and holistic thinking. A relational state can be described as a stance,

point of view, or mode of being that is expressed through relational skills to create relational behaviors and processes that involve interdependence, reciprocity, fluidity, and mutual learning (Fletcher & Ragins, 2007).

It is reasonable to hypothesize that when relational skills and competencies are reflected in the mentoring support provided, it will lead to higher quality relationships. Ragins (2012) adds that high-quality mentoring relationships are based on communal norms and generative processes as opposed to an instrumental approach that favors exchange norms. Relational mentoring calls into question the impact that exchange paradigms and individual exchange orientation have on the state of relationship quality.

Relational mentoring.

Relational mentoring is a theory that gives rise to the positive end of the mentoring relationship spectrum (Ragins, 2005). It is described as the most positive mentoring state (Ragins & Verbos, 2007). Relational mentoring is an “interdependent and generative developmental relationship that promotes mutual growth, learning, and development within the career context” (Ragins, 2005, p. 10). The theory of relational mentoring is set in a normative framework that rests on communal norms and generative processes. Communal norms involve commitment where members give to their partners without the expectation or obligation of repayment (Ragins, 2005). We would expect higher quality relationships to result when both members operate with communal, rather than exchange, norms. Generative processes are those that are capable of producing or creating something, whether it is knowledge, skills, or actions, and for this reason, relational mentoring is an appropriate theory to study developmental relationships.

Ragins' (2012) work on relational mentoring makes the connection between mentoring and the emerging area of positive organizational scholarship (Cameron et al., 2003). There have yet to be any published studies on relational mentoring or Ragins' 21-item instrument, the Relational Mentoring Index (RMI) (Appendix A). This instrument introduces six relational functions of mentoring: personal learning and growth, inspiration, affirmation of ideal, best, and authentic selves, reliance on communal norms, shared influence and mutual respect, and relational trust and commitment. In her remarks about future directions for the instrument, Ragins suggests the RMI could be "tested in conjunction with traditional measures of mentoring roles and functions in order to assess the added variance in outcomes that can be accounted for by an inclusion of measures that tap the characteristics of high-quality relationships" (Ragins, 2012, p. 532). Ragins adds that "although high levels of these functions represent greater levels of relational quality, high-quality relationships may involve more than just these functions" (2012, p. 526). The next section will review traditional measures of mentoring functions and the types of support that are commonly reflected in mentoring relationships.

Mentoring support.

Mentoring support functions are the behaviors and interactions that take place in the relationship to enhance an individual's growth and advancement (Kram, 1985). It is through mentoring functions that mentoring is provided and received. The workplace mentoring literature classifies two mentoring support functions: career development and psychosocial support. Kram's early work specified the career functions as: sponsorship, exposure and visibility, coaching, protection, and challenging work assignments, and the psychosocial functions as: role modeling, acceptance and confirmation, counseling and friendship.

Table 2.1

Traditional Classification of Mentoring Support (Kram, 1983, 1985)

Function	Construct	Description
Career Development	Sponsorship	Recommend protégé for promotions and lateral moves in the organization.
	Exposure-and-visibility	Help protégé cultivate relationships with senior managers and clear a path for protégé's upward advancement.
	Coaching	Expand protégé's knowledge about the organization and offer advice for acquiring important information.
	Protection	Shelter protégé from harmful encounters with senior personnel and intervene on protégé's behalf.
	Challenging Assignments	Provide protégé with opportunities to showcase skills and expertise and demonstrate capabilities.
Psychosocial Support	Role modeling	Display behaviors that protégés can imitate and share stories from experience on how to handle similar situations.
	Acceptance-and-confirmation	Demonstrate positive regard for protégé. Cultivate trust so each feels comfortable taking reasonable risks.
	Counseling	More personal than coaching, provide advice and assist protégé in exploring feelings of doubt, anxiety, and fear.
	Friendship	Develops over time and sometimes allows a hierarchical mentorship to feel more like a relationship between peers.

Table 2.1 shows the nine constructs and their descriptions. It is interesting to note how the career development functions make reference to a workplace career context. This is reflected in the language that refers to organizational career terms such as advancement through promotion, as well as the idea that a mentor protects a protégé, while also seeing to it that the protégé is visible to those in senior positions.

However, Kram (1988) suggests that to develop strong relationships, there is a need for more than the instrumental functions of mentoring. She says,

Relationships that provide [all aspects of mentoring functions] are characterized by greater intimacy and strength of interpersonal bond and are viewed as more indispensable, more critical to development, and more unique than other relationships. However, relationships that provide only career functions are characterized by less intimacy and are valued primarily for the instrumental ends that they serve (Kram, 1988, p. 24).

Types of support in context.

Several studies have expanded Kram's (1983, 1985) two-factor conceptualization of mentoring functions (e.g., career and psychosocial) to include context specific or holistic combinations of mentoring functions (Burlew, 1991; Fowler & O'Gorman, 2005; Rose, 2003; Sands, Parson, & Duane, 1991). While there is a substantial body of research that supports the two-factor concept of mentoring, there are gaps in our understanding of how mentoring support is perceived as effective by particular groups or in different contexts.

Other studies have looked at mentoring functions in different adult learning settings, including organizations (Burlew, 1991; Fowler & O'Gorman, 2005), entrepreneurship (Deakins et al., 1997; St-Jean, 2011) and higher education (Anderson & Shannon, 1988; Rose, 2003; Sands et al., 1991). These studies lack agreement about the number of different factors that exist as the functions of mentoring. They range from three- (Rose, 2003; St-Jean,

2011), to four- (Sands et al., 1991), five- (Anderson & Shannon, 1988), and eight- (Fowler & O’Gorman, 2005) factors. Eby, Allen, Evans, Ng, and DuBois (2008) put forward the idea that mentoring at different developmental stages tends to serve different functions or purposes. Academic mentoring tends to target student retention, academic performance, and adjustment to college life (Jacobi, 1991), while workplace mentoring assists in employees’ personal and career development as well as organizational aims (Kram, 1985).

Two examples from the academic context include Anderson and Shannon (1988) who identified five key functions of a mentor: teaching, sponsoring, encouraging, counseling, and befriending, and Sands, Parson, and Duane (1991) who studied faculty-to-faculty mentoring and found four factors: friend, career guide, information source, and intellectual guide.

Fowler and O’Gorman (2005) found eight factors in the organizational context: personal and emotional guidance, coaching, advocacy, career development facilitation, role modeling, strategies and systems advice, learning facilitation, and friendship. These findings stand out as progressive because they include ‘learning facilitation’ and ‘strategies and systems’, which are contemporary to findings in previous studies. The instrument that was used by Fowler and O’Gorman, and the factor analysis results are in Appendices C and D. The increasing number of studies on mentoring suggests a multidimensional phenomenon, one that warrants further exploration (Rose, 2003; Williams & Blackburn, 1988).

The organizational research on gender-related differences in types of mentoring support received found that female protégés receive more psychosocial support, while male protégés received more career-related support (Allen & Eby, 2003; Ragins & McFarlin, 1990) and that psychosocial functions are more common when a female mentor is involved,

particularly with a female protégé (Fowler, Gudmundsson, & O’Gorman, 2007). However, the effects of gender appear to be limited to only a few mentoring functions such as personal and emotional guidance, career development facilitation, and role modeling functions (Fowler et al., 2007). Fowler and O’Gorman (2005) found that the protection function identified by Kram (1983) might no longer be relevant in the current work environment.

Eby et al. (2013) conducted a meta-analysis of 173 studies. In their framework, they do not use the term ‘career development’, rather they refer to ‘instrumental’ support to describe behaviors geared toward protégé goal attainment (e.g., task related assistance, sponsorship, exposure-and-visibility, and coaching) and ‘psychosocial’ support to refer to behaviors that enhance competence and facilitate personal and emotional development (e.g., counseling, unconditional acceptance, encouragement, and role modeling). Concrete instrumental help is one of the most cited functions of mentors and is considered a tangible and practical outcome of mentoring (Daloz, 1999). Psychosocial support is thought of as intangible, and less directly measurable than instrumental support (Waters et al., 2002).

In the broadest sense, mentoring functions describe patterns of behavior—those that are observable, learned in previous relationships, and dynamic rather than static. Certain patterns of behavior characterize effective relational practices and can lead to changes in mental models (i.e., thought processes) that drive future patterns of behavior (Sostrin, 2008; Young & Perrewé, 2000). Mentoring functions can also be thought of in holistic combinations, as in Burlew (1991) who describes three types of mentors (a) Training Mentor—provides on-the-job training to master job skills in the protégés current role, (b) Education Mentor—engages in activities to prepare the protégé for a new position, makes

connections, and helps to problem solve, and (c) Development Mentor—a futurist and a guide toward a more fulfilling life and for the self-actualization of the protégé.

The researcher selected ‘relational’ mentoring as a third category of support for this study. In addition to what we already know about instrumental and psychosocial support, relational mentoring reflects mutually beneficial and positive relationships. From a holistic perspective, the reach of relational mentoring may extend beyond the workplace to influence the quality of life in the non-work domain with family, friends, and community. Relational approaches to mentoring may predict intangible outcomes such as life satisfaction, physical and psychological health, balance, and well-being (Franklin, 2013). While a substantial body of research supports the two-factor concept of mentoring functions, there is a question of whether this holds true in the context of entrepreneurship. There are theoretical and practical implications of understanding how instrumental and psychosocial support interface with relational support, and adapt to contemporary career settings such as entrepreneurship. As relational mentoring reflects a mutually beneficial relationship, it is helpful to understand how quality in mentoring relationships is described in the literature.

Satisfaction and relationship quality.

Mentoring scholarship has shown that the quality of a mentoring relationship falls along a continuum of satisfaction from highly satisfying on one end, to marginal at the midpoint, to highly dissatisfying (negative or dysfunctional) at the other (Ragins, Cotton, & Miller, 2000). Marginal relationships are a by-product of traditional mentoring (Ragins et al., 2000), and dysfunctional mentoring relationships may be more common than has been represented in the literature (Lunsford, 2014). Satisfaction with a mentoring relationship can

vary significantly, which is indicative of variations in behaviors, interactions, and outcomes involved (Eby, McManus, Simon, & Russell, 2000). Research has shown a difference in the perceptions of relationship quality between mentors and protégés (Chao, 1998). One of the common pitfalls of mentoring research is the inability to validate one mentoring partner's perceptions with the others. The congruence, or agreement, of expectations in the relationship may play a role in the development of high-quality connections (Ragins & Verbos, 2007). This is reflected in how it feels for both people, and the beneficial outcomes produced (e.g., advice, thoughtfulness).

A high-quality mentoring relationship is a trusted and growth-fostering personal relationship where questions, discussions, and knowledge flow back and forth between the two members. These relationships have resource-producing capabilities and assets of trust, confidence, affirmation, energy, and joy (Baker & Dutton, 2007) and exemplify relatedness, reciprocity, interdependency, and mutuality (Huston & Burgess, 1979; Ragins, 2012).

Outcomes of high-quality mentoring.

Those who experience highly satisfying mentoring have more positive outcomes than non-mentored individuals (Ragins et al., 2000). This makes one better equipped to mentor others due to the wider social network, access to resources, and greater desire to engage in this type of relationship (Allen, Poteet, Russell, & Dobbins, 1997).

One question raised by this research is whether the exchange orientation of the mentoring partners impacts how each perceives the quality of the relationship. Although many relationships end on mutually agreed terms, sometimes they convert to informal/peer relationships or may end over negative situations where parting is on less amicable terms.

Chapter Summary

This chapter summarized select literature across several disciplines: entrepreneurship, management, career development, human resource development, psychology, leadership, and vocational behavior. It explained the importance of studying entrepreneurs by highlighting their unique career development needs, and presented some background on the history and practice of mentoring. The chapter described exchange orientation and how it operates in mentoring relationships, and concluded with a discussion of relationship quality and examples of outcomes of high-quality mentoring relationships found in the literature.

Chapter Three: Methodology

Introduction

This study explored the viewpoints of 46 aspiring entrepreneurs who were engaged in mentoring relationships and who were located in and around the Research Triangle Park (RTP) region of North Carolina. This area is known as “The Triangle” and anchored by the cities of Raleigh, Durham, and Chapel Hill. The RTP is home to several major universities, numerous high-tech companies, and an educated workforce. The region is an attractive work destination with a supportive environment for young entrepreneurs who desire to start new ventures. In 2015, Raleigh was named one of “America’s Most Innovative Cities” because of the strength of funding, innovation and startup activity, such as opportunities for networking and mentorship (Miller, 2015). The capital city, Raleigh, has a lower cost of living than traditional entrepreneurial hubs such as Silicon Valley and Boston, and in 2014 was in the top 10 cities for Job Creation Index scores (Jones, 2015). Through targeted networking, the researcher had access to this population and used a research design that could capture the unique perspectives of this active community.

Q-methodology was the tool of choice to study entrepreneurs’ viewpoints of effective mentoring support. The chapter opens with a description of Q-methodology, details of the steps in the method, the pilot study done to develop the concourse, and the table of 50 statements used in the card sorting activity. There is an in-depth description of the data collection and factor analysis techniques. The chapter concludes with comments about the validity, reliability, and limitations of the study, a subjectivity statement from the researcher,

and ethical considerations. Readers can refer to Chapter One for a definition of the terms used in this chapter (see pp. 27-29).

Overview of Q-Methodology

William Stephenson introduced Q-methodology in his 1935 letter to the journal *Nature* (Appendix V). Q-methodology permits an exploration of human thought and behavior through the study of subjectivity. The purpose of Q is to enable participants to express their subjective viewpoints in such a way that they “can be quantified and held constant for inspection and comparison” (Brown, 1997, p. 8). There is movement toward research methods that “bring the subject back in” (Wendt, 2015), after neglect of subjectivity.

Subjectivity underlies human thought as it is expressed through an individual’s values, attitudes, beliefs, feelings, and opinions, yet this is not to leave the impression that subjectivity is in one place and thought in another. It is the “condition of viewing things exclusively through the medium of one’s own standpoint or situation” (Stephenson, 1981, p. 73). Since it is one’s “point of view ‘in the moment’ relative to a topic, stimulus, or situation; it is conscious, behaved, and lived by individuals and is therefore amenable to querying” (Robbins & Krueger, 2000, p. 642).

Quantum theory of subjectivity (Stephenson, 1988) is not just another analogy (Brown, 1992). Stenner (2009) wrote about the parallels between the work of Stephenson and Whitehead, revealing efforts to move beyond Newtonian science to quantum theory, the importance of feeling to scientific reality, and complexity as a central concept in the rethinking of causality. Stenner went on to say,

Their aims to integrate different sciences, from physics to psychology and sociology; their sensitivity to multiplicity of perspective; their insistence on the real importance of value to existence; their foregrounding of the centrality of interpretation to science; and their re-thinking of the pervasive subject / object duality along lines suggested by William James (Stenner, 2009, p. 3).

Watts and Stenner (2013) describe the mathematical connection between quantum theory and factor analysis. Burt (1958) says, the factor analysis used in Q-methodology has many details of the type of mathematical argument, which the psychological factorist has developed, and it is almost exactly the same as that which is employed by quantum physicists. Stephenson (1988) felt that Q-methodology offered a real opportunity to carry out psychological and social scientific experimentation in the quantum image. This ‘quantum stuff’ refers to a collection of self-referential statements, which the sorter alters systematically to produce a Q sort. The quantum theory of subjectivity works in tandem with concourse theory that informed the development of the final statements used in card sorting.

Concourse theory.

One defining feature of Q-methodology is the concourse development phase. This refers to the compilation of a large body of statements that reflect a wide variety of opinions and beliefs about a topic. An important detail is that statements in a concourse are subjective opinions as opposed to irrefutable facts. It is guided by a theory called the concourse theory of communication (Stephenson, 1978), which says that there is a “flow of communicability surrounding any topic” (Brown, 1993, p. 94). The lived experience of people is the raw material of any concourse, and it represents everyday conversation about beliefs and feelings

relative to the topic. A concourse should be composed of as many possible viewpoints of the topic, which is why it is synonymous with the term population (van Exel & de Graaf, 2005).

While not considered a mainstream research methodology, Q is increasingly being used in the social sciences. Q-methodology resists traditional classifications (e.g., positivist, interpretivist, quantitative, or qualitative) (Brown, 1993; Watts & Stenner, 2012), yet it is considered systematic, rigorous, and “a ‘whole’ methodology with distinct techniques, procedures, processes, and epistemological assumptions” (Janson & Militello, 2013, p. 2). Interpretivist researchers are comfortable with the qualitative and naturalistic aspects of Q (Brown, 1999, 2006). Although some scholars call it a mixed methods approach (Franz, Worrell, & Vögele, 2013; Newman & Ramlo, 2010; Ramlo (in press)), it is a methodology in its own right (S. R. Brown, personal communication, 6 April 2014). It has been used in a number of contexts, such as the evaluation of non-traditional development of collective leadership (Militello & Benham, 2010). It is suitable for exploratory research and for use with small sample sizes (Brown, 1993). A Q study may have between 40 and 60 participants (Stainton Rogers, 1995); however effective Q studies can be carried out with fewer participants. Studies that use more than 50 participants are considered extensive (McKeown & Thomas, 2013).

Data collection.

Q-methodology is often carried out with two primary forms of data collection, a card sorting activity (the Q sort) and post-sort questionnaires or interviews with participants (Stainton Rogers, 1995; Wolf, 2014). The Q sort involves participants sorting a set of statement cards (the Q sample) drawn from the larger concourse of possible opinions,

feelings, or beliefs about a topic. It is important to have a sufficiently large Q sample of 40-80 statements to ensure the representativeness of the concourse (Stainton Rogers, 1995).

The Q sort activity gives participants an opportunity to reflect on the items in the Q sample to consider what they value, how they prioritize thoughts and beliefs, and how they represent their point of view. The Q sorting process runs parallel to thought itself (S. R. Brown, personal communication, 6 April 2014).

Condition of instruction.

Prior to the participants sorting through the statements, they are given a specific frame of reference called the ‘condition of instruction’. The condition of instruction is a direction from the researcher that helps the sorter think about each statement card relative to the others. For example, in a Q study of student’s views of graduate school, the condition of instruction might ask students to sort the cards based on those “most like their view” to “most unlike their view”. The condition of instruction guides the placement of the statement card on a distribution grid that is used for scoring (Appendix F). The condition of instruction must be unambiguous enough to allow the participant to sort the cards “along a single, face-valid dimension, such as most agree to most disagree” (Watts & Stenner, 2012, p. 53) (e.g., +5 to -5). Sorting involves participants comparing two or more options and picking the one that is most preferred (sometimes called a "forced choice" scale). This process continues until all statements are sorted into the distribution grid.

The researcher printed the grids out in black on white glossy posters sized 18”x36” that were taped down on the table surface to save time over needing to set out the column headers. The use of the posters established the area of the distribution with the number of

columns and rows, and saved time over other methods. The researcher was able to collect eleven Q sorts in one day and have one-on-one discussions with participants afterward. Photos were taken of the finished posters and uploaded to secure file storage online. The researcher used the images to confirm what was scored and entered for analysis.

Data analysis.

To quantify participants' viewpoints, Q-methodology employs factor analysis, although it is different from the way factor analysis is applied when processing variable data from tests or questionnaires. Such instruments aim to measure individual traits, qualities, or attitudes (e.g., emotional intelligence, personality factors) of which the study participant may have little conscious awareness. In contrast, Q allows us to understand an individual in terms of their association with a particular factor (Watts & Stenner, 2012). It is important to state that demographics are relatively meaningless in Q studies because they are not causally connected to the coherence of a factor.

By-person and by-variable factor analysis.

The approach taken in Q analysis is called *by-person* factor analysis, which can be thought of as an inversion of the traditional *by-variable* factor analysis known as "R". While R factor analysis is used to study individual differences between people in relation to specific psychological traits, Q factor analysis uses correlation to quantify the viewpoints of persons as represented by the variation seen within the population of statements. The resulting Q factor analysis identifies clusters, or factors, of people who share common viewpoints in relation to the statements (Pruslow & Red Owl, 2012). By looking at how the dataset is structured for R and Q, the differences between the two are easily identified (Table 3.1).

Table 3.1

Differences in structure of dataset for R (top) and Q (bottom)

Person	Test 1	Test 2	Test 3	...Test n
1				
2				
3				
4				
...n				

Statement	Person 1	Person 2	Person 3	...Person n
1				
2				
3				
4				
...n				

The example dataset for R factor analysis, at the top, has individual cases (persons) by row and variables (tests) represented in the columns, while the dataset for Q, at the bottom of the figure, has variables (statements) in the rows and persons (Q sorts) in the columns.

R factor analysis is commonly applied to data from surveys or questionnaires that can be described by statistical means and represented by interval data that allows the comparison of scores. In Q, there are no evaluative attributes as in conventional assessment. When data is collected through surveys, participants are measured passively; however in Q the participant has an active role in scaling the variables in an individualized way through the card sorting process (Woods, 2012). The next section will provide an overview of the research design for this study and will go on to fully describe each step in the process.

Research Design

This Q methodology study was conducted in six stages: (1) building a collection of statements, called a concourse; (2) culling a representative sample of statements from the concourse, called a Q sample; (3) selecting participants, called a P sample; (4) facilitating card sorts with participants, called a Q sort; (5) analyzing the data; and (6) interpreting the results (van Exel & de Graaf, 2005). This study had additional steps in data collection and analysis: a post-sort questionnaire and in-depth interviews with affinity groups. The following sections describe each of the six stages in detail.

Concourse development.

There are many ways to put together a concourse (Brown, 1991/1992). The concourse for this study was compiled in the most typical way for a Q study, by interviewing people and recording what they say, and through an analysis of scholarly literature, online news items, and government publications. Over the course of a year, the researcher conducted a literature review to identify the gaps in the literature around effective mentoring support for entrepreneurs, and to locate other studies with a similar focus on entrepreneurial learning and development. While mentoring for career development has been addressed in a substantial number of studies in both organizational and academic contexts spanning several decades, mentoring in the entrepreneurial context has received almost no attention. An extensive amount of literature was reviewed to inform the background for the study and the literature review, and served as a reference for developing the concourse and Q sample. The researcher went through several iterations of keyword searches in this process.

First, a keyword search of the university's online databases (ERIC, Business Source Complete and Academic Search Complete) was conducted. Close to 120,000 results were returned for the term *entrepreneur*, and close to 30,000 results were returned for the term *mentoring*. When both keywords were entered as *entrepreneur mentoring* the results decreased substantially to 622. When a third keyword *relationship* was added, there were 103 results. Finally, with a fourth keyword *support* added, the results decreased to just 22. Most of these results came from handful of authors who have published studies on mentoring for novice entrepreneurs within the past five years (St-Jean & Audet, 2009, 2012, 2013; St-Jean, 2011, 2012; St-Jean & Tremblay, 2010). This search established the presence of a gap in the literature and the scant findings provided suggested areas for research, such as looking within the "black box" of entrepreneurial mentoring (St-Jean, 2012).

Several additional keyword phrase searches were conducted using Google Scholar, Web of Science, and ProQuest databases for the terms entrepreneurial learning, developmental relationships, positive organizational scholarship, high-quality connections, mentoring functions, mentoring theory, mentoring behavior, and Q methodology. This approach returned vast amounts of results that were systematically narrowed using inclusion criteria. For each keyword phrase, the researcher downloaded results that met at least one of the following criteria: (1) those with the keyword phrase in the title or abstract, (2) those having a high number of citations, or (3) those from high impact factor journals with the most recent publication dates. From this process, several hundred peer-reviewed articles and dissertations were downloaded in searchable pdf format.

Literature organization.

The researcher organized the articles in order by author and year into sub-topic folders (i.e., Mentoring General, Entrepreneur General, and Q-Methodology). The researcher previewed each article one by one conducting a visual scan of titles and abstracts to highlight concepts and keywords. The research that stood out in relation to the topic and keywords were noted in an Excel document along with the findings in brief. The reference lists of these studies were also searched for connected streams of literature. Frequently cited seminal works found in textbooks were requested from the university library and scanned into computer searchable pdf documents.

The volume of literature spanned several hundred searchable digital documents. The researcher uploaded the pdf into the qualitative analysis software NVivo®. The researcher used this software as a tool to search through select literature using the ‘text query’ feature honing in on the keyword phrases to identify relevant findings that were to be included in the literature review. In the first outline of the concourse, the researcher compiled preliminary set of constructs related to mentoring support from instruments developed in previous studies (see Appendices A, B, C, and D).

The initial statements for the concourse were extracted from a variety of online news features, articles, weblogs, social media, LinkedIn groups, and other sources that aggregate current news, events, and features on entrepreneurship. The goal in doing this was to ground the concourse in the language of current practice over less friendly academic jargon. In addition, the researcher compiled statements taken from print sources, such as brochures, trade magazines, and other grey literature. The most relevant and current articles gave a

snapshot of the learning and development language that was being used in the startup community. Examples from this initial search included phrases that were related to types of mentoring support that appeared repeatedly as themes throughout popular literature, such as “access to resources”, “support and guidance”, “feedback on pitch”, and “advice about work-life balance”. The researcher gathered the statements over a period of several months. The initial list of statements contained 350 items with many redundant concepts. While the statements reflected mentoring support for entrepreneurs, it was important to speak with entrepreneurs who had been mentored to see what else might emerge.

Pilot study to inform concourse.

Brown (1980) suggests the primary technique for concourse development is through naturalistic inquiry, and as such, the researcher conducted a pilot study by interviewing individuals who had several years of experience in entrepreneurial mentoring, both as a mentor and a mentee. The pilot study was IRB-approved and took place during the summer of 2014. Twelve one hour-long interviews were conducted with both male and female entrepreneurs and mentors to get diverse insight into the topic. Participants were selected for the pilot study using a convenience sampling of key contacts made by the researcher during well-attended networking events and through university liaisons. Individuals were selected based on their self-reported experience of either being mentored as an entrepreneur, or an experienced entrepreneur currently serving as a mentor.

The sample included two men and ten women. The racial-ethnic profiles of the ten women were seven Caucasian, one Native American, one Hispanic, and one African American. The two men were Caucasian. The analysis identified the participants only by

number. The interview protocol asked how mentoring helps startup entrepreneurs, what is effective mentoring for entrepreneurs, and what exemplifies positive and high-quality mentoring relationships, in the experience of the interviewee. The researcher transcribed the 12 interviews and uploaded the documents into the qualitative software NVivo for coding.

The process of analyzing the pilot data began as the interviews were transcribed. The researcher listened to each interview twice to establish accuracy in the transcription, and then did a general reading followed by a careful, line-by-line, close reading (Geertz, 1973). During this process, the researcher wrote memos in a research journal (Strauss & Corbin, 1998), to record impressions and insights, to which she referred over the course of the analysis. In the close reading, several themes and patterns began to emerge as the researcher interacted with the interview data. A codebook was developed from this inductive process, which was also informed by previous findings from the literature. The researcher focused on action verbs that indicated supportive behaviors used in mentoring, with a focus on specific words that were relevant to the entrepreneurial context. Coding categories were developed, such as “coaching”, “making introductions”, “sharing alternative perspectives”, and “establishing trust”. Using this process, the researcher extracted 305 unique statements from the 12 interviews into an Excel spreadsheet, and each statement was noted along with the participant number source(s). The final Q sample table (see Table 3.2) shows the participants who mentioned the statements along with the scholarly citations.

Combining the initial list and interview statements, a total of 655 statements were generated during this phase of concourse development. Every statement was printed out on a small square, and taped to individual post-it notes for further grouping into categories. The

post-it notes were first sorted into broad categories that emerged in the process of initial coding (i.e., types of support, program related, outcomes, structure, best practices, and preferences). The categories were further refined through several iterations, making notes of statements that did not seem to fit into existing codes. There was considerable repetition and redundancy among the statements in the concourse. Any statement not directly related to effective mentoring support behaviors (e.g., program design, structural guidelines) were removed from the list.

Work on the concourse took several weeks, as the researcher revisited the literature to compare the findings emerging from the interviews to existing frameworks that could inform the final Q sample (Fowler & O’Gorman, 2005; Ragins, 2012; St-Jean, 2011). The researcher was vigilant with the statements’ verbs and nouns to combine similar phrasing and differentiate concepts. For example, item 14 “helping me learn and grow as a person” refers to the overall improvement in personal capacity, whereas item 25 “being encouraged to grow and develop myself” refers to specific coaching and encouragement behavior. Some items from conventional rating scales were adapted for this Q sample, as per McKeown and Thomas (2013); however the researcher did not wholly use items from any particular framework. The researcher made an effort to remain faithful to the natural phrasing and language of the pilot interviewees’ responses and tried to avoid the use of double-barreled statements that conflated two ideas. After the concourse was refined to 200 statements, it was printed out again and cut into thin strips and arranged according to the main categories that emerged in the coding process and had been reflected in findings from prior studies on mentoring support. The selection of the final Q sample will be explained in the next section.

The process of reducing the concourse to a representative Q sample in this study was informed by three mentoring support constructs found in the literature. The terminology used in Eby et al.'s (2013) meta-analysis classifies the two types of support provided in a mentoring relationship as instrumental and psychosocial. This does not preclude the notion that there may be additional mentoring functions to emerge from the findings in this study. The process for statement development was inductive, and the process for reduction to the Q sample was assisted by prior empirical findings. The researcher chose to use Eby and colleagues (2013) term 'instrumental' instead of Kram's (1985) term 'career development', as it is more appropriate to the entrepreneurial context where instrumental support applies to practical business development as well as protean-career learning needs of the entrepreneur.

The researcher had to make a decision about which constructs would form the Q sample structure of mentoring support in this study (see Table 3.1). The final selections were adapted from Eby et al. (2013) who describe instrumental support (e.g., task related assistance, sponsorship, exposure-and-visibility, and coaching) and psychosocial support (e.g., counseling, unconditional acceptance, encouragement, and role modeling), and also from Fowler and O'Gorman (2005) whose eight factors include personal and emotional guidance, coaching, advocacy, career development facilitation, role modeling, strategies and systems advice, learning facilitation, and friendship. The constructs were reworded for appropriateness in the entrepreneurial context, and were compared to the findings from St-Jean (2011, 2012) and St-Jean and Audet (2009, 2012, 2013), which were the primary studies of mentoring support for entrepreneurs. As a result, any organizational references (e.g.,

career advancement and promotion, job performance, internal politics, passing down information from higher levels, etc.) were removed.

Several pilot interviewee statements reflected the contemporary view of mentoring as positive, mutually beneficial, and reciprocal relationships. This theme emerged, and as a result, Ragins' (2012) relational mentoring offered the language that echoed what these participants' had to say about effective mentoring support. Six constructs from the Relational Mentoring Index (Appendix A) were added: personal learning and growth (PLG), inspiration (INS), affirmation of ideal/best/authentic selves (AFF), reliance on communal norms (RCN), shared influence and mutual respect (SIR), and relational trust and commitment (RTC).

The Q sample structure displayed in Table 3.2 shows the three types of mentoring support that the researcher selected to explore in this study: instrumental, psychosocial, and relational, organized into fourteen constructs with related codes, and the number of statements from each construct, for a total of 50 statements. The Q sample is divided roughly into thirds, with one-third representing each instrumental, psychosocial, and relational.

When adapting the construct categories from Eby et al. (2013) it was necessary to reword these from the workplace to an entrepreneurial context, and it became clear that the construct labels should change. For example, Eby et al.'s instrumental support includes task-related assistance, sponsorship, exposure-and-visibility, and coaching. From the findings in St-Jean (2011), I grouped sponsorship and exposure-and-visibility into a category called connection and advocacy (CON).

Table 3.2

Q Sample Structure

Type	Code	Construct	Number of statements
Instrumental INST	TRA	Task-related assistance	4
	CON	Connection and advocacy	4
	LFAC	Learning facilitation	4
	COA	Coaching	4
Psychosocial PSYCH	COU	Counseling	4
	ACC	Acceptance	4
	ENC	Encouragement	3
	RM	Role modeling	5
Relational RELA	PLG	Personal learning and growth	4
	INS	Inspiration	2
	RCN	Reliance on communal norms	3
	SIR	Shared influence and mutual respect	3
	AFF	Affirmation of best/ideal/authentic self	3
	RTC	Relational trust and commitment	3
Total number of statements in Q sample			50

Sponsorship entails a mentor who supports a protégé for promotions or other job opportunities, which is a workplace-related concept. It would be reasonable to suggest that sponsorship for entrepreneurs may involve financial investment.

In addition, exposure-and-visibility is when a mentor assigns challenging tasks and responsibilities to a protégé that will increase the protégé's profile and professional network through the development of relationships with key members in an organization. In entrepreneurship, these two aspects of support translate to making targeted and purposeful connections to network expertise, exercising influence, and making recommendations to others in the network, thus connection and advocacy seemed to represent the entrepreneurial

context more accurately. I also added an instrumental support category called learning facilitation (LFAC), which is a construct taken from Fowler and O’Gorman (2005) that contained the important learning and reflection dimension reflected in the pilot interviews.

The researcher made choices about the final terminology and constructs to be used in the Q sample, as well as how best to represent the scope of communication from the pilot study interviews. A systematic comparison to the literature guided the reduction of the 655 concourse items to the 50-item Q sample. The researcher made every effort to balance the Q sample across the theoretical constructs. The following section speaks more in-depth about the Q sample and provides a complete list along with codes and sources for each statement.

Q sample.

Generating the Q sample may be the most challenging part of the method (Brown, 1991/1992). The researcher refined the concourse by identifying statements to represent the categories that emerged in coding. To make the concourse manageable, it was necessary to reduce the statements (Stephenson, 1978). It is less likely that study participants will have difficulty in the sorting task if the sample has been balanced in some way.

One way to build rigor into the study is to pilot test the Q sample in order to make any changes or additions prior to the study. Pilot testing may improve the accuracy and clarity of statements to be used in data collection, however it is not a necessary step in Q methodology as Q statements are not scale items. The researcher sent an Excel list containing the initial 50 statements via email to a group of 20 educators, entrepreneurs, mentors, and practitioners with a request to provide feedback. The email asked testers to consider four questions and make any comments in columns provided on the spreadsheet:

1. Are the statements understandable and worded clearly?
2. Are there any statements too similar in nature that should be combined?
3. Are there any statements that you would remove from the list?
4. Are there any statements that you would add to the list?

The researcher got feedback from 10 pilot testers. One statement that received criticism was “I am under my mentoring partner's wing in a nurturing, parental way” was reworded to “being taken under my mentor’s wing in a nurturing way”. The researcher felt it was important to keep this statement, as it reflected an important aspect of gender in mentor roles (Ragins & McFarlin, 1990) and it was mentioned by three of the pilot study interviewees. Most of the testers’ comments had to do with similarity between some statements, but also with the recognition that the nuances were important, for example “asking questions that challenge my assumptions and thinking” and “challenging me to move my vision and ideas into action”. The first statement refers to challenging one’s thinking, and the second challenges one to turn their vision and ideas to action. The researcher reworded some the statements after careful consideration of feedback from pilot testers.

At the 2014 Q-Methodology Conference held in Salt Lake City, Utah, USA, three leading Q-methodology scholars gave an informal review of the Q sample and made suggestions about how to improve phrasing of the statements. In the first iteration of the Q sample, the researcher started every statement with, “My mentoring partner...”, which was discouraged by the scholars. The researcher reworded the final statements to sound more natural, conversational, and capture the emotional state of the participants (Table 3.3).

Table 3.3

Q Sample Statements

Card	Statement	Sources
1	being mentored by an authority, someone in a higher position	Fiske, 1992, P 6,8,9
2	being confidential and protecting my privacy	Moberg & Velasquez, 2004; P 4
3	bringing out the best in me	Ragins, 2012
4	learning about my strengths and weaknesses	Ragins, 2012
5	feeling comfortable disclosing things about myself	P 2,4,6,7,10
6	having skills in specific areas that I want to develop	Fowler & O’Gorman, 2005; P 9
7	getting together socially to share an occasional drink or a meal	Fowler & O’Gorman; 2005, Rose, 2003
8	being committed to the mentoring relationship	Ragins, 2012
9	reflecting on my learning to adjust future decisions and actions	Deakins & Freel, 1998, Schön, 1983
10	spending time together to build rapport	P 2,3
11	sharing experiences of mistakes/ failures to illustrate learning	St-Jean, 2011, P 1,9,11
12	feeling that I am important to my mentor	Fowler & O’Gorman, 2005
13	getting advice about how to handle specific situations	Fowler & O’Gorman, 2005
14	helping me learn and grow as a person	Ragins, 2012; P 11
15	being cared about and held in positive regard	Stephens et al., 2012
16	having a relationship founded on mutual trust	Ragins, 2012; P 2,4
17	having things in common that make us socially equivalent	Fiske, 1992; P 3,11
18	being able to be myself	Ragins, 2012
19	making targeted introductions to people in mentor's network	St-Jean, 2011, P 4,9,10,12
20	getting as much out of the relationship as I put into it	P 10
21	receiving practical business development help in key areas	Fowler & O’Gorman, 2005
22	trading off the role of learner and expert	Ragins, 2012; P 12
23	connecting me to expertise that I need to develop my business	St-Jean, 2011, P 3,4,9,12
24	having respect and valuing what each other has to say	Ragins, 2012

Table 3.3 Continued

Card	Statement	Sources
25	being encouraged to grow and develop myself	St-Jean, 2011; P 2
26	having a mentor with attitudes and values I want to emulate	Fowler & O’Gorman, 2005
27	working in my best interest	Moberg & Velasquez, 2004; P 4,8
28	challenging me to move my vision and ideas into action	Deakins et al., 1997, P 12
29	receiving feedback on projects / tasks to improve performance	F&O, 2005, P 2,3,6
30	learning alternative approaches for undertaking tasks	F&O, 2005
31	feeling positive energy and enthusiasm when we are together	Stephens et al., 2012; P 6
32	feeling accepted for who I am	Ragins, 2012
33	being a source of inspiration for me	Ragins, 2012
34	having a balanced reciprocal relationship and share resources	Fiske, 1992; Ragins, 2012
35	receiving advice about achieving work-life balance	F&O, 2005; P 1, 12
36	making me aware of opportunities to develop my business	F&O, 2005, P 2,8,12
37	providing reassurance during difficult times as I start my business	St-Jean, 2011; P 4, 8
38	being counseled on personal matters that are affecting me	P 4
39	providing strategies for solving business problems	F&O, 2005
40	increasing my capacity to produce or create something	Ragins, 2012
41	helping each other without expecting repayment	Ragins, 2012; P 3
42	being taken under my mentor's wing in a nurturing way	Ragins & McFarlin, 1990; P 5,8,12
43	evaluating alternatives to make important business decisions	P 3
44	gaining knowledge to help me develop entrepreneurial skills	St-Jean, 2011, P 7,8
45	asking questions that challenge my assumptions and thinking	St-Jean, 2011, P 2,3
46	helping me become the person I aspire to be	Ragins, 2012; P 10
47	having personal and emotional support	Ragins, 2012; P 7
48	spending time doing specific business development tasks	P 2,3
49	having a professional friendship	P 4,7
50	helping me "think outside the box"	Ragins, 2012

P sample.

The participants in a Q study are called the P sample, or Person sample. This study had 46 participants, which is considered an adequate sample to ensure that all likely perspectives are represented. The researcher's intention was to recruit regional entrepreneurs from across gender, racial, ethnic, socio-economic, and industry sector groups.

Participants were selected using purposive sampling, a form of non-probability sampling (Bogdan & Biklen, 2003). With this method, the researcher selected individuals who were able to shed light on the research questions by asking potential participants if they have had effective and high-quality mentoring experiences. This sampling approach increased the likelihood that participants would yield useful data for analysis.

Q sort.

The Q sort technique is a card sorting activity that was the primary data collection instrument used in this study. It was through the Q sort that the participant's viewpoint could be operationalized and then subjected to factor analysis.

Participants were given a set of 50 cards, each printed with one statement from the Q sample. They were asked to sort the cards into an 11-point scale grid that was provided. A Q sort is a forced choice activity that allows the participant to express his or her opinions, beliefs, values, and attitudes.

The template used in this study was based on a quasi-normal distribution (Figure 3.1) with an 11-point sorting scale that ranged from most important on the right (+5) to most unimportant on the left (-5), referred to as the extreme items. The shape of the distribution

was less important than was having a limited number of statements beneath the extreme ends of +5 and -5. This grid served as the scoring sheet to record the Q sort data (Appendix F).

Most Unimportant				Neutral				Most Important		
-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5

Figure 3.1: A quasi-normal distribution with 11-point scale

In this study, the researcher collected Q sorts from a total of 46 participants who met with the researcher in small groups of 2 to 6 individuals to do the Q sort. Meeting in groups was preferred in the interest of time rather than doing the sorts one by one, which would have taken much longer. Having 2 to 6 participants sorting together was a reasonable group size for answering questions in quiet side conversations with participants during and after the process. Participants came to a conference room where they each had a private table area containing the data collection materials:

- Instructions for card sorting activity (Appendix E)
- Glossy poster template of the distribution grid, sized 18"x36" taped to the table
- 50 pre-printed statement cards
- Scoring sheet (Appendix F)

- Post-sort questionnaire (Appendix G)

As participants checked in with the researcher, they were given a random identifier number that was pre-labeled on the scoring sheet and post-sort questionnaire to keep the results confidential. The researcher maintained a master list with the participant's names matched to these identifier numbers that were kept locked in a secure location. The list was a key for identifying the participants with high-pure factor loading during data analysis.

The Q sort and post-sort questionnaire took participants approximately 60 minutes to complete. The questionnaire asked participants for demographic information (e.g., gender, age, education level, race/ethnicity, business sector) that was useful for the descriptive analysis of participants who loaded on the factors.

Prior to beginning the data collection, the researcher gave each participant two consent forms: one for the card sorting activity (Appendix J) and the other for the post-sort questionnaire (Appendix K). The participants learned about informed consent and had an opportunity to read the consent form and decide whether to participate in the research or not. They understood that at any time, they could change their mind about whether to continue and they could stop the activity. The researcher introduced the study briefly and described the Q sort process. The researcher asked participants to read the instructions and reinforced the importance of executing the sort guided by the condition of instruction (Appendix E).

Step-by-step instructions were provided to show participants how to perform the Q sort. A glossy poster of the distribution grid was taped on the table in front of each participant. Each of the 50 statement cards had a random number printed in the corner that was written on the scoring sheet at the completion of the card sort. Participants were

instructed to first read through all 50 statements one time, and then read through a second time, making three piles, (a) those that reflected what they believed were the most important statements on the right, (b) those statements that were most unimportant on the left, and (c) those statements that they were not sure or neutral about in the middle.

Starting with the important pile on the right, participants read and sorted through until they identified the two that were the most important of all, and placed them under the +5 point. Then, they read through the unimportant items on the left, and sorted through to find the two most unimportant out of all, and placed them under the -5 point. This process continued as the participants reflected on statements and placed them relative to one another to fill up the grid. The participants were able to change the placement of any card at any time during this process. When they felt the cards were placed in the right arrangement, they were asked to fill out the scoring sheet. Participants wrote down the random numbers found in the corner of each statement card in the appropriate space on the score sheet. For accuracy, the researcher confirmed each card position, and took a digital photo of the final arrangement of cards for each participant, which also showed the participant identifier number. The digital images were used to check a second time against what the participants recorded on the scoring sheet before keying in the sort data for analysis.

Data collection took several weeks during December 2014 and January 2015. When the 46 Q sorts were collected, the data was manually entered into a statistical application called PQMethod that performed the necessary calculations to analyze Q sort data.

Data Analysis

The Q sorts were analyzed using PQMethod (v 2.20) a free program tailored to the analysis requirements of Q studies (<http://schmolck.userweb.mwn.de/qmethod/>). First, the researcher keyed in the Q sort data from the scoring sheets in the way they were collected (i.e., as 'piles' of statement numbers) transforming each sort into a numerical array of data. Next, the Q sorts were subjected to three statistical calculations: correlation, factor analysis, and the computation of factor scores (McKeown & Thomas, 2013). First, the correlation matrix showed the extent to which each participant's array of numerical data correlated with the sorts of the other participants. The resulting correlation matrix showed the participants who had sorted the statements in a similar fashion and provided evidence that some groups of participants were thinking alike. The researcher compared four possible factor solutions for this study. The correlation matrix was subjected to factor analysis that produced highly correlated groupings of sorts; these represented clusters of participants who held similar opinions. The factor loading number indicated the strength of the association with a particular viewpoint. For example, a factor loading of 0.80 meant that the sort was highly correlated with that factor, and was identified as a high-pure loading.

Factor analysis.

The data was factor analyzed in PQM in two stages: (1) factor extraction and (2) factor rotation. First, the researcher had a choice whether to extract factors from the data using centroid or principle component analysis (PCA). Svennungsen (2011) explains the "main difference is that the centroid factor solution is inherently indeterminate and generative...[and]...produces an infinite number of solutions any of which are

mathematically correct” (p. 177). It is reasonable to suggest that for this research there is no need to complicate interpretation by generating infinite solutions. Indeed the aim is to have a simple structure, where each factor has high loadings.

Research has found it makes little difference whether a factor analysis uses principal components or centroid method. Participants whose Q-sorts loaded significantly with the same factor are assumed to have similar views (McKeown & Thomas, 2013).

The analysis used PCA to extract the factors, which generated a correlation matrix showing correspondence between the sorts. The process produces an unrotated factor report showing eigenvalues and the amount of variance explained by the first eight factors. The eigenvalues reflect how much variation is accounted for by the factor. The magnitude of the eigenvalues puts the factors in order of importance. Factors with eigenvalues greater than 1.0 are considered significant, those below 1.0 are too weak to include in further analysis.

The researcher went through a systematic comparison of two-, three-, four- and five-factor solutions, and noticed that the four-factor solution accounted for the largest number of participants and the largest variance. The four factors were rotated to a simple structure using the Varimax method. The factor rotation produced four unique composite sorts, called factor arrays, which represented the subset of participants that shared a particular viewpoint. To go deeper, the researcher generated output that showed tables of factor loadings, statement factor scores, and differentiating and consensus statements for each factor.

Perhaps the most sensitive aspect of the findings, factor interpretation, is how “the researcher comes to understand what the study has revealed and communicates that understanding based on evidence from the study” (Mauldin, 2012). For the factor

interpretation, knowing only the participants' factor loading coefficients was of little value. The purpose of factor interpretation was to surface perspectives of the group as revealed in their individual Q sorts, and any common themes running through their individual views.

Factor interpretation.

Follow up interviews serve as an additional data source (Stainton Rogers, 1995; Watts & Stenner, 2012). The purpose of a follow up interview is to involve participants with high factor loading for further exploration of what defines their factor. Conducting interviews with high load participants improves and validates the interpretation (Mauldin, 2012). The researcher wanted the participants to be involved in the interpretation in a manner that privileged their voices. For this study, group interviews were conducted, bringing together individuals with shared viewpoints indicated by their factor loading.

Once the four-factor solution became clear, the researcher invited the top four highest loading participants from each factor to reassemble for a group interview. This means that the participants whose Q sort most closely correlated with the factor were selected for inclusion. The selection process was guided by the factor loading data that lists participants' scores and the factor they loaded on with an X.

Each member of the affinity group signed an informed consent (Appendix L). To serve as a reference, the group reconstructed the composite sort. Then, they answered the researcher's questions regarding the composite sort and the defining indicators of the factor (Appendix M). The researcher used probing questions to get participants to reflect on their thinking: In what ways do you see yourself in this composite sort? Why are the items at the extreme ends of the grid (e.g., +5, -5) important or unimportant to you? What experiences as

an entrepreneur have shaped your perspective? What descriptive words would you use to define this point of view? The group interview transcripts produced descriptive qualitative data that informed the narrative synthesis found in the factor interpretation.

Critical events approach to narrative.

The researcher analyzed data from group interviews, observations, field notes, documentation, and the open-ended responses to identify key events in the words of participants. The analysis allowed the nature of the factor to emerge and enhance the holistic view of its' own interpretation, establishing *coherence* of the factor. Webster and Mertova (2007) argue that by classifying occurrences as critical events or supporting events, we may discover things that are overlooked or not revealed in traditional empirical research.

This approach to narrative analysis, according to the authors, is “an event-driven tool of research [that highlights and captures critical events in stories of experience]” (Webster & Mertova, 2007, p. 71). A narrative sketch describes the viewpoint through the language of the consensus and differentiating statements. The narrative synthesis introduces human experiences and allows the reconstruction of personal stories to highlight issues of complexity and human-centeredness (Webster & Mertova, 2007). These were reportable findings and an outcome of this research.

Validity and Reliability

In Q-methodology, small sample sizes are acceptable because the observational perspective is the participants' own (McKeown & Thomas, 2013). This means that observations or interpretations put forward by the researcher are subordinate to the participant's viewpoint established by the Q sort. Because of this, validity and reliability

concerns that are important in conventional research are not essential in Q-methodology (Brown, 1980; McKeown & Thomas, 2013). Reliability is defined as the consistency of a measurement, or the degree to which an instrument measures the same way each time it is used under the same condition with the same subjects. It is this ability to replicate that is the important measure of reliability in Q, that when the same condition of instruction is used it will lead to factors that represent similar viewpoints to those found in this study, even if those viewpoints are simply snapshots of a moment in flux under different conditions. Brown says emerging factors tell us “how persons of this type believe, *in general*”. While R methodology generalizes to respondent characteristics; Q-methodology generalizes to the “concourse of subjective communicability” (S. R. Brown, personal communication, 9 November 2015).

Subjectivity statement.

From my own experiences as a small business entrepreneur, I know the value of learning from a trusted mentor who has been there and successfully done it. The context was unique; my early career was spent living and working overseas. During the first ten years I worked with two strong, generous, and multi-talented women who served as mentors through developing country hardships and challenging workplace experiences in my early career. My vision of myself was transformed by their guidance during those years, and I developed a belief in myself that transcended prior difficulties and gave me the confidence to strike out and start my own business. Over the next ten years I was involved in three different small businesses, one of which was a family business. During those years, I had to learn and master every job. As such, I have a unique understanding of the learning needs of a small

business entrepreneur. As a manufacturer, I was the buyer, pattern maker, designer, operations manager, quality controller, marketing manager, salesperson, and bootstrapper. In a retail partnership, I transformed and added new skills in purchasing, customer service, hiring and training, inventory control, accounting, payroll, and merchandising. In the family-owned business, I had sufficient prior experience to be a Director where I learned how to lead in finance and administration, human resources, international relations, shipping logistics, importing and customs brokerage, and banking. I have experienced the powerful impact of strong mentors who supported me through the mundane, the self-awakening, the heartbreaking, and the spectacular transformative moments of my journey. It is no wonder that my curiosity, wonder, and interest in the development of entrepreneurs led me to this topic for my dissertation research.

Ethical issues.

The identity of participants was confidential but not anonymous. The researcher had to link the participant to their Q sort and post-sort questionnaire data to report demographic information. The research design and conditions for this study were submitted to and approved by NC State University's Institutional Review Board (IRB) to ensure that appropriate protections were in place for human subject research (Appendices H, I, J, K, L).

Execution of research plan.

Between November 2014 and September 2015, the researcher (1) submitted the study for IRB approval (Appendix H), (2) recruited study participants (Appendix I), (3) collected data, (4) analyzed the data, (5) conducted affinity group interviews, and (6) wrote up the findings and a discussion of the findings to answer the research questions.

Chapter Summary

This chapter provided a detailed description of the proposed research design for a study that investigates the subjective viewpoints of entrepreneurs about effective mentoring support. The chapter describes Q-methodology and the major steps taken in this study (e.g., concourse development, selection of the Q sample, sampling participants, data collection protocol, data analysis procedures), as well as the validity, reliability and limitations of the study, researcher subjectivity statement, and ethical issues related to this study.

Chapter Four: Findings

This chapter presents the results of a Q-methodology study. The goal was to answer the research questions posed in Chapter One regarding (a) the viewpoints associated with effective mentoring support for entrepreneurs, (b) the indicators of effective mentoring support for entrepreneurs, (c) the indicators that distinguish a viewpoint, and (d) the explanation of the viewpoint by the participants who represent it the most. In Chapter Three, the steps of Q-methodology were discussed in detail, and the research design for this study was presented. The data analyzed for this chapter came from three sources: the 46 participants' Q sorts, post-sort questionnaires, and six affinity group interviews.

In the first half of the chapter, the numerical findings are presented from the statistical process of factor analysis, showing the decisions that were made after the Q sorts were entered into the PQMethod (PQM) software. This will help the reader go beyond the research design to understand how to read and interpret PQM output. Then, the researcher documented the steps for (a) allowing a solution to emerge for the number of interpretable factors (i.e., number of viewpoints), and (b) identifying the statements that make a viewpoint distinct. The outcome of this analysis was a set of four factors (viewpoints) and differentiating statements (indicators) that were the central findings of this study.

In the second half of the chapter, the researcher synthesized the qualitative data from the questionnaires and interviews with the factor analysis findings to answer the research questions. Through interpretive analysis, the participants' own words are surfaced to give voice and bring emotion to the viewpoints. The participants' voices are in the quotes that weave a story in narrative synthesis. The chapter ends with additional findings.

Statistical Process of Factor Analysis

After collecting Q sort data from 46 participants, the researcher entered the sorts into the PQ Method (PQM) software (version 2.20) and ran three statistical procedures: correlation, factor analysis, and the computation of factor arrays. The resulting output was subjected to further analysis to seek a factor solution for this study. An acceptable solution emerged from an evaluation of criteria, one being statistical significance.

The standard error (SE) of the correlation was used to determine the level at which a factor loading in this study was statistically significant, indicating that a sort was similar to or different from other sorts and that the relationship between them was caused by something other than random chance. The SE is calculated by dividing 1 by the square root of the number of statements in the Q sample (Brown, 1993).

For this study, the $SE = 1/\sqrt{50} = .1414$. A 99% confidence level was used in the search for interpretable factors in this study. At 99% confidence ($p < .01$), a factor loading was significant at $SE (2.58) = .1414 (2.58) = \pm .3648$, and at 95% confidence ($p < .05$), a loading was significant at $SE (1.96) = .1414 (1.96) = \pm .2771$. The confidence level used to determine significance is noted where appropriate.

Correlation between sorts.

The correlation matrix, truncated for presentation in Table 4.1, reported the correlation of a Q sort in relation to each of the other sorts ($N=46$). It showed which sorts were similar and to what degree, displayed as correlation coefficients ranging from -1.0 to +1.0. A positive correlation of +1.0 represents an exact match of statements sorted in the same column as another participant. A negative correlation of -1.0 represents an opposite sort with all statements falling on the same but opposite column as another participant.

The correlation between sorts provided information about relationships that might exist *between participants*. As an example, Table 4.1 showed that sorts 44 and 45 (boxed below) had a positive correlation of 0.62.

Table 4.1

Correlation Matrix (truncated)

Sort	1	2	3	...	44	45	46
1	1.00	0.47	-0.03	...	0.45	0.47	0.29
2	0.47	1.00	-0.09	...	0.19	0.06	0.32
3	-0.03	-0.09	1.00	...	0.15	0.15	0.18
...
44	0.45	0.19	0.15	...	1.00	0.62	-0.07
45	0.47	0.06	0.15	...	0.62	1.00	0.04
46	0.29	0.32	0.18	...	-0.07	0.04	1.00

No sort in this study had a perfect correlation with any other sort. The largest positive correlation (0.73) was between sorts 31 and 32. The largest negative correlation (-0.30) was between sorts 6 and 46. The correlation matrix (Table 4.1) shows correlations

between participants, however it cannot be used to determine the salient characteristics within ‘groups of persons’ that form a viewpoint in a given factor solution.

A factor solution is the outcome of a factor analysis. The goal is to find the solution that has the highest explanatory variance (EV) and the most participants loading on a particular factor. Running the factor analysis will produce what is called the unrotated factor matrix (Table 4.2). The goal is to find the clusters of participants who were thinking alike at the time of the sort. The researcher used principle component analysis (PCA) to ‘extract’ the eight unrotated factors shown in the matrix. The values in the matrix represent the correlation of a participant’s Q sort with a given factor. This example shows that Sorts 1 (.6822), 44 (.7610), and 45 (.7210) are all significantly correlated with Factor 1.

Table 4.2

Unrotated Factor Matrix (truncated)

Sort	1	2	3	...	6	7	8
1	0.6822	0.1945	0.0775	...	-0.2727	-0.0824	-0.1987
2	0.4562	0.5961	-0.2172	...	0.0548	0.0381	0.0288
3	0.1326	-0.0704	-0.3852	...	0.3017	0.1876	-0.1869
4	0.4115	-0.0369	0.5093	...	-0.3525	-0.2871	-0.0295
...
43	0.2688	0.4507	0.1240	...	0.3008	-0.2650	0.0506
44	0.7610	-0.2909	-0.1895	...	-0.0466	-0.1208	0.0172
45	0.7210	-0.3401	-0.0600	...	0.0063	0.1581	-0.1210
46	0.1778	0.3814	-0.2598	...	-0.0568	0.0116	-0.1763
Eigenvalue	12.42	4.45	3.46	...	1.82	1.65	1.57
% EV	27	10	8	...	4	4	3

To determine the significance of a factor in Table 4.2, we look at strength, generally measured by eigenvalues over 1.0, and what percent of variance is explained by a particular solution (%EV). In Table 4.2, a two-factor solution accounts for 37% of the variance (27+10), while a three-factor solution accounts for 45% (27+10+8). The next step is to decide how many factors to rotate; each rotation will provide a “solution” that can be compared with other solutions. For example, when two factors are rotated, a solution is produced where a set of participants will be associated with one of only two groups, and in this case, some participants will not load significantly on any factor. If three factors are rotated, a solution is produced where there are three potential groups, and so on, up to eight possible factors.

Determining how many factors to rotate for the best factor solution was the next step in the analysis. For reasons explained in Chapter Three, the researcher evaluated the eigenvalues and percent explained variance data from the unrotated factor matrix to determine the number of factors, or viewpoints, to be compared for this decision. The eigenvalues were all over 1.00, which suggested there could be up to eight significant factors, however unlikely that result. The more factors in a solution, the fewer participants will load and the less clearly defined each factor will be. The cumulative total of percent explained variance showed how many factors contain the largest number of participants without sacrificing detail within the factors.

Plotting the eigenvalues (Figure 4.1) showed the change in slope, which is an indicator of a potential factor solution. The plot shows the comparative significance of the factors with the slope flattening at a point known as the “elbow”. The figure shows the most

plausible number of factors occurring before the flattening and those less so following the flattening of the slope. In Figure 4.1, there is a distinct “elbow” at two and four factors, making it likely that the best solution to emerge in this study might be two or four factors.

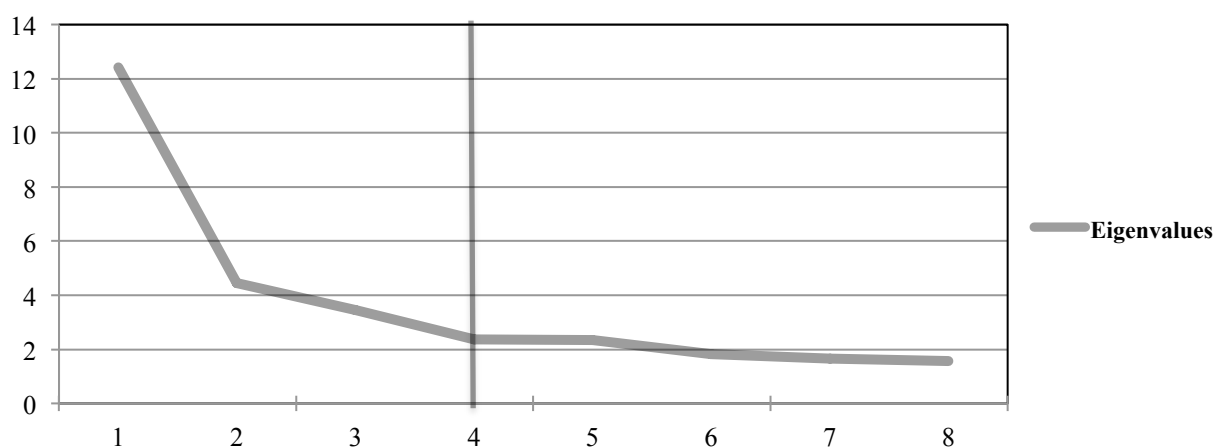


Figure 4.1. Scree plot of eigenvalues.

Factor rotation.

After looking at the data in the unrotated factor matrix (Table 4.2) and the scree plot (Figure 4.1), the researcher used Varimax rotation to rotate four possible solutions: two-, three-, four-, and five-factors. Each solution required a separate calculation and generated an output file approximately 25 pages long. To understand what set the solutions apart, the researcher compared dozens of tables and matrices.

From each rotated solution, the ‘factor loadings’ table showed whether the total number of sorts that loaded on a given solution was below the total number of sorts in the study. This scenario indicated confounding sorts, meaning that the solution has some Q sorts that loaded significantly on either no factors, or more than one factor (Watts & Stenner,

2012). If deemed necessary to better articulate the differences between factors, confounding sorts may be assigned to a factor by the researcher, called ‘flagging’. The outcome of flagging a sort will increase the number of participants in a particular solution.

Comparing solutions.

The researcher evaluated the solutions presented in Table 4.3 to see which solution emerged with the most distinct interpretable factors. The best solution would have a balance of high percent explained variance with the most participants associated with the factor.

Table 4.3

A Comparison of Factor Solutions

Factors rotated	Explained variance (%EV)	Participants loaded (PL)	Highest correlation between factors (CbF)	Reasoning
2	36%	44	0.413	Reject: high PL, low EV, evidence of correlation between factors 1 and 2
3	45%	41	0.395	Reject: low PL, high EV, five confounding, correlation between factors 1-2-3
4	50%	39	0.377	Reject: low PL, high EV, seven confounding, low correlation between factors
4 after 3 flagged	50%	42	0.418	Accept: flagged 1-17-29, increased PL, high EV, four confounding, correlation between factors 1-4, and 3-4
5	54%	39	0.394	Reject: low PL, high EV, seven confounding, correlation between factor 2-3

The two-factor solution was rejected for having a low percent of explanatory variance and a positive correlation between factors, indicating the likely presence of more than two factors. At first glance, a three-factor solution could have provided a satisfactory solution with 41 participants loaded (PL) and 45 percent explained variance (%EV), however with five confounding sorts and high correlation between factors (CbF), it too was rejected. The five-factor solution was rejected as well, because it sacrificed PL for percent EV and has seven confounding sorts that made the factors murkier to describe.

Factor solution.

After the comparison, the four-factor solution emerged as the primary finding in the study. This solution accounted for 50 percent explained variance and had 39 participants loading significantly on one of the four factors. Although this solution had seven confounding sorts (sort numbers 1, 14, 17, 25, 29, 36, and 37), it was highly probable that a few of the confounding sorts were sufficiently correlated with a single factor to be flagged. The researcher intentionally assigned, or ‘flagged’, three of the seven confounding sorts to factors based on the extent to which they loaded. Sort 1 was flagged to Factor IV (0.5042), and sorts 17 and 29 were both flagged to Factor III (0.4585 and 0.4502, respectively). The remaining sorts (14, 25, 36, and 37) were truly confounding and thus, left out of the findings. The four-factor solution was re-run in the PQ Method software in order to include the three flagged sorts in the analysis and generate a new output file that contained information needed for interpretation of this solution.

Table 4.4

Sorts Loading on Each Factor

	Factor I	Factor II	Factor III	Factor IV
Sorts	5	3	4	1*
	6	16	9	2
	7	18	10	12
	8	20	11	13
	27	21	15	19
	30	22	17*	35
	31	24	23	41
	32	26	29*	46
	34	28	33	
	40		38	
	42		39	
	44		43	
	45			
Number of 'high loading' sorts ¹	13	9	12	8
Percent of participants loading ²	31%	21%	29%	19%

Note: *flagged; ¹significant at ($p < .01$); ²($N=42$, 100%)

Table 4.4 presents more detail about the solution found in this study. The reader will note that the four-factor solution has the greatest number of participants included, also expressed as a percent of total participants loading on each factor.

In Table 4.5, the 'factor loadings' indicated which sorts were significant ($p < .01$) on a particular factor. These 'high load' sorts are shown with an X next to the loading. Forty-two participants loaded significantly at $p < .01$ (± 0.3648) on at least one factor.

Table 4.5

Factor Loadings

Sort	Factor I	Factor II	Factor III	Factor IV
01	0.3668	0.2280	0.3280	0.5042X
02	-0.1354	0.4383	0.2545	0.5877X
03	0.0678	0.3314X	-0.2342	0.0419
04	0.3788	-0.1344	0.5188X	0.0473
05	0.8597X	-0.1165	0.1001	-0.0761
06	0.5282X	-0.0618	0.0019	-0.3436
07	0.5504X	0.0025	0.2793	0.1823
08	0.5749X	0.4058	-0.0883	0.2798
09	-0.1790	0.2288	0.6687X	0.0733
10	0.0475	0.1679	0.5218X	-0.0165
11	0.1768	-0.1877	0.5653X	0.1974
12	0.3140	0.0314	0.1401	0.5964X
13	0.2658	0.0016	0.2051	0.4795X
14	0.3125	0.3247	0.3648	0.1693
15	0.2408	0.1024	0.5260X	-0.0607
16	0.2090	0.6404X	0.1997	0.0818
17	0.0564	0.2515	0.4585X	0.3849
18	0.2160	0.3537X	-0.0081	-0.0262
19	0.1073	-0.0402	0.2323	0.5851X
20	0.3515	0.5537X	0.2663	-0.1090
21	-0.0196	0.5903X	-0.0428	0.1452
22	-0.0610	0.5014X	0.3632	-0.0195
23	0.0114	-0.1023	0.6395X	0.2374
24	-0.1805	0.5809X	0.2020	0.2963
25	0.4342	0.5136	0.1540	0.3928
26	0.1332	0.6106X	-0.0442	0.1608
27	0.5832X	0.3781	0.1456	0.2160
28	0.2073	0.6879X	0.1413	-0.0591
29	0.3782	0.1738	0.4502X	0.1718
30	0.4319X	0.2425	-0.1336	0.2854
31	0.8794X	0.0939	0.0844	-0.0414
32	0.8096X	0.0489	0.1662	0.0094
33	0.0859	0.0299	0.3634X	-0.0428
34	0.6466X	0.4015	0.0944	0.0920
35	-0.1386	0.1108	0.2029	0.6535X
36	0.2654	0.3728	0.3139	0.4244
37	0.5135	0.4963	0.2054	0.1724
38	0.2775	-0.2060	0.6639X	0.3157
39	0.1735	0.3084	0.6507X	0.2768
40	0.6510X	0.3627	-0.0786	0.2663
41	0.2891	0.4829	-0.0167	0.5967X
42	0.7467X	0.0546	0.2301	0.1225
43	-0.1470	0.2032	0.4613X	0.2066
44	0.6460X	0.5423	0.1216	0.0293
45	0.7158X	0.3230	0.0811	0.1337
46	-0.0797	0.0448	-0.2063	0.7650X

Note: X designates sorts 'loading' on a factor and indicates significance at ($p < .01$).

Correlation between factors.

The correlation between factors (CbF) shown in Table 4.6 indicated the presence of relationships that made the factors less distinct from one another. Since the four-factor solution had confounding sorts, it is reasonable to presume the CbF was greater because some of these sorts were significant on more than one factor. The lower the CbF, the more distinct the factors were. For example, there was greater correlation between Factors I and II (0.3770) and Factors III and IV (0.4178), compared to that between Factors I and IV (0.2353). This low correlation indicated a distinction between Factors I and IV, thus Table 4.6 supplied additional confirmation of a four-factor solution.

Table 4.6

Correlation between Factors

	Factor I	Factor II	Factor III	Factor IV
Factor I	1.0000	0.3770*	0.3371	0.2353
Factor II	0.3770*	1.0000	0.3186	0.3640
Factor III	0.3371	0.3186	1.0000	0.4178*
Factor IV	0.2353	0.3640	0.4178*	1.0000

*indicates significance at (p<.01).

Humphrey's rule.

Another test to ensure that the solution satisfied the criteria for study is Humphrey's Rule, which states, "a factor is significant if the cross product of its two highest loadings (ignoring the sign) exceeds twice the standard error" (Brown, 1980, p. 223). All four factors satisfied this rule in Table 4.7 and were studied.

Table 4.7

Humphrey's Rule

	Factor I	Factor II	Factor III	Factor IV
Standard error	0.1414	0.1414	0.1414	0.1414
Standard error x 2	0.2828	0.2828	0.2828	0.2828
Cross product of two highest loadings	0.7560	0.4405	0.4439	0.4999
Difference	0.4732	0.1577	0.1611	0.2171

Factor arrays.

A factor array describes the arrangement of the 50 statements as sort scores for each factor group. In other words, the array shows the location where a factor placed each statement on the distribution grid, from most unimportant (-5) to most important (+5). There are four factor arrays in a four-factor solution, a column for each factor (Table 4.8). A factor array is a statistical 'composite score' derived from the Q sort data in PQM. Each score represents the location of that particular item for each group of participants. An example from Table 4.8 is item 1 "being mentored by an authority, someone with a higher position". This item was relatively important to Factor I (placed at +1), however it was highly unimportant to Factors II, III, and IV (placed at -5, -4, -5, respectively). In addition to items that show differences between how the groups sorted the statements, it is reasonable to expect some agreement among participants in the study. Since all of the participants identified themselves as entrepreneurs, there is the likelihood that the whole group might share an opinion about aspects of effective mentoring.

Table 4.8

Factor Arrays

Item	Statement	Factor Scores			
		I	II	III	IV
1	Being mentored by an authority, someone in a higher position	1	-5	-4	-5
2	Being confidential and protecting my privacy	-2	-1	-1	1
3	Bringing out the best in me	-1	1	-2	0
4	Learning about my strengths and weaknesses	0	4	-3	-1
5	Feeling comfortable disclosing things about myself	-4	-2	0	1
6	Having a mentor with skills in specific areas I want to develop	4	1	0	4
7	Getting together socially to share an occasional drink or a meal	-1	-4	1	-3
8	Being committed to the mentoring relationship	0	0	5	2
9	Reflecting on my learning to adjust future decisions and actions	0	2	-3	2
10	Spending time together to build rapport	-2	-1	2	-3
11	Sharing experiences of mistakes/failures to illustrate learning	1	2	1	0
12	Feeling that I am important to my mentor	-1	0	2	-2
13	Getting advice about how to handle specific situations	2	0	4	5
14	Helping me learn and grow as a person	-3	4	-2	-1
15	Being cared about and held in positive regard	-1	0	0	0
16	Having a relationship founded on mutual trust	0	3	4	4
17	Having things in common that make us socially equivalent	-3	-3	-4	-5
18	Being able to be myself	-2	3	1	3
19	Making targeted introductions to people in mentor's network	4	3	5	-2
20	Getting as much out of the relationship as I put into it	-3	-2	2	-2
21	Receiving practical business development help in key areas	5	-1	-1	1
22	Trading off the role of learner and expert	-3	-3	-1	-2
23	Connecting me to expertise that I need to develop my business	4	4	3	0
24	Having respect and valuing what each other has to say	0	1	2	5
25	Being encouraged to grow and develop myself	-1	2	-2	2
26	Having a mentor with attitudes and values I want to emulate	1	1	1	3
27	Working in my best interest	0	-1	1	1
28	Challenging me to move my vision and ideas into action	5	5	1	-3

Table 4.8 Continued

Item	Statement	Factor Scores			
		I	II	III	IV
29	Receiving feedback on projects/tasks to improve performance	3	1	-3	3
30	Learning alternative approaches for undertaking tasks	1	0	0	1
31	Feeling positive energy and enthusiasm when we are together	1	-1	4	3
32	Feeling accepted for who I am	-5	0	0	0
33	Being a source of inspiration for me	0	1	0	-4
34	Having a balanced reciprocal relationship and share resources	-2	-4	-2	0
35	Receiving advice about achieving work-life balance	-4	-1	-4	-1
36	Making me aware of opportunities to develop my business	3	1	0	0
37	Providing reassurance in difficult times in starting my business	1	-2	0	-1
38	Being counseled on personal matters that are affecting me	-5	-3	-5	-4
39	Providing strategies for solving business problems	3	-1	2	1
40	Increasing my capacity to produce or create something	3	3	-1	-3
41	Helping each other without expecting repayment	-2	-2	3	1
42	Being taken under my mentor's wing in a nurturing way	-1	-3	-5	-1
43	Evaluating alternatives to make important business decisions	2	0	3	2
44	Gaining knowledge to help me develop entrepreneurial skills	2	2	-1	0
45	Asking questions that challenge my assumptions and thinking	2	2	3	4
46	Helping me become the person I aspire to be	0	5	-1	-1
47	Having personal and emotional support	-4	-4	-2	-1
48	Spending time doing specific business development tasks	1	-5	-3	-2
49	Having a professional friendship	-1	-2	1	-4
50	Helping me "think outside the box"	2	0	-1	2

Composite sorts.

A composite sort is a visual presentation of where each factor group placed the 50 items in the Q sort. It is another way to view the factor array scores from Table 4.8.

Composite sorts are presented in Figures 4.2, 4.3, 4.4, and 4.5.

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
32	5	14	2	3	4	1	13	29	6	21
38	35	17	10	7	8	11	43	36	19	28
	47	20	18	12	9	26	44	39	23	
		22	34	15	16	30	45	40		
			41	25	24	31	50			
				42	27	37				
				49	33	48				
					46					

Figure 4.2. Factor I composite sort.

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
1	7	17	5	2	8	3	9	16	4	28
48	34	22	20	10	12	6	11	18	14	46
	47	38	37	21	13	24	25	19	23	
		42	41	27	15	26	44	40		
			49	31	30	29	45			
				35	32	33				
				39	43	36				
					50					

Figure 4.3. Factor II composite sort.

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
38	1	4	3	2	5	7	10	23	13	8
42	17	9	14	21	6	11	12	41	16	19
	35	29	25	22	15	18	20	43	31	
		48	34	40	30	26	24	45		
			47	44	32	27	39			
				46	33	28				
				50	36	49				
					37					

Figure 4.4. Factor III composite sort.

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
1	33	7	12	4	3	2	8	18	6	13
17	38	10	19	14	11	5	9	26	16	24
	49	28	20	35	15	21	25	29	45	
		40	22	37	23	27	43	31		
			48	42	32	30	50			
				46	34	39				
				47	36	41				
					44					

Figure 4.5. Factor IV composite sort.

Calculating the indicators.

Comparing the raw scores shown on the factor arrays was insufficient to answer the research questions in this study and was not adequate for research purposes. It was necessary for the researcher to show the magnitude of difference that existed between factors on particular items. It may seem reasonable to compare the factors on the basis of the 'extreme items' (e.g., the items found at the ends of the distribution with scores of -5, -4, +4, and +5). However, this approach is less precise than using the factor scores to calculate significant differences between the factors.

For this study, the researcher defined an *indicator* as a statement that reflects characteristic behaviors, actions, processes, and practices that groups of participants associated with effective mentoring. It measures what is important and unimportant to at least two or more factors. An indicator represents a measurable outcome from the statistical process of factor analysis, and permits the analysis of standard deviation.

It would help the reader to deepen their understanding of the numerical data that underpins the composite sorts. Looking back at the composite sorts shown in Figures 4.2 and 4.4, item 29 was located under +3 column for Factor I, and under -3 column for Factor III. It is reasonable to suggest then that Factors I and III have an opposing opinion on the importance of item 29. But we cannot assume that item 29 is an *indicator*, we would need to show the extent to which the z-scores of the two factors differ with respect to this item. The next section will describe the researcher's analysis to produce the indicators using factor z-scores (see Appendices O, P, Q, and R). It should be pointed out that the approach explained here might be less precise than using only the significant distinguishing items generated by

PQM (Appendix S). However, the researcher found qualitative support to look more deeply into the numerical relationships. To surface the indicators, the researcher calculated (a) the average factor z-score by item across the four factors, and (b) the greatest z-score difference between a factor and the *average z-score of the three other factors*. For this study, the researcher has abbreviated the z-score difference as ZDiff. The ZDiff is the greatest standard deviation between two scores.

Consensus items.

Areas of agreement among factors are considered important findings. These are called consensus statements and they help the researcher understand the participants' commonly held beliefs. Watts and Stenner (2012) explain that consensus statements “are the items whose rankings do not distinguish between any pair of factors” (p. 218). This means all factors have ranked a particular statement in nearly the same way. Table 4.9 presents the four consensus statements presented as findings.

Table 4.9

Consensus Items

Item	Factor I		Factor II		Factor III		Factor IV		Avg Zscore
	Rank	Zscore	Rank	Zscore	Rank	Zscore	Rank	Zscore	
45*	2	0.93	2	0.87	3	1.12	4	1.24	+1.04
47	-4	-1.64	-4	-1.34	-2	-0.77	-1	-0.69	-1.11
17	-3	-1.26	-3	-1.28	-4	-1.80	-5	-1.88	-1.56
38	-5	-1.84	-3	-1.20	-5	-1.88	-4	-1.77	-1.67

*Indicates non-significance at ($p > .01$) as calculated by PQ Method.

Only one statement (45), identified with an asterisk, was identified as significant at $p < .01$ by PQMethod. Participants agreed across the board that statement 45 “asking questions that challenge my assumptions and my thinking” was an important characteristic of effective mentoring. Participants ranked this at +2, +2, +3, and +4, respectively, with an average z-score of +1.04.

Despite having only one consensus statement identified by PQMethod, there were other statements that participants ranked similarly. Those with an average factor z-score greater than or equal to ± 1.0 indicated the presence of a common belief among factors. On the unimportant, or negative, side of the scale, there were three items where participants held shared beliefs. The factors ranked item 47 (-1.11) “having personal and emotional support” at -4, -4, -2, and -1, respectively. Item 17 (-1.56) “having things in common that make us socially equivalent”, was ranked as -3, -3, -4, and -5, respectively. Item 38 (-1.67) “being counseled on personal matters affecting me” was ranked the lowest at -5, -3, -5, and -4, respectively. Out of the 50 statements in the Q sample, having only four consensus items raised the question of how the factors might be distinguished from one another.

Distinguishing items.

Distinguishing items identify the statements that participants ranked significantly different on one factor as compared to other factors. Analyzing distinguishing items allows the researcher to ascertain a more holistic interpretation of the nature of each factor. Knowing these differences also provides structure for explaining the indicators (e.g., unique desires, concerns, themes) within and between factors. PQM identifies distinguishing statements for each factor, these are as follows: Factor I scored 14 distinguishing statements;

Factor II scored 11; Factor III scored 15; and Factor IV scored 11. These statements, along with the rank and score are displayed in Tables 4.10, 4.11, 4.12, and 4.13. The full PQM output tables are reported in Appendix S for a closer read of the numbers.

In Table 4.10, we begin to see the defining characteristics for the group of entrepreneurs that make up Factor I. This is the first real evidence of what is important and unimportant to the factor, for example, practical help like problem solving and awareness of business opportunities sets this group apart from the others. Likewise, this group believes that emotional support and personal development are unimportant to effective mentoring.

Table 4.10

Distinguishing Items for Factor I

No.	Statement	Rank	Z-Score
21	Receiving practical business development help in key areas	5	1.69
39	Providing strategies for solving business problems	3	1.33
36	Making me aware of opportunities to develop my business	3	1.23
13	Getting advice about how to handle specific situations	2	0.85
48	Spending time doing specific business development tasks	1	0.67
1	Being mentored by an authority, someone with a higher position	1	0.58
31	Feeling positive energy and enthusiasm when we are together	1	0.26
9	Reflecting on my learning to adjust future decisions and actions	0	-0.01
24	Having respect and valuing what each other has to say	0	-0.01
16	Having a relationship founded on mutual trust	0	-0.05
49	Having a professional friendship	-1	-0.41
18	Being able to be myself	-2	-0.88
5	Feeling comfortable disclosing things about myself	-4	-1.39
32	Feeling accepted for who I am	-5	-1.84

*indicates significance at $p < .01$, from PQM

On the contrary, Table 4.11 reveals characteristics of Factor II. These entrepreneurs are focused on personal learning and growth, rather than business problem solving.

Table 4.11

Distinguishing Items for Factor II

No.	Statement	Rank	ZScore
46	Helping me become the person I aspire to be	5	1.96
14	Helping me learn and grow as a person	4	1.59
4	Learning about my strengths and weaknesses	4	1.44
19	Making targeted introductions to people in the mentor's network	3	0.95
29	Receiving feedback on projects to improve performance	1	0.24
43	Evaluating alternatives to make important business decisions	0	0.18
13	Getting advice about how to handle specific situations	0	-0.26
39	Providing strategies for solving business problems	-1	-0.39
31	Feeling positive energy and enthusiasm when we are together	-1	-0.42
5	Feeling comfortable disclosing things about myself	-2	-0.79
34	Having a balanced reciprocal relationship and share resources	-4	-1.40

*indicates significance at $p < .01$, from PQM

Factor III entrepreneurs value commitment in their relationships and believe “helping each other without expecting repayment” is important to effective mentoring.

Table 4.12

Distinguishing Items for Factor III

No.	Statement	Rank	Z-Score
8	Being committed to the mentoring relationship	5	1.72
41	Helping each other without expecting repayment	3	1.00
12	Feeling that I am important to my mentor	2	0.86
20	Getting as much out of the relationship as I put into it	2	0.79
10	Spending time together to build rapport	2	0.64
28	Challenging me to move my vision and ideas into action	1	0.63
7	Getting together socially to share an occasional drink or a meal	1	0.53
18	Being able to be myself	1	0.48
49	Having a professional friendship	1	0.27
40	Increasing my capacity to produce or create something	-1	-0.33
50	Helping me "think outside the box"	-1	-0.47
29	Receiving feedback on projects and tasks to improve performance	-3	-0.86
9	Reflecting on my learning to adjust future decisions and actions	-3	-1.06
4	Learning about my strengths and weaknesses	-3	-1.25

*indicates significance at $p < .01$, from PQM

The first distinguishing item for Factor IV (24) “having respect and valuing what each other has to say” provides evidence that was used for naming this factor. This item also shows a stark difference between Factors I and IV concerning respect and valuing what others have to say. Factor I ranked this item at 0 (neutral importance). It can be ascertained that Factor IV entrepreneurs do not seek out mentoring as a source of inspiration, capacity building, or to challenge them into action. Later, the reasons that underlie these differences become more clear through stories told by participants.

Table 4.13

Distinguishing Items for Factor IV

No.	Statement	Rank	Z-Score
24	Having respect and valuing what each other has to say	5	2.29
26	Having a mentor with attitudes and values that I want to emulate	3	1.20
2	Being confidential and protecting my privacy	1	0.59
21	Receiving practical business development help in key areas	1	0.49
41	Helping each other without expecting repayment	1	0.36
23	Connecting me to expertise that I need to develop my business	0	0.11
19	Making targeted introductions to people in the mentor's network	-2	-0.90
48	Spending time doing specific business development tasks	-2	-0.91
28	Challenging me to move my vision and ideas into action	-3	-1.20
40	Increasing my capacity to produce or create something	-3	-1.23
33	Being a source of inspiration for me	-4	-1.45

*indicates significance at $p < .01$, from PQM

The standard error is a proxy for measuring the distance between two factors on a particular item. This parsing out was accomplished by finding differences between the factor z-score and the average of the three other factor z-scores, called the ‘average others’. Table 4.14 shows an example of how the researcher calculated ‘average others’.

Table 4.14

Example of Calculating an 'Average Others' Z-Score

Item	Factor Z-Score				'Average Others' Z-Score			
	I	II	III	IV	FII-III-IV	FI-III-IV	FI-II-IV	FI-II-III
1	0.58	-1.78	-1.68	-1.99	-1.82	-1.03	-1.06	-0.96

In the example, the z-score for Factor I was 0.58 and the 'average others' (Factors II+III+IV) was calculated as $((-1.78) + (-1.68) + (-1.99)) / 3 = -1.82$. Subtract the average from the Factor I z-score for a difference of $(0.58) - (-1.82) = 2.40$. This result measures how far the sample mean is from the population mean (standard error), by item.

The potentially troublesome issue may arise if one of the scores in 'average others' is not significantly different from the factor score, even though the average of the three may be significantly different. A distinguishing statement in PQMethod, on the other hand, is one that is significantly different from each of the other factor scores. It is the preferred and most defensible approach to analysis. For this analysis, the researcher used Excel to sort, by factor, the items that had a ZDiff greater than or equal to ± 1.0 . Then, the items were sorted a second time by factor z-score. The results of the z-score analysis are presented in tables of differentiating items for each viewpoint.

Neutral items.

There were 8 items that the researcher considered ‘neutral items’: 11, 15, 22, 27, 30, 37, 43, and 50. This finding reflected items that were neither important nor unimportant to the participants in this study. Some of these items may have been assumed, such as item 50, as one participant said, "as entrepreneurs, we should already think outside the box". The neutral statements are shown in Table 4.15.

Table 4. 15

Neutral Statements by Factor Z-Score

No.	Statement	Factor			
		I	II	III	IV
11	Sharing experiences of mistakes and failures to illustrate learning	0.47	0.84	0.28	0.26
15	Being cared about and held in positive regard	-0.61	-0.16	0.19	0.24
22	Trading off the role of learner and expert	-0.93	-1.33	-0.46	-0.77
27	Working in my best interest	-0.03	-0.38	0.38	0.37
30	Learning alternative approaches for undertaking tasks	0.14	-0.24	-0.02	0.50
37	Providing reassurance during difficult times starting my business	0.41	-0.82	0.00	-0.55
43	Evaluating alternatives to make important business decisions	0.80	0.18	1.05	0.88
50	Helping me "think outside the box"	0.69	0.18	-0.47	0.63

The next section will restate the research questions that were presented in Chapter One, and follow with an interpretation of the four viewpoints that emerged in this study.

At this point in the chapter, the reader will have examined the results of a Q methodology factor analysis and seen the evidence to support the emergence of a four-factor solution in this study. The findings describe how the researcher arrived at the indicators of effective mentoring. This was needed to answer 4 research questions posed, which were:

1. What viewpoints emerge about effective mentoring support for entrepreneurs?
2. What are the indicators of effective mentoring support for entrepreneurs?
3. How does each viewpoint reflect the indicators of effective mentoring?
4. How do high loading participants explain their viewpoint through the composite sort?

The researcher answered these questions by presenting detailed findings through an interpretation of the four viewpoints. Factor interpretation is the subject of the remaining pages of this chapter. Each viewpoint was presented holistically, answering the four questions within each, so the reader stays focused on what makes each group unique, rather than answering one question at a time with all four viewpoints mixed.

The transition to factor interpretation signals the addition of the qualitative findings, from written questionnaires and group interviews, together with previously reported numerical findings. This is a magical moment in Q-methodology analysis, where the indicating numbers give way to a vehicle to convey the underlying structures (sort) and then through interpretation, apply the voices—those captured in writing directly after completing the sort, and the animated voices and personalities of high loading participants from stories told during in-depth interviews.

Viewpoints that Emerged

The answer to the first research question, we must look to the *last* finding in the factor analysis. The names of the viewpoints emerged from the statements of significance and were supported by the stories told by participants. The researcher named the viewpoints:

- I. Competence Builders,
- II. Self-Developers,
- III. Network Expanders, and
- IV. Respect Seekers.

In the remaining sections of Chapter Four, the reader is presented one viewpoint at a time. Within each viewpoint, there are four sections (Summary, Indicators, Sketch, and Narrative Synthesis) that answer the remaining three research questions. The *Summary* section recaps the name of the viewpoint with a brief description and some demographic information about the participants who held this viewpoint. The *Indicators* section answers research question two by describing in detail the calculated indicators that differentiate one viewpoint from another. The answer to research question three can be found in the *Sketch*, which provides greater detail and cited by item numbers in the text. Finally, research question four is answered in a *Narrative Synthesis* — weaving together a holistic and coherent narrative from the stories told in the interviews and the written answers captured after the card sorting activity.

Viewpoint I: Competence Builders.

Summary.

The Competence Builders are seeking mentoring support that results in learning and business growth. This comes in the form of task-related assistance and coaching to gain practical knowledge and skills. Mentors connect them to key expertise and ad hoc mentoring while they search for the right fit of investors and partners. They choose ‘expert’ mentors with prior startup experience, or proven record of success that matches their vision of where they see themselves one day. Competence Builders accept unevenness in the relationship in exchange for knowledge, skills, performance improvement, and business growth.

Table 4.16

Demographic Characteristics of Competence Builders

Sort ID	Gender	Age Range	Years of Experience	Race/Ethnicity
5	Female	56-65	1 to 5	Caucasian
6	Female	36-45	1 to 5	Caucasian
7	Female	46-55	1 to 5	African-American/African/Black
8	Female	46-55	1 to 5	African-American/African/Black
27	Female	<=25	Less than 1	Caucasian
30	Male	36-45	1 to 5	Caucasian
31	Female	26-35	1 to 5	Caucasian
32	Female	26-35	6 to 10	Caucasian
34	Male	26-35	Less than 1	Caucasian
40	Male	36-45	11 to 20	Caucasian
42	Female	<=25	1 to 5	Caucasian
44	Female	46-55	Less than 1	Caucasian
45	Male	36-45	1 to 5	Caucasian

There were 13 Competence Builders in this study, representing approximately a third (.31) of participants. Table 4.16 lists demographic data for the group. Out of the 13 members there were four male (.31), nine female (.69), comprised of eleven Caucasian (.85) and two non-Caucasian (.15). The age range of this group is the widest, and most of these individuals have the fewest years of experience as an entrepreneur. An aggregate of the demographic data collected on the participants is presented in Appendix N, however the reader should recall that demographics are relatively meaningless in Q-methodology.

Indicators.

Comparisons were made between the top ten important and unimportant statements, seen as the ‘tips of the iceberg’, referred to as extreme items, shown in Table 4.17 and the differentiating statements in Table 4.18.

Table 4.17

Viewpoint I: Extreme Items

Item	Statement	Rank
28	Challenging me to move my vision and ideas into action	+5
21	Receiving practical business development help in key areas	+5
19	Making targeted introductions to people in the mentor's network	+4
6	Having a mentor with skills in specific areas that I want to develop	+4
23	Connecting me to expertise that I need to develop my business	+4
5	Feeling comfortable disclosing things about myself	-4
35	Receiving advice about achieving work-life balance	-4
47	Having personal and emotional support	-4
38	Being counseled on personal matters that are affecting me	-5
32	Feeling accepted for who I am	-5

The latter shows the statements that define Competence Builders in this study. For example, the two most important indicators were items 21 (1.69) “receiving practical business development help in key areas” and 39 (1.33) “providing strategies for solving business problems”. The two most unimportant were items 32 (-1.84) “feeling accepted for who I am” and 5 (-1.39) “feeling comfortable disclosing things about myself”.

Table 4.18

Viewpoint I: Differentiating Statements

Item	Statement	FI Zscore	Average II-III-IV	Z Diff
21	Receiving practical business development help in key areas	1.69	-0.14	1.83
39	Providing strategies for solving business problems	1.33	0.30	1.03
29	Receiving feedback on projects and tasks to improve performance	1.31	0.18	1.13
40	Increasing my capacity to produce or create something	1.29	-0.17	1.46
44	Gaining knowledge to help me develop my entrepreneurial skills	1.17	0.12	1.05
48	Spending time doing specific business development tasks	0.67	-1.51	2.18
1	Being mentored by an authority, someone with a higher position	0.58	-1.82	2.40
8	Being committed to the mentoring relationship	-0.01	0.87	-0.88
24	Having respect and valuing what each other has to say	-0.01	1.33	-1.34
18	Being able to be myself	-0.88	0.92	-1.80
14	Helping me learn and grow as a person	-0.89	0.25	-1.14
5	Feeling comfortable disclosing things about myself	-1.39	-0.14	-1.25

Items 1 and 48 had the greatest positive ZDiffs (2.40, 2.18), yet neither was reflected in Table 4.17. When sorted on greatest ZDiff, only three of the extreme items surfaced as differentiating. Item 18 “being able to be myself” (-1.80 ZDiff) suggests that Competence Builders are not seeking self-development, however this theme would not be apparent should one only look at the highest ranked statements in Table 4.17.

Sketch.

This section weaves together the indicators from Tables 4.17 and 4.18, and provides the statement number in parentheses immediately following the statement. The entrepreneurs who associated with the Competence Builders viewpoint are focused on business growth goals. These goals are attained through instrumental mentoring support that emphasizes task-related assistance, coaching, and networking. These individuals are engaged in individualized training with their mentors – receiving practical business development help (21), strategies for solving business problems (39), and spending time working on specific business development tasks (48). By receiving feedback from a mentor on projects and tasks (29), the Competence Builder learns how to improve their performance. They believe effective mentoring allows them to gain knowledge and entrepreneurial skills (44) in order to increase their capacity to create something new (40). These entrepreneurs are looking for mentors who pull them forward and challenge them to grow their business. Competence Builders endure intense learning, experiencing emotional swings between success and failure, poor decision-making or incorrect assumptions.

Competence Builders seek mentoring from a successful entrepreneur who has achieved a level of success they aspire to someday. Often these are formal mentoring arrangements with an industry expert, professional advisor, or a seasoned entrepreneur (1). The end game is to build a profitable business that provides returns for those involved.

Individuals who are focused on building knowledge and skills are not looking for long-term personal or emotional advice, and as such they do not need to feel accepted by their mentor (32) or require commitment from these relationships (8). This group is less

comfortable disclosing things about themselves (5) as they are focused on goal attainment. Personal counseling and emotional guidance are off the table in formal mentoring relationships; these participants have family and friends who provide emotional support. Competence Builders accept some amount of unevenness in the relationship because they are asking for the mentor's time and assistance. This asymmetry may slow the development of respect (24) and mutual trust (16). However, the risks and rewards of the mentoring relationships may be shared if a mentor takes equity in the business in exchange for what they bring to the table, such as experience, expertise, networks, or other valuable resources. Competence Builders may not know how to navigate unfamiliar situations with a new mentor, and this may lead to unsatisfactory outcomes and relationships that do not end well. Entrepreneurs in this group may perceive that they are bearing excessive costs in the relationship if, for example, they have difficulty scheduling time to see the mentor, or feeling that their time is not valued (e.g., meetings changed/cancelled).

Competence Builders project confidence and are motivated to develop their idea into a new business. They believe as the business grows, they will become better people who are ready to be leaders and future mentors. The investment of time from a mentor has long-term impact, in effect, training the entrepreneur how to be an effective mentor in the future so they will be prepared to give back some of the help they receive.

Narrative synthesis.

Three female participants who had high factor loadings on the Competence Builders met for a group interview (.75, .81, .88). The four of us sat down at a table and spread out the 50 cards to recreate the composite sort for Factor I. The first question was about the extent to

which this sort represented their point of view, and how they saw themselves in the sort. The group huddled over the table and looked over the cards. The first participant took one look at the +5 and -5 ends and pronounced, “I see this as practical versus emotional”. All heads nodded in unison. Asked to define what that meant, they saw practical as being business focused, whereas emotional was personal and nurturing support, things they felt they could take care of on their own—“that’s what family and friends are for”, said one, “that's why I pay a therapist!”, said another. One of the written open-ended responses gave insight about why he felt this way, “A mentor does not need to validate me, I am private person and tend to compartmentalize my life”.

These entrepreneurs admit they have lofty goals to grow their business. They want to focus on business growth, strategies and actions, and introductions to the network. One participant wrote on the questionnaire, “For my startup I needed help on very practical, basic issues of business management”. It was surprising to discover a major similarity between the three interviewees, “we are all product-based companies, and we need to get our product out there into the market.”

This group saw themselves as distinct, as one interviewee pointed out, “technology and product entrepreneurs are totally opposite—in a tech/design environment it takes a lot longer to create one thing. Whereas in product we make a prototype and get it out there and start selling stuff.” Another added, “I’ve got to be agile to actually create products, produce them, sell and deliver, as well as the everyday stuff like doing the accounting, making calls to suppliers, and updating the website.”

Competence Builders want to gain new knowledge and skills from mentoring. One participant came from a STEM and Science background in Pre-Med. She had gaps in her knowledge about business management, and was looking for a mentor for business development guidance. There was consensus among the three interviewees that they've had access to influential mentors who gave valuable time and brought a different level of experience, opportunity, and chance for success in the industry. One respondent looked for growth and accountability, "I chose these [cards] as most important because they are practical, encourage growth, and challenge me to put the pen to the paper. A weekly reporting out of the movements I've made in the business keeps me accountable".

The researcher probed more into why this group ranked item number 1, "being mentored by an authority", as so much more important than the other three groups. To this, one interviewee offered a suggestion, "I've always been told, don't take advice from somebody who is not in the place where you want to end up. You take advice from somebody that's been there." There were indications that some lacked longevity in their mentoring relationships. When asked about this, one participant said,

Oh, I've gone through many mentors over the last two years—even had multiple ones at the same time. I would find out who was the best at doing what I needed to have done, and I'd stick with them longer, and reach out to them more than the others.

Another participant saw her status in the mentor relationship as subordinate adding, "I would expect that I would be the one who should always be there early or try never to cancel a meeting". The other interviewees concurred, "I would expect that relationship to be a little uneven because they're the ones who are already successful and taking the time to give back to me", and "I want a mentor who is experienced and successful in what they have done. Since they are giving back to me, I recognize that it's uneven—I'm the non-expert".

The emotional and personal growth aspects of mentoring were unimportant, and members of this group said they were not looking for inspiration or help being comfortable in situations. One participant put it this way, “to start your own business you must believe in yourself.” Another chimed in, “We’re already making our products, we all obviously have inspiration already”. Another reason participants refrained from ranking emotional support as important could be an inherently positive identity and strong sense of self. These women were coachable, confident, with a sense of inner power. Two out of three mentioned the positive impact of having participated in high school athletics. From a young age, these women had received reinforcement from family and outside support systems. One said, “I’ve been encouraged by my family and people close to me to explore my ideas and that my ideas are valued”. Another remarked, “I feel like this group of women entrepreneurs in general, has no fear. There is no, ‘I might not be able to do that’, it’s like, ‘Oh I probably can do that, let me give it a shot’”.

However coachable they might be, a high confidence level may become tested against unrealistic expectations of growth. One participant laughed in agreement, saying:

Maybe [I was reinforced] too much sometimes! I feel like I need somebody to knock me back down a little bit. I need some reality and for them to say ‘these things are not good and here’s what’s not going to work’. Someone to poke holes in stuff, that’s what I’m looking for right now.

In one of the open ended responses, a male participant said, “I rarely have people push me, most want me to feel supported or try to build rapport with kindness, but sometimes a challenge is what I need most”. One of the women at the table said,

I don't want to make it sound like I've landed, personally. I still have a lot of personal growth to do if I was going to be a leader. But for me, right now I realize that it doesn't matter that I become a leader unless I can grow my company to the next level.

Another interviewee reflected on a transformative moment of learning and growth,

I was so strong in this confidence field that my arrogance stopped me from growing. It didn't allow me to understand that not everything that I'm doing is correct, and that there's a lot of error. It is okay to say, 'I'm wrong and it's okay, I don't know everything'. It wasn't until I woke up and realized 'I don't know anything' that my growth actually started.

The need to meet more frequently with mentors was important and was related to the quality of help received from mentors. One participant explained, "if you don't meet often enough with a mentor, then they're not on the pulse of things and their advice isn't going to be timely. Plus, you may have to spend the whole meeting time catching them up to speed!" All three interviewees nodded their heads in agreement. This conversation led to a discussion about self-respect in the context of scheduling with a mentor,

I haven't canceled a meeting before, but if they cancel, sometimes you want to get mad about those things, but you know what? I'm on their time. But, I feel there is a thin balance where you have to respect yourself in that situation.

Another chimed in:

I ran into that once. I set up a meeting, and when I arrived the mentor said 'I've got to go run an errand, why don't we meet for lunch in an hour?' I twiddle my thumbs for an hour and at lunch we barely even discuss what I came to talk about. If I'm not getting anything out of it, it's not a resourceful relationship.

The conversation continued with a question about the need to balance being proactive versus the value of their time. One said,

I have a situation right now where there is someone who wants to mentor me who lives three hours away. I've driven to meet that person and they canceled last minute. So it may be a great mentor with a lot of connections but then how valuable is my time to drive and get canceled on? It is really hard to schedule with this person.

There can be misunderstandings between a mentor and mentee about the source of ideas, or the feeling of owing the mentor something. They agreed these situations could be difficult to navigate. One interviewee suggested this could be because, "people are looking

to mentor for a reason, and of course they want things for their time.” When an entrepreneur starts spending more time with one mentor, for example an industry expert, there may be some naïveté about the expectations for the exchange that is already happening, and the handling of proprietary information. One of the women said, “When a mentor is going beyond, and meeting with you on a regular basis, they are probably expecting some kind of equity”.

The expectations might be clearer in incubators and programs that have formal mentor groups. A mentor in a professional setting does not have to be a friend, but neither should they be too persuasive. One participant remarked, “My best mentoring relationships have been ones where they ultimately gained a vested interest in our business. I admit I’m not comfortable if I feel in the beginning that I’m being solicited”.

Another participant seemed pragmatic about how the exchange worked,

In my experience, the mentors I've had are there to reap the benefits of the business that they helped to build. And for myself, as I progress in business, I would like to become a mentor and sit on boards of companies and take equity in companies. That's the exchange. I'll give you advice, guidance, and maybe my money, and you'll give me back future guaranteed money.

One participant shared a transformative learning moment, when she realized, “Oh! I owe them something if I take their advice and our company makes money on that, they expect a chunk of that. Now, I think through carefully who I talk to about our proprietary business ideas”.

The participants in this group spoke of their mentoring relationships as mostly positive and goal-oriented. One open-ended response said, “Foundational for me is the trust that must be built between individuals to have a productive, valuable relationship—there is value in longevity. I've learned that trust is the clearest thing missing in bad relationships,

and clearest when present in the good ones.” One participant mentioned that she only had male mentors. “I find that women quickly become friends and it becomes more peer sharing than teaching”. The discussion moved to peer relationships with other entrepreneurs and how these were valuable in different ways.

One interviewee remarked, “We have a strong community of peer entrepreneurs who we can bounce ideas off. This is a very accepting environment, we get that mutual benefit because we are on the same level.” Another added, “We operate in this safe zone where we help each other” inferring the presence of reciprocity and interdependence with their entrepreneurial peers. One participant described this as, “I’ll share my information and resources, and when I need information next time they’ll have something to share with me.”

When asked to give some words that would describe this perspective, here were some of the ideas: “Fail fast”, “Get out of the way! Just kidding!”, and “You know that *Chumbawumba* song—I get knocked down and I get up again”. The interview ended on a humorous note that suggested a fearless confidence; women willing to persevere in the proverbial ‘white water’ of the startup environment.

Viewpoint II: Self-Developers

Summary.

Self-Developers believe effective mentoring results in empowerment and personal growth. Their mentors have strong core values, inspire them to greatness, instill wisdom, and guide them to become the person they aspire to be. Self-Developers are coachable and want feedback on how they can improve areas in which they are weak and increase their capacity to innovate. Self-Developers value coaching and leadership development from a mentor who challenges them to create a meaningful career in line with their values and aspirations.

Table 4.19

Demographic Characteristics of Self-Developers

Sort ID	Gender	Age Range	Years of Experience	Race/Ethnicity
3	Male	26-35	1 to 5	Caucasian
16	Male	<=25	1 to 5	African-American/African/Black
18	Male	<=25	1 to 5	Hispanic
20	Male	36-45	6 to 10	Caucasian
21	Male	26-35	1 to 5	Multi-racial/multi-ethnic
22	Female	26-35	1 to 5	Caucasian
24	Female	46-55	11 to 20	Multi-racial/multi-ethnic
26	Male	56-65	Over 20	Caucasian
28	Male	26-35	1 to 5	Caucasian

Table 4.19 lists demographic data for the 9 members of the Self-Developers, roughly 21% of the participants. Out of the group, there were seven male (.78), two female (.22),

comprised of five Caucasian (.56) and four non-Caucasian (.44). An aggregate of the demographic data is presented in Appendix N.

Indicators.

In the Self-Developer viewpoint, the top ten highest important and unimportant items, shown in Table 4.20, are useful as general indicators. However, Table 4.21 shows the largest z-score differences that define the Self-Developers in this study. For example, the two most important were items 28 (1.97) “challenging me to move my vision and ideas into action” and 46 (1.96) “helping me become the person I aspire to be”. The two most unimportant were items 48 (-2.03) “spending time doing specific development tasks” and item 7 (-1.46) “getting together socially to share an occasional drink or a meal”.

Item 13 (-1.54 ZDiff), as a task-related type of support was less important to Self-Developers than the other viewpoints, which supports the finding that this viewpoint values coaching and personal learning and growth.

Table 4.20

Viewpoint II: Extreme Items

Item	Statement	Rank
28	Challenging me to move my vision and ideas into action	+5
46	Helping me become the person I aspire to be	+5
14	Helping me learn and grow as a person	+4
23	Connecting me to expertise that I need to develop my business	+4
4	Learning about my strengths and weaknesses	+4
47	Having personal and emotional support	-4
34	Having a balanced reciprocal relationship where we share resources	-4
7	Getting together socially to share an occasional drink or a meal	-4
1	Being mentored by an authority, someone with a higher position	-5
48	Spending time doing specific business development tasks	-5

Table 4.21

Viewpoint II: Differentiating Statements

Item	Statement	FII Zscore	Average I-III-IV	Z Diff
28	Challenging me to move my vision and ideas into action	1.97	0.45	1.52
14	Helping me learn and grow as a person	1.59	-0.58	2.17
4	Learning about my strengths and weaknesses	1.44	-0.52	1.96
18	Being able to be myself	1.21	0.23	0.98
40	Increasing my capacity to produce or create something	1.05	-0.09	1.14
25	Being encouraged to grow and develop myself	0.81	-0.15	0.96
33	Being a source of inspiration for me	0.56	-0.45	1.01
39	Providing strategies for solving business problems	-0.39	0.88	-1.27
31	Feeling positive energy and enthusiasm when we are together	-0.42	0.94	-1.36
21	Receiving practical business development help in key areas	-0.44	0.57	-1.01
41	Helping each other without expecting repayment	-0.96	0.20	-1.16
7	Getting together socially to share an occasional drink or a meal	-1.46	-0.43	-1.03
48	Spending time doing specific business development tasks	-2.03	-0.61	-1.42

Sketch.

This section weaves together the indicators from Tables 4.20 and 4.21, and provides the statement number in parentheses immediately following the statement. Self-Developers are learning more about themselves through their mentoring relationships. Mentoring is a process of personal learning and growth (14) and empowerment to be their best selves and increase their capacity to create a business aligned with their values (40). Mentors help them to be their best selves (46), and learn how to think and reflect on prior experiences in order to make better decisions in the future, improving weaknesses. Self-Developers value mentoring relationships that challenge, encourage, and inspire them (28). This group has little interest in doing business development tasks with a mentor (48), if they need that kind of help they know where to get answers to specific questions.

Individuals in this group have had prior entrepreneurial experience and they self-identify as mentors too. They have ongoing developmental relationships that endure beyond careers and outside of the traditional boundaries of a mentor/mentee relationship, whether with family, friends, coaches, or clergy. Self-Developers are aware of their strengths, yet they want a mentor who will help them to improve areas where they are weak (4).

Self-Developers are coachable, receptive to feedback, and relish encouragement and affirmation from their mentors. It is not important to this group to go out socially with a mentor (7) they prefer deep discussion over small talk. They do not look for reciprocity, meaning equal give and take, in their relationships (34). Rather, they value a mentor who knows when to bring positive energy, and when to be encouraging and uplifting (31), but also has the ability to show concern about a problem and be ready to listen empathically. Although a mentor may not expect tangible repayment, they do get something out of it — a sense of fulfillment in seeing the person they helped grow into their best selves (14).

Narrative synthesis.

Two interviews were conducted with three male participants who scored high on this factor (.61, .64, .69). When asked what rises to the top in the composite sort, the first participant said, “I see this as being about the process more than the outcome, the value of the business more than business growth”. The second participant described it as,

I need to be challenged to do great things. I place the most value in mentoring on ‘growing’ as a person. Becoming the person you aspire to be is important because the impression that we give of ourselves matters in business.

The third said, “The point of a mentor is to push me to be a better person.”

On mentor relationships and emotional intelligence, one participant said,

I've been mentored by a few people, and I don't think that we ever clearly defined that role, but this person understood empathically what I needed to do to move forward. The same is true with people that I mentor. What is it that they need to do to succeed?

There is evidence of self-reflection in the mentoring relationship, as one interviewee said, "my business and my values need to go hand-in-hand. It's less about the 'what' and more so about the 'why'. Why am I doing this? What is going on 'inside of me' in the business?"

For mentoring to be most impactful, both men from interview #1 emphasized the process that leads to deeper supportive relationships. One stated,

Empathy is important to me, and it is how I am naturally. In the context of business you need to know your audience, who you are selling to, or who you are trying to help. It's important to have soft skills because you are in a business working with other people.

The practice of mentoring develops emotional intelligence, one participant noted,

Not everyone that you mentor is going to be the same. Your style of mentoring with one person may work for them, but you can't necessarily use that style with another person. Just because you think you have a formula of how to be a successful mentor, you have to be able to adjust and be aware of where they are and who they are, and that takes practice.

Mentors often have more than one mentee, and those individuals all learn and behave in different ways. One of the interviewees explained, "if the mentor isn't recognizing or paying attention to the mentee's emotions and how they are feeling, then it's not really so much of a mentorship." Nodding in agreement, the other participant added how important it is for mentors to be compassionate, saying, "it's the desire to alleviate suffering in people, and in order to do that you have to get inside that person's head and understand their perspective. That is just critical."

There were aspects of mentoring that were unimportant to the Self-Developers. The data revealed a sense of, 'I know what I need and what I don't'. For example, one of the written comments from this group said, "I'm not the type who needs to be nurtured, I'm also not a believer in 'positive energy' or being enthusiastic for the sake of trying to have a better experience. I don't need a shoulder to cry on." One interviewee agreed,

I've worked with people that often tell me what they think I want to hear. I really would like them to tell me what they perceived to be true; it would be more beneficial. They may perceive this to be working in my best interest, but they really are not. Sometimes we need some collaborative confrontation!

As far as being mentored by an authority or someone with a higher position, again that was not important because, as one interviewee noted, "what I want from a mentor is a sense of their values and how they are guided by them. Just because someone is in a higher position doesn't mean they have those values of a leader that I'm looking for." Another said, "I believe you can learn from anyone. If you don't look at people that way you're potentially throwing away a ton of value." In agreement, the other interviewee said,

I don't care about authority in mentoring. One of the best things you can do is to put people around you and under you who are better than you. As a leader, you should always be learning from people who are around you.

Another added, "I could care less if my mentor comes from a similar social background, and I don't care if they're senior to me, as long as they add value. I believe that everyone has something to learn from everyone else, therefore I don't believe being social equals or being mentored by an authority is important for learning to occur."

Great connections with a mentor do not rely on having outside social interactions. But to one interviewee, statement number 7, "getting together socially to share a drink or a meal" has become more important. He said, "I was used to having those conversations over

the phone or via email, but now, as things pick up pace and I'm getting closer to fulfilling my vision, I realize the importance of sitting down just to talk about things". Another participant said he may have misinterpreted this card, "the word *socially* throws it down here for me. I like to meet face-to-face and have these discussions over a drink or a meal. When sorting this, I pictured 'small talk' and I tend to drift away from that."

A written response from a female participant added, "I need someone that gives me energy and motivates me to learn." In contrast one interviewee said,

I think 'feeling positive energy and enthusiasm when we are together' can be difficult from a mentor's standpoint. It would be such a great quality of a mentor to know when to feel concerned for a mentee, and when to be the positive energy, encouraging and uplifting. The more time I spend with different people I realize that there are people who don't want you to encourage them, they want you to listen. And there are some people who want your advice and want you to build them up.

Mentoring for this group includes reflection on learning, and also encouragement to move forward without being too overly enthusiastic. "That's a little too much like a cheerleader— if it's bad, let's cut to it!" One participant shared a routine he learned, "When facing a failure, my mentor would say 'take 10 seconds to freak out, 11 if you must, but once you've had that time, get down to business and change whatever happened'.

Those interviewed in the Self-Developer perspective spoke of the benefits and expectations of mentoring. "There is a reward in giving, one that you can't really see from the other side. The giving has to have a level of wisdom to it." Another said, "I don't feel like mentoring is a tit-for-tat thing, I don't expect anything in return, maybe some internal appreciation that someone is out there trying to help you". Another added, "Even when [mentors] don't want anything back tangibly, they are getting something out of it, even if it's a sense of fulfillment in seeing a person grow".

Unimportant items were in relation to instrumental support, one written response said,

Most of the business development stuff can be found elsewhere, I wouldn't consider a mentor as someone who would advise me on some of those things. I can find professionals who can tell me how to do certain tasks, legal, or HR advice. That's not mentoring.

Another participant said, "I see that as someone who serves as a resource, like a coach or an advisor. But a mentor focuses on my internal personal and professional growth."

Mentoring is also about empowerment. One participant said,

My mentor gives me mantras, such as, 'do hard things, embrace discomfort, and demand excellence'. The whole idea of a mentor is to be giving in a way that is not about them, but about the other person, not just giving, but working alongside them to bring their vision to reality.

Another agreed, "My mentor pushes me, not as in hand holding, but essentially a real kick in the butt and a lift!" One interviewee addressed the line between mentoring and friendship, "When it's for mentoring, it's completely business first, and then if something personal happens on the side or after, then that's a bonus."

These participants saw that the work they do in business also leads to personal growth. One participant said, "as a byproduct of the learning, that kind of happened for me, as a person I grew because of the things I was learning. I think becoming a better entrepreneur can equate with becoming a better person, too."

Another participant gave an example of communication with his mentors, saying,

Personally, I have to be connected to people who can connect me with others. This is my strength, and it's a role and responsibility of mine. I have been up front with my mentors, saying, 'hey, this is something that I value; we are going to build a phenomenal relationship and I'm going to do everything I can for you and one of the things you can do to help me is to introduce me to more people like you'.

This same participant mentioned that since the time he completed the sort a few months prior, he had changed some of his thoughts about mentoring. He now has gone into a

partnership with his former mentor. Some of his responses suggested that he may be shifting roles and moving toward the Network Expander viewpoint. He now sees his role as “going out and talking to as many people as I can in one day, creating this investor/partner/customer network or community that we can lean on every second of every day.”

This group felt that improving weaknesses was more important than focusing on strengths, one said, “If we only look at our strengths, where is the learning in that?” One written response mentioned, “The further I get into my startup journey, the more I'm looking for people to help me improve in areas that I'm not strong.”

Toward the end of the interview, an interviewee reflected on his experience,

Moving forward, after [my startup] has left the accelerator, however it ends, I will have more knowledge and a comprehensive toolkit to move into the next venture, whether I'm running it or working for someone else. The accelerator is like an athlete in training; afterward you're much better off because of it.

In the concluding moments, a few phrases were suggested to describe the perspective of Self-Developers, “It’s the journey, not the destination”, and another said, “Grow, grow, grow! By this I mean we are people who are looking to expand themselves, either skill set wise or on a personal level. You can grow your network in a lateral web, and grow vertically in terms of personal and professional skill sets.”

Viewpoint III: Network Expanders

Summary.

Network Expanders engage in and seek to proliferate mutually beneficial, growth-fostering relationships with peers, seasoned entrepreneurs, and professional friends. They spend time building rapport with enthusiastic ‘like-minded’ people. This serves to diversify their network and expand their influence and potential for impact. Network Expanders thrive in accepting environments with flat and collaborative organizational structures. They seek out trustworthy and committed ‘partners’ who can get them ‘in the door’ in order to share their expertise and be known as a resource to the community.

Table 4.22

Demographic Characteristics of Network Expanders

Sort ID	Gender	Age Range	Years of Experience	Race/Ethnicity
4	Male	26-36	1 to 5	Caucasian
9	Male	<=25	Less than 1	Caucasian
10	Male	26-35	1 to 5	Caucasian
11	Male	<=25	1 to 5	Caucasian
15	Female	26-35	1 to 5	Caucasian
17	Female	26-35	1 to 5	Asian-Indian
23	Male	36-45	Over 20	Caucasian
29	Female	46-55	11 to 20	Caucasian
33	Male	26-35	1 to 5	Caucasian
38	Female	36-45	1 to 5	Caucasian
39	Male	26-35	1 to 5	Caucasian
43	Female	46-55	Less than 1	Caucasian

Table 4.22 presents demographic data for the 12 Network Expanders, approximately 29% of the sample in this analysis. Out of the 12 members there were six male (.50), six female (.50), comprised of eleven Caucasian (.92), and one non-Caucasian (.08). What is not readily apparent from the demographic data is the level of prior work experience of this group. Of interest is that eight out of twelve left prior employment to strike out on their own.

Indicators.

The top ten most important and unimportant, or extreme, items in Table 4.23 are useful as general indicators. However, Table 4.24 shows the largest z-score differences that define Network Expanders in this study. For example, the two most important were items 19 (1.90) “making targeted introductions to people in the mentor’s network” and 8 (1.72) “being committed to the mentoring relationship”. The two most unimportant were items 42 (-1.91) “being taken under my mentor’s wing in a nurturing way” and 35 (-1.87) “receiving advice about achieving work-life balance”.

Table 4.23

Viewpoint III: Extreme Items

Item	Statement	Rank
19	Making targeted introductions to people in the mentor’s network	+5
8	Being committed to the mentoring relationship	+5
13	Getting advice about how to handle specific situations	+4
16	Having a relationship founded on mutual trust	+4
31	Feeling positive energy and enthusiasm when we are together	+4
1	Being mentored by an authority, someone with a higher position	-4
17	Having things in common that make us socially equivalent	-4
35	Receiving advice about achieving work-life balance	-4
38	Being counseled on personal matters that are affecting me	-5
42	Being taken under my mentor’s wing in a nurturing way	-5

Table 4.24

Viewpoint III: Differentiating Statements

Item	Statement	FIII Zscore	Average I-II-IV	Z Diff
19	Making targeted introductions to people in mentor's network	1.90	0.57	1.33
8	Being committed to the mentoring relationship	1.72	0.29	1.43
31	Feeling positive energy and enthusiasm when we are together	1.43	0.33	1.10
41	Helping each other without expecting repayment	1.00	-0.46	1.46
10	Spending time together to build rapport	0.64	-0.74	1.38
7	Getting together socially to share an occasional drink or a meal	0.53	-1.09	1.62
49	Having a professional friendship	0.27	-1.00	1.27
21	Receiving practical business development help in key areas	-0.47	0.58	-1.05
44	Gaining knowledge to help me develop entrepreneurial skills	-0.48	0.67	-1.15
25	Being encouraged to grow and develop myself	-0.73	0.37	-1.10
29	Receiving feedback on projects/tasks to improve performance	-0.86	0.91	-1.77
4	Learning about my strengths and weaknesses	-1.25	0.37	-1.62

In regard to item 29, coaching to improve their performance or learn new skills is not important to this group. It should be pointed out that four of the seven positive differentiating statements (41, 10, 7, 49) did not appear within the extreme items on Table 4.23. The psychosocial and relational differences are important in defining this viewpoint.

Sketch.

This section weaves together the indicators from Tables 4.23 and 4.24, and provides the statement number in parentheses immediately following the statement. Network Expanders are committed to strong mutually beneficial relationships (8) and professional friendships (49). With others, they attend networking events, share an occasional drink or meal (7), and make targeted introductions to people in each other's networks (19). This group of participants seeks out collaborative environments built of people, like a human resources culture, where closeness and mutuality can develop. The Network Expander is not

looking to be nurtured (42), get personal advice (35), or learn about their strengths and weaknesses (4).

The social and professional network is an asset into which they are willing to invest time and energy. There is reciprocity between mentors and mentees, based on trust and mutuality, where members share resources and the benefits of network expansion. The more people they can network with, the better. Network diversity is important, as there will not be a single person with all of the characteristics desired in a mentor. It is about growing the team of individuals who have corresponding views about work and cultural dispositions.

This group has experienced a shift in values that reflects a flatter paradigm with greater opportunities to widen influence and impact. They can be described as iconoclastic (one who breaks with tradition) and mavericks (having independent thought and action). They reject the notion that role models must be in positions of power or authority, and they don't subscribe to the notion of earned equality as in the case in hierarchical systems.

Helping each other without expecting repayment is the norm between equally influential peers (41). The most satisfying relationships are those where both take advice, give advice and create a strong and sustainable relationship.

Network Expanders are experienced and they know their strengths and weaknesses. They look for opportunities to apply their talent and experience to have an impact, rather than get overlooked as a meaningless cog in the machine. They make an effort to cultivate relationships with those who can get them in the door and in front of new and diverse people who share a similar vision.

The benefits of mentoring relationships are shared with others in a mutually beneficial environment buzzing with positive energy and enthusiasm. Positive interactions (31) and reciprocal support make it more likely that relationships will endure over time, reaping rewards in a virtuous circle (20).

Narrative synthesis.

I sat down with two participants for an in-depth interview. There was one male and one female, who both had high factor loadings (.65, .66). After sorting the cards into the array for Factor III, I asked to what extent they saw their point of view reflected in the sort. The female started by saying,

Yes, I see myself in these numbers! I think in part it's because we have experience. The cards we put down here as unimportant are personal, nurturing kinds of support. Probably when I was younger I would've said those were important.

The male interviewee agreed, "I have people that I can ask for guidance on personal matters that are affecting me, so when talking about mentorship in an entrepreneurial situation, I am looking for specific things that will add value."

Having relationships built on trust, commitment, and respect were important to this group, as seen in the written responses and the interview. The female interviewee said, "now that I have some experience and confidence, it's much more important for me to have a committed relationship with mutual trust and respect. I also really like to be challenged in certain ways." The open-ended written responses supported this, as in "my relationship should be based on trust and mutual commitment. Without that foundation, a healthy relationship cannot develop." Another said, "if there is a lack of trust or commitment—it's doomed." It is reasonable to suggest that this group values relational support to expand their

network, "the more people you network with and learn from and about, the better. A willingness to share their connections shows their confidence in you."

Being mentored by someone in a higher position was unimportant to one interviewee,

I think part of it is being an entrepreneurial rebel, in that you're going against the traditional route of working to move up the ladder, for it to be considered a successful career. Being an entrepreneur isn't a traditional path, therefore hierarchy doesn't matter. There really isn't this notion of earned equality.

One written response said, "it's the person not the status or title that counts." The male interviewee added, "to me, a mentor doesn't have to be the boss of something, as long as they can question my assumptions or help me think through certain decisions, then I don't really care what their position is." He added,

A command-and-control and top-down environment doesn't leave a lot of room to be innovative or think outside the box and be creative. Big companies don't necessarily challenge assumptions, whereas in the entrepreneurial world that is huge, you're challenging the way things happen, and thinking about the world differently so that you can innovate.

This group sees additional value in the networks that surround their mentors. The male interviewee said, "one of the things I look for is *who* is in the mentor's network." One written response lent support to this, saying, "mentors should add energy to the relationship, and their most valuable asset is often their network." The female interviewee went on to say, "I look for individuals who are well-networked, with key customers and contacts, someone who can get you in the door." She added, "in an entrepreneurial venture, the hardest part is to get over the door. Once there, you have the opportunity to pitch your value and sell others on your ideas. The door is closed unless you have that network."

There was evidence that prior mentoring had an impact on personal learning. The female said, "there's a difference between people who have had experience in a mentor

relationship, versus someone who may not have and who needs that critical assessment of their strengths and weaknesses. I can tell you right now all my weaknesses!” What came out of this discussion was that, “the best mentors push you forward—they don’t try to protect you from reality.”

Network diversity was a goal mentioned by several individuals in this group. They like to be challenged to look beyond the walls around them for ways to see the world differently through diverse perspectives. One of the written responses said, “I tend to gravitate to individuals who are opposite of me, and seek being challenged because it is intellectually stimulating.” Another added, “I want to learn from a variety of people with varying experiences”. Having the freedom to look to non-traditional mentors was important, too, “I like to look outside the ‘entrepreneurial ecosystem’ when deciding whether to do something or not, because the people inside are always like, ‘yeah you should totally do that, it sounds amazing!’”.

A male participant wrote, “A positive attitude and shared passion is what can allow a partnership to grow. If I feel I have to put up a façade than the help isn't really for me.”

One female respondent wrote about why she wasn’t looking for instrumental aspects of mentoring, saying, “business development is not an area where I’m lacking because I’ve got a background in sales and management. I’m self-motivated, and I’ve learned to embrace it as part of my core belief system.”

The female interviewee felt one important card was missing from the Q sample—celebrating success,

As an entrepreneur you are always pushing yourself and often don't take the time or understand the importance of celebrating your successes. A mentor is in a good

position to do that and that is key to recharging and fueling your next task and ongoing future challenges.

The people in this group have expertise of their own and they want to be a resource, to be let in the door, and to build more network connections. The female interviewee said,

I think we know our own value at some level. That's why we were willing to leave the title and the big company. We know we have something valuable to offer and we decided to bet on us. I think that is a key theme I'm hearing here —confidence and collaboration.

Interestingly, there were several tech entrepreneurs in this group, as opposed to the product entrepreneurs in the Competence Builders group. About this, the female interviewee shared, "I struggle as a woman to find a peer group in general, because a lot of female small business owners are not necessarily tech people. So that is a different type of struggle between tech entrepreneurship and a small business like a bakery. Different needs." This participant went on to talk about mentoring in her peer relationships,

I haven't been able to find a peer group for mentoring. That has been the most difficult thing after leaving a big company to start my own business. I find that people who have gone through the same experience in the same environment, other experienced peers, have changed along with me as I've grown as an entrepreneur. Traditional mentors haven't gone through this situation and can't apply the rules of enterprise to entrepreneurship.

The male interviewee added, "[being an entrepreneur] is pretty new for me. I quit [Company Name] not even a year ago, so no I don't have a peer group!" However, he mentioned the value of accelerator programs:

You are supposed to be in a mentor/mentee type of relationship there. I found that the people who were the 'all-knowing' mentors were really helpful in certain situations. But I got the most out of talking with other companies in the accelerator and relating to their experiences. It's very peer, in that they are going through the same crap that you're going through—trying to build the company, trying to survive the accelerator itself, that kind of thing. The problem with those programs is that once it's over you lose that. It kind of dies.

These participants did their homework concerning where a mentor had the most value. The male interviewee said, “Certain people provide different value in a mentor relationship. This person over here asks me great questions that challenge my thinking, as opposed to making introductions to the network, that might be somebody else completely.”

The issue of expectations and exchange surfaced from the female interviewee,

In my experience, if someone is giving me advice or mentorship for payment, I don't trust what they are saying as much as when there is authenticity and a genuine interest in helping one another. That's why a fundamental part of the relationship is that trust and mutual benefit without payment, I think that's the core of a true trusting relationship. I see it as payment versus exchange.

The male interviewee added,

If it's a relationship where a mentor expects payment, I see that as a formal type of mentor relationship, an advisor, someone who spends time doing specific development tasks or providing feedback on projects, they act as a consultant to your business, so they may expect some kind of payment. As opposed to a personal mentor relationship, like a peer relationship, where there is a lot more mutual trust. I think these are different types of relationships completely.

Ironically, the two participants interviewed had both left corporate organizations for the wilds of entrepreneurship. They spoke of the difference in cultures, “When compared to the culture of a corporation, [this co-working space] is built on people, mutual trust, mutual benefit, and growth. It's a growth culture and a human resources culture.” After years of corporate experience, the move from a salaried position with power and prestige to a startup is a big risk. The female interviewee added, “especially when you had a consistent monthly paycheck, one with a lot more money than you're probably making right now!” This was a defining point—this group measured success by what they value—people and collaboration. The male interviewee said, “I don't see myself as much of a risk taker really, I guess through personal reflection, I am more than I think I am!”

The male interviewee went on to talk a little more about why he became an entrepreneur, “I left my job because I didn't feel like I was having an impact on anything. I was going through the motions on behalf of [his old Company Name] and my professional life was fairly meaningless.” The female interviewee concurred, adding, “the further I moved up and the more money I made, the more I hated it, because I wasn't doing any work anymore, I was playing the game.”

Something that emerged with this factor was their way of thinking about important decisions. The male interviewee said, “I'm an internal processor, it takes me longer, I don't verbally process, it all happens up here, nobody knows anything and all of a sudden I'll be like, I've got it!”, whereas the female interviewee said,

I didn't always process internally; it's a learned skill for me. When talking things out, some people will take it as cement. I found as I've aged that it's better to process internally, taking some time to reflect and come out with something more eloquent.

The two interviewees jointly came up with some words that best describe their perspective. The first said, “Veteran Collaborative Maverick works for me—it shows the experience, the exchange, the sort of rebelliousness, which is entrepreneurial!” Other mottos came out, such as “we don't suffer fools over here”, and “we know our own value”.

Viewpoint IV: Respect Seekers

Summary.

Respect Seekers believe strong relationships are built on a foundation of mutual trust, respect, and valuing what each other has to say. They seek targeted advice from ad hoc mentoring episodes as much as they do from long-term trusted relationships. This group is inspired and motivated to move their current project forward, so they are not looking for someone to push and challenge them. They seek genuine honest feedback from respected individuals. There is evidence that this group engages in higher-order thinking, such as evaluating various courses of action, and making decisions informed by diverse perspectives.

Table 4.25

Demographic Characteristics of Respect Seekers

Sort ID	Gender	Age Range	Years of Experience	Race/Ethnicity
1	Female	36-45	1 to 5	Asian-Indian
2	Female	36-45	11 to 20	Caucasian
12	Male	<=25	1 to 5	Caucasian
13	Male	26-35	6 to 10	Caucasian
19	Female	26-35	6 to 10	Caucasian
35	Female	36-45	1 to 5	Caucasian
41	Female	26-35	1 to 5	Caucasian
46	Female	26-35	1 to 5	Hispanic

There were 8 Respect Seekers, approximately 19% of participants in this study (Table 4.25). Out of the group there were three male (0.38), five female (0.62), comprised of six Caucasian (.75) and two non-Caucasian (0.25).

Indicators.

The top ten important and unimportant, or extreme, items in Table 4.26 are useful as general indicators. However, Table 4.27 shows the largest z-score differences that define the Respect Seekers in this study. For example, two most important were items 24 (2.29) “respecting and valuing what each other has to say” and 29 (1.17) “receiving feedback on projects and tasks to improve performance”. The two most unimportant were items 1 (-1.99) “being mentored by an authority, someone in a higher position” and 49 (-1.52) “having a professional friendship”. Item 40 suggests that Respect Seekers feel they have sufficient capacity to do what they want to do (-1.90). Item 28 (-2.70 ZDiff) indicates that this group is not expecting a mentor to challenge them to work on growing their business.

Table 4.26

Viewpoint IV: Extreme Items

Item	Statement	Sort Score
24	Having respect and valuing what each other has to say	+5
13	Getting advice about how to handle specific situations	+5
16	Having a relationship founded on mutual trust	+4
6	Having a mentor with skills in specific areas that I want to	+4
45	Asking questions that challenge my assumptions and my thinking	+4
33	Being a source of inspiration for me	-4
49	Having a professional friendship	-4
38	Being counseled on personal matters that are affecting me	-4
17	Having things in common that make us socially equivalent	-5
1	Being mentored by an authority, someone with a higher position	-5

Table 4.27

Viewpoint IV: Differentiating Statements

Item	Statement	FIV Zscore	Average I-II-III	Z Diff
24	Having respect and valuing what each other has to say	2.29	0.57	1.72
29	Receiving feedback on projects and tasks to improve performance	1.17	0.23	0.94
25	Being encouraged to grow and develop myself	1.00	-0.21	1.21
5	Feeling comfortable disclosing things about myself	0.34	-0.72	1.06
19	Making targeted introductions to people in the mentor's network	-0.90	1.50	-2.40
10	Spending time together to build rapport	-1.11	-0.16	-0.95
28	Challenging me to move my vision and ideas into action	-1.20	1.50	-2.70
40	Increasing my capacity to produce or create something	-1.23	0.67	-1.90
33	Being a source of inspiration for me	-1.45	0.22	-1.67
49	Having a professional friendship	-1.52	-0.41	-1.11
1	Being mentored by an authority, someone with a higher position	-1.99	-0.96	-1.03

Sketch.

This section weaves together the indicators from Tables 4.26 and 4.27, and provides the statement number in parentheses immediately following the statement. Respect Seekers value a respectful, encouraging, and supportive relationship with mentoring partners (24). They need to be able to feel trust (16) and comfort with others before disclosing information about themselves (2). Respect Seekers consult with individuals in their large and diverse network for advice about how to handle specific situations. This group wants authentic communication with someone with whom they can be open and vulnerable.

This group believes effective mentoring can take place anywhere and with anyone (1). It is important that a mentor exhibits ethical behavior such as confidentiality and protecting the privacy of others (2). The Respect Seeker is thoughtful and considerate of others' boundaries, and they protect their own.

Respect Seekers develop mentoring relationships with people in the network regardless of position, authority, or social status. This factor is self-directed and does their research to find the expertise they need to take their next action step. They learn about an individual's expertise by knowing their body of work. This factor is the quintessential protean orientation and they exhibit variety and diversity in their relationships. Prior experience has enabled them to take in diverse and different perspectives, which allows them to choose lenses that may be more appropriate to a situation. They are successful in navigating the network to their advantage and finding the expertise they need (23). This group does not need to have a friendship with a mentor to value the relationship (49). They are coachable and engage in ad hoc mentoring episodes that result in needed information and feedback on ideas (29). Respect Seekers are not trying to increase their entrepreneurial capacity (40) because the ideas and inspiration are already within (33). They want to take action, to do something, and to be encouraged to realize their highest potential (25).

Narrative synthesis.

Individual interviews took place with two female participants with high loading on this viewpoint (.60, .65). The interviews took place at different times, and followed the same protocol. Interview #1 was the first post-analysis interview done in the study. The second interviewee looked at the transcript of interview #1 to provide comments. The written responses and especially interview #2 revealed this factor's coherence around the importance of respect. The first interviewee sorted the cards into the Factor IV array. Her initial comment after looking at the polarity reflected in the sort was, "these cards look like touchy-feely versus action". Interviewee #2 captured the same essence after sorting the array. She

said, “action-oriented versus awareness”, and explained this by saying, “I value people who have action in their background, more than awareness—if that makes sense. I want to hear from people who’ve had calculable successes and even failures. I’ve learned more through my failures than from my successes, they stay with me much more.”

The central theme to emerge from this viewpoint was the importance of respect in a mentoring ‘moment’—respect for ones self, inwardly, and toward others, outwardly. One of the written responses summed it up as, “To be authentic, is to be respectful and show someone who you genuinely are.” Interviewee #1 added, “there are billionaires like [celebrity], I would never want to listen to a word they said! To build that good foundation, they need to earn my respect.” The second interviewee added, “What I value in mentoring is hearing how someone handled a situation where they really [made a bad decision] or struggled, this somehow makes them more relatable.”

Honesty was an important component of good relationships. Interviewee #2 said,

I value someone being straight up with me, more so than being fluffy and encouraging. It is almost better to have a mentor who doesn't have an interest in your success or failure; they're more likely to be straight up and honest with you.

One of the written responses added trust, “I’d like my mentor to be confidential and protect my privacy; if I’m going to be open with somebody, trust is a core thing.”

Explaining how she sees mentoring relationships develop, interviewee #2 said,

I feel like there is almost a curve. You get closer to someone, and they kind of care, but they don't kind of care. When you get closer to them you think, ‘oh, but I don't want to hurt their feelings’. Finally you reach a point where you care enough that you'll be honest because you know that's what's best for them.

Both women commented on different mentoring approaches. The first said,

I'm very specific about who I'm approaching. I talk to people for specific reasons. That can be done from afar too. I can have trust and respect for someone who I don't

know very well based on their body of work, or based off who they've worked with in the past. It's okay if I haven't known this person for a long time. My initial feeling of trust is related to their action; in this case, their body of work.

And the second added, “if someone is going to be your mentor, obviously you want to make sure that they align with what you need.” For her this was reflected in statements number 26, ‘having a mentor with attitudes and values that I want’ and number 45 ‘asking questions that challenge my thinking’. She explained,

What makes this beneficial is being able to apply what was learned in one situation to solve a different problem based on that conversation. It is like teaching somebody how to fish rather than giving them a fish, in the long-term this is more important for growth rather than short-term specific problems. I don't think a mentor is a problem solver.

At the unimportant end of the sort, one participant disagreed with the location (-3) of number 7 ‘getting together socially for a drink or a meal’. She said,

I think it is *very* important to interact in a social setting to determine who a person is and to make sure that you really do align with them. It doesn't mean you have to like them, but in a less structured environment you learn so much more about a person than when looking at documents and spreadsheets.

Both interviewees agreed that a mentoring moment could happen with anyone regardless of social standing. Interviewee #1 asked, “Being socially equivalent? Who cares about that! A lot of those compartments are unnecessary. If a label is important to you, then that's not somebody I want to work with!” She gave an example of someone who she sees as a reverse mentor, “There’s an intern who works for me, and I have a lot to learn from her. She’s a valued member of our team. I encourage her input and respect what she has to say.

Past experiences in business and mentoring relationships have a lasting impact on future behavior. This was apparent during interview #2. She said, “I believe very much in the person and the personal brand, you own your skills. It’s on you to make it happen. I

wouldn't say that I'm a lone wolf, but I have had partnerships that haven't gone well, just difficult, and that made me more wary of working with some people. It affected core business partnerships.”

A written response remarked, “it's really about the person that is in front of you and the people around you, and the kind of energy that you have around yourself. For me that is really important.” An interviewee added, “Positivity and enthusiasm, I thrive off of that. I love being around other people who are innovative and creative, it brings it out more in me.”

The first interviewee talked about how she approaches a mentor, “it’s targeted, you want some advice before you take a big action...you’re going to do it anyway so you might as well get some advice!” The second interviewee followed up with, “I don't always act on what my mentors suggest, much to their chagrin I'm sure, but I definitely value hearing it and factoring it into my decision-making.”

On being internally motivated, interviewee #1 said, “maybe that depends on whether you have an idea that’s brewing, or if you’re already in motion with something and need tangible help as opposed to direction. You need someone to help you along, but you shouldn't need somebody to challenge you to do that.” The second interviewee agreed,

I don't need someone to challenge me to move my ideas into action. I think that has to come from inside, you're never going to be a successful entrepreneur if somebody else has to tell you to do it. I don't need somebody to say ‘go do this’, I mean, I’m gonna!

When a mentor expects something tangible in return for their advice, “that to me is contrary to the meaning of mentorship”, said one participant. She added,

I feel like we accomplish more over a casual beverage at a networking event, where you just chat and have an informal one-off conversation with someone you just randomly run into. To me, that’s a mentoring moment; I am able to garner a little bit of advice and attention from that person, the advice is shared in a moment of trust and

respect, as if they are thinking, 'I'm here with this person who has asked me a question and I'm going to respect them and give an answer'. I like to get myself into rooms where such people are accessible, and put myself into situations where I can get in front of them and make a genuine impression.

While some may think that entrepreneurial mentorship is just about business, this group suggests that it is about so much more than that. Interviewee #2 expressed a profound thought, "Mentoring is a moment of connection and opportunity, each episode is different but there may be a recurring character." She explained,

I feel like genuine mentorship happens in informal settings, where you're accessible, where your guard might be down a little bit. A situation where we're developing rapport, not expecting anything from either party, just having a moment of respect and sharing information. It's important to follow up, to say 'I really appreciate you sharing that with me, I am definitely going to think about what you said'. Be grateful, send a thank you note saying how awesome it was to see them the other day.

A good mentor can come from any place. One said,

It doesn't matter what your rank is, it matters who you are and what you know and your experiences. I don't care about position or authority. I can learn something from anyone, anywhere. And I'm very open to who I get advice from. I feel like most of my mentor experiences are one-off, short and sweet, kind of just in time. It doesn't have to be formal. I look for mentoring in any situation.

About the need for confidentiality and privacy, this participant added,

In moments of true honesty in mentoring, I'd like to be able to disclose some perhaps bad decisions that I've made. I want that moment where I can be vulnerable and honest. And I want my mentor to respect that vulnerability and not judge me for decisions or mistakes that I've made in the past.

Members of this group seek out advice and feedback from multiple mentors. One participant wrote in, "I don't have just one specific mentor, I have a network of people who I feel I could tap and call on them when needed." Later in the interview, the second interviewee creatively envisioned that she was the Captain of her own ship, occasionally she

would get on other peoples ships and they would get on hers. At times they would be “ships passing in the night”, and others they would take action and “Get Ship Done!”

When asked for descriptive words about this perspective, the initial response was “action versus awareness”. And in closing, interviewee #2 suggested,

I think what defines this perspective is a human approach; we're all here just trying to get through. And anything you can say to help me get through to the next day better than I am today is what I'm looking for.

Additional Findings

The post-sort questionnaire produced data that described the group of 46 entrepreneurs in this study (Appendix G). The demographic data are presented in aggregate for the summary in Appendix N. These descriptive statistics reported gender, age, education, years of experience as entrepreneur, experience in formal mentoring program, self-reported success as an entrepreneur, race/ethnicity, industry sector, and whether the founder participated in an entrepreneurial development program.

The questionnaire asked six open-ended questions to gather participant reactions immediately following the Q sort. They were asked about the comprehensiveness of the statements in the Q sample and about the sorting process itself. Responses were woven into the *Sketch* and *Narrative Synthesis* sections presented earlier in this chapter.

Question 5 asked whether there were any statements participants felt were missing in the Q sample. Over 80 percent said the Q sample was comprehensive, as one participant wrote, “the cards were well-written and truly reflect all emotions and decisions entrepreneurs face when identifying a personal/business mentor”. Participants suggested a few additional statements they felt were important in mentoring, and where they would place them:

- Age, cultural values, gender +3 and +4
- Someone who is reliable, punctual, and will respect my time +4
- Be understanding if I choose not to take their advice +3
- Mentor is not too opinionated and dominant +3 and +4
- Meeting face to face rather than using email +3
- Similar expectation on relationship structure and parameters +3 and +4
- Celebrating successes +3
- Making someone smile or laugh +5

Question 6 asked if participants were thinking about a positive or negative mentoring relationship when they sorted the cards. Over 85 percent of participants said they were

thinking of a positive mentoring relationship, 12 percent said both, while only one participant was thinking about a negative relationship while sorting. Three comments made on Question 6 were: “The best mentors have helped me develop great ideas and shared their experience in tough times”, “I learned a great deal about leadership by watching the results of poor leaders” and “I try to turn negatives into things that I would look for in future positive relationships”.

Concerning refinement of the Q sample, there were two items (17 and 40) that the researcher determined did not fit into the construct to which it had been initially assigned in Chapter Three. At several points during analysis, the researcher realized these items fit better in a different construct. Item 17 “having things in common that make us socially equivalent”, was more in line with role modeling (RM) than with encouragement (ENC), and item 40 “increasing my capacity to produce or create something” reflects personal learning and growth (PLG) more than inspiration (INS). The numbers in Table 3.1 were adjusted to reflect the new proportion within the Q sample.

Chapter Summary

This chapter provided a description of the factor analysis process and presented the study findings. The research questions were answered by providing evidence to support the four factor viewpoints that emerged in the analysis. The study data produced findings where a high number of participants loaded on factors. This suggests the presence of shared viewpoints where groups of participants were thinking alike. In Chapter Five, after a summary of the findings, the discussion will focus on the themes that emerged and how well this study answered the research questions. Then, the discussion will compare and contrast the findings to the literature reviewed in Chapter Two to identify the ways in which the

findings from this study were consistent or inconsistent with established findings. The implications of this work on practice, policy, and research will be discussed. Suggestions for future research are recommended by making connections between the emerging ideas from this study to other literature. Concluding remarks will present a summation of the present study.

Chapter Five: Discussion and Implications

This study identified and explored entrepreneurs' viewpoints based on how they were thinking about their best mentoring experiences at the time of data collection. The researcher asked entrepreneurs to express their points of view about effective mentoring support through a card sorting activity. The focus of the sorting activity was an inquiry into the defining indicators (e.g., behaviors, actions, processes, and practices) that describe a viewpoint. The card sorting activity allowed entrepreneurs to express subjective aspects of their mentoring experiences in such a way that they could be compared. This subjectivity was explained in Chapter One using a "black box" metaphor; meaning the unobservable, nonlinear activities that transpire between mentoring partners that lead to a variety of outcomes.

This chapter discusses the findings and implications of this study. First, the reader will be reminded of relevant findings for each research question. Second, these findings will be compared and contrasted to the theoretical framework and established findings in the literature. Third, possible implications for practice, policy, and methodology are examined. Finally, recommendations for future research and concluding thoughts are presented.

Summary of Findings

Comprehensive findings are reported in Chapter Four and will not be revisited here. This research study was carried out to answer four research questions, namely:

1. What viewpoints emerge about the kinds of support needed for effective mentoring?
2. What are the indicators of effective mentoring support for entrepreneurs?
3. How does each viewpoint reflect the indicators of effective mentoring?
4. How do high loading participants explain their viewpoint through the composite sort?

Finding 1.

What viewpoints emerge about the kinds of support needed for effective mentoring?

A four-factor solution emerged from the data in this study. In keeping with the use of a naming convention typical in Q methodological studies, the researcher gave short descriptive names to the viewpoints that reflected the characteristics that emerged from the group. The four viewpoints found in this study were:

- I) Competence Builders,
- II) Self-Developers,
- III) Network Expanders, and
- IV) Respect Seekers.

A comprehensive description of the factor analysis that concluded this finding is addressed in Chapter Four. For the purpose of discussion, a four-factor solution may be understood as four distinct groups of participants, each group sharing a particular point of view. This finding presumes the presence of clusters of participants who were thinking alike at the time of data collection. The demographic characteristics of the participants who held each viewpoint may reveal patterns of gender, age, or experience, however the reader is cautioned not to interpret demographic data as a finding that relates to the characteristics of a viewpoint—demographics in Q are meaningless. Taken as a whole, the viewpoints express a range of entrepreneurs' perspectives about effective mentoring experiences. The name of the viewpoint does not wholly capture the meaning or states of emotion expressed by participants of how it feels to hold their particular point of view. Question 2 provides some

of the missing details, a list of unique indicators of effective mentoring support. Not all viewpoints reflect each of the indicators.

Finding 2.

What are the indicators of effective mentoring support for entrepreneurs? This study found 22 indicators of effective mentoring support for entrepreneurs. These were the items with the greatest magnitude of z-score difference between two factors:

- a. being a source of inspiration for me
- b. being able to be myself
- c. being committed to the mentoring relationship
- d. being encouraged to grow and develop myself
- e. being mentored by an authority, someone with a higher position
- f. challenging me to move my vision and ideas into action
- g. feeling comfortable disclosing things about myself
- h. feeling positive energy and enthusiasm when we are together
- i. gaining knowledge to help me develop entrepreneurial skills
- j. getting together socially to share an occasional drink or a meal
- k. having a professional friendship
- l. having respect and valuing what each other has to say
- m. helping each other without expecting repayment
- n. helping me learn and grow as a person
- o. increasing my capacity to produce or create something
- p. learning about my strengths and weaknesses
- q. making targeted introductions to people in the mentor's network
- r. providing strategies for solving business problems
- s. receiving feedback on projects/tasks to improve performance
- t. receiving practical business development help in key areas
- u. spending time doing specific business development tasks
- v. spending time together to build rapport

This list does not indicate the extent to which the indicators were important to each viewpoint. The summary presented in Question 3 will show which of the indicators were important and unimportant for each viewpoint.

Finding 3.

How does each viewpoint reflect the indicators of effective mentoring? To answer Question 3, the researcher analyzed the data in a three-way matrix (Appendix U) to parse out the magnitude of difference between and among the viewpoints that resulted in the list of 22 indicators of Finding 2.

Items that were ranked similarly among participants, the consensus statements, may not necessarily show up in the indicators but are no less important to interpretation. Based on the four-factor solution, there were four statements that participants agreed on. Challenging thinking and assumptions were important, whereas personal and emotional support or counseling were not important to the participants in this study. The reader may refer to the data examined in Chapter Four for a close reading of the numbers. A summary of the key indicators for each viewpoint is shown in Table 5.1.

Table 5.1

Summary of Indicators by Viewpoint

	Important	Unimportant
Competence Builders	<ul style="list-style-type: none"> • being mentored by an authority, someone with a higher position* • gaining knowledge to help me develop entrepreneurial skills • increasing my capacity to produce or create something • providing strategies for solving business problems* • receiving feedback on projects/tasks to improve performance • receiving practical business development help in key areas* • spending time doing specific business development tasks* 	<ul style="list-style-type: none"> • being able to be myself* • being committed to the mentoring relationship • feeling comfortable disclosing things about myself* • having respect and valuing what each other has to say • helping me learn and grow as a person
Self-Developers	<ul style="list-style-type: none"> • being a source of inspiration for me • being able to be myself • being encouraged to grow and develop myself • challenging me to move my vision and ideas into action • helping me learn and grow as a person* • increasing my capacity to produce or create something • learning about my strengths and weaknesses* 	<ul style="list-style-type: none"> • feeling positive energy and enthusiasm when we are together* • getting together socially to share an occasional drink or a meal • helping each other without expecting repayment • providing strategies for solving business problems* • receiving practical business development help in key areas • spending time doing specific business development tasks

*Indicates distinguishing items ($p < .01$).

Table 5.1 Continued

	Important	Unimportant
Network Expanders	<ul style="list-style-type: none"> • being committed to the mentoring relationship* • feeling positive energy and enthusiasm when we are together • getting together socially to share an occasional drink or a meal* • having a professional friendship* • helping each other without expecting repayment* • making targeted introductions to people in mentor's network • spending time together to build rapport* 	<ul style="list-style-type: none"> • being encouraged to grow and develop myself • gaining knowledge to help me develop entrepreneurial skills • learning about my strengths and weaknesses • receiving feedback on projects/tasks to improve performance • receiving practical business development help in key areas
Respect Seekers	<ul style="list-style-type: none"> • having respect and valuing what each other has to say* • being encouraged to grow and develop myself • receiving feedback on projects/tasks to improve performance • feeling comfortable disclosing things about myself 	<ul style="list-style-type: none"> • making targeted introductions to people in mentor's network* • increasing my capacity to produce or create something* • being a source of inspiration for me* • challenging me to move my vision and ideas into action* • having a professional friendship • spending time together to build rapport • being mentored by an authority, someone with a higher position

*Indicates distinguishing items ($p < .01$).

Finding 4.

How do high loading participants explain their viewpoint through the composite sort? The high loading participants in the affinity groups had the opportunity to talk about what these indicators meant and how they were thinking about their mentoring experiences presented in the Chapter Four *Narrative Synthesis* sections. Through these interviews, participants' talked in-depth about what things they felt were important or unimportant. Critical events and experiences were presented to explain their opinions.

Discussion of Themes from Findings

The discussion section locates the findings of the study within the context of prior research and theory. This next section will discuss how the findings of this study fit with the purpose and significance from Chapter One, and literature presented in Chapter Two. There were four themes that emerged from the findings of this study that have direct connections to the literature presented in Chapter Two.

By comparing and contrasting the themes found in this study with established findings in the literature, we are able to place the contributions of this study within the broader conversations taking place in entrepreneurship and mentoring scholarship.

Theme 1: Method and practice of entrepreneurship.

According to Kuratko (2005), entrepreneurship is synonymous with the process of starting a new business, but also is related to the activities of a founder-entrepreneur that represent innovation, learning, changed structures of organization and protean career processes. As the findings of this study showed, entrepreneurs pursued these activities to different degrees at different times depending on their self-identified needs at the time. The viewpoints in this study were defined by the methods and practices that were present in their most effective mentoring relationships. These are seen in the set of indicators (e.g., behavior, process, action) that contribute to a satisfying relationship. For example, Competence Builders value mentoring that is focused on collaborative learning activities and directed at building their entrepreneurial knowledge and skills. Effective mentoring for Network Expanders placed an emphasis on the presence of flatter organizational structures and having a positive, committed, and collaborative environment. Some viewpoints were defined more

by the activities that were not important. Respect Seekers were not looking for introductions to the network and Self-Developers did not need business development help. It is evident that what constitutes effective mentoring support is subjective to the individual.

As the literature demonstrates, the mindset of an entrepreneur can be characterized by a set of behavioral patterns, practices, and competencies (Morris et al., 2013). Different learning and development practices are influential as to how entrepreneurs learn new ways of seeing, thinking, and behaving (Neck et al., 2014). The findings of this study revealed how each of the viewpoints expressed differences in the type of thinking and behavior that was valued in a mentoring experience.

The reader will recall that there was one important statement of consensus among all participants in this study, which is also a learning strategy: effective mentors practice asking the kinds of questions that challenge their assumptions and thinking. This statement suggests that entrepreneurs will seek out people and situations that foster growth and development. This is the self-directed nature of career development seen with participants in this study.

The literature shows that entrepreneurship is a major contributor to job creation, innovation, and economic renewal (Baron, 1998; USSBA, 2014). While this study did not set out to measure the outcomes of mentoring, the findings have the potential to impact the survival of new ventures through better supporting the founder-entrepreneur. Understanding different values and motivations in the pursuit of an opportunity should be of interest to researchers, entrepreneurs creating ventures, and other stakeholders and policymakers who wish to foster entrepreneurial behaviors. The study of subjectivity in mentoring is

appropriate in the career context of entrepreneurship where each path is unique, and where learning and development are accomplished through social relationships and experience.

The method and practice of entrepreneurship is shaped by prior experience (Carsrud & Brännback, 2009; Politis, 2005). The mentoring literature says a decision to mentor is influenced by the costs and benefits associated with mentoring, becoming a frame of reference connected to prior experience (Ragins & Cotton, 1993).

Organizational mentoring research has shown that a mentor's beliefs about the importance of hierarchical culture affect how they see benefits of candid interactions with mentees (Ghosh, Haynes, & Kram, 2013). This finding appeared to be at work when understanding more about the viewpoint of Competence Builders. Their exchange relationships were rooted in authority ranking and market pricing relational models (Fiske, 1992), which means there is an accepted unevenness between mentor and mentee.

Johnson and Ridley (2008) posit that in mentoring self-awareness is related to self-disclosure. In the case of Self-Developers and Respect Seekers, this finding was consistent since both of these viewpoints valued being able to open up and be vulnerable with a mentor. In this study, the level of comfort to self-disclose to their mentor (psychosocial support) went hand-in-hand with mutual respect and trust (relational support). A mentor who models healthy self-disclosure exhibits self-awareness and willingness to be authentic in the relationship. Because self-disclosure can enhance connection in a relationship, Johnson and Ridley (2008) found that protégés rate the willingness to self-disclose as one of the most important qualities of an effective mentor. The Competence Builders were less inclined to self-disclosure with their mentors, preferring to keep it professional and leave personal things

private. Competence Builders made no assumptions of commitment or respect with mentors rather it was seen as something to work toward and build. This is how the Competence Builders explained why they ranked these items as less important.

Where the process of entrepreneurship may be seen as “linear, predictive, planning-focused, data rich, even rational, the method of entrepreneurship is iterative, creative, action-focused, data poor, and even emotional” (Neck, Greene, & Brush, 2014). The method and practice go hand in hand, and the findings in this study are supported by the literature.

Entrepreneurship is a burgeoning career choice in contemporary society, one that stretches beyond the confines of a single organization or career development pathway (Briscoe & Hall, 2006). This mindset was prevalent in the findings of study; participants valued the many options they had to choose their own trajectory. This is consistent with Franklin (2013) who found that entrepreneurs are intrinsically motivated to pursue autonomy, meaningfulness, and self-growth. The findings of this study suggest that entrepreneurs gather a portfolio of practices through their engagement with mentors during new venture creation. The boundaryless career actor in a sense creates a boundaryless organization; one that resists the self-imposed boundaries of a traditional organization. The boundaryless concept supports the unlimited learning potential of the entrepreneur, which is the second major theme in this study.

Theme 2: Unlimited potential for learning and development.

There is consensus among entrepreneurship scholars that core entrepreneurial skills can be taught (Kuratko, 2005), and there is a set of key entrepreneurial competencies needed (Morris et al., 2013). Based on findings in this study, core entrepreneurial skills were largely

developed in the opportunity recognition and pre-startup phase. Advanced competencies were further enhanced over time and through experience; a type of self-authorship that shapes emerging adulthood, as described by King and Kitchener (2015). In this study, the acquisition of entrepreneurial capacity is what moves an individual from a mindset of a novice entrepreneur toward that of an expert, one difference that separated the Competence Builders from the other three viewpoints who were less focused on capacity building.

Research done on cognitive development notes that human psychosocial development occurs in distinct stages connected by transition periods that are experiential (Erikson, 1980). The perspectives found in this study support the idea of development taking place through transitions from one level of experience to another. The participants spoke of the importance of reflection on previous actions as a way to codify their learning experiences in the entrepreneurial environment. There is evidence that practicing reflection can enhance other learning practices (Kitchener & King, 1981; Schön, 1983).

In the literature, the entrepreneur is rarely described as a decision maker or a thinker (Carsrud & Brännback, 2009). This study found evidence that effective mentoring support was associated with the development of new modes of thinking that emerged from dialogue, reflection, and maieutic questioning practices (Kitchener & King, 1981). The findings demonstrate a relationship between learning methods and learning context. Vygotsky (1987) highlighted the importance of everyday activities, collaboration and direction, and assisting learners “through demonstration, leading questions, and by introducing the initial elements of the task’s solution” (p. 209).

For example, encouragement and modeling help develop *affective* learning, and verbal exchanges, discussions, maieutic questioning, and working together help develop cognitive learning. Dialogue leads to understanding commonalities and exposes thinking. The reader will recall the word *maieutic* means midwife, and it refers to a pedagogical method that helps to birth new ideas and elicit new knowledge through question and answer and interrogation. It is an aspect of the Socratic Method where the respondent has to formulate concepts based on a logical sequence of questions.

Exploring this concept further, St-Jean and Audet (2013) conducted research about intervention style and found that a maieutic (logical questioning) approach combined with mentor involvement produce the best results. Where a mentor is directive and not very involved in the relationship leads to unintended outcomes and is potentially toxic (St-Jean & Audet, 2013). Their findings describe the ideal mentor as someone with high involvement and low directivity toward the protégé.

The literature is replete with references to the modes of thinking that are developed by entrepreneurial experiences: creative thinking (Carsrud & Brännback, 2009; Dubitzky et al., 2012; Kill & O'Rourke, 2011), higher-order thinking (Johnson, 2010; Kerrick, 2008; Smith, 2013), development of thinking patterns and abstract thinking (Pettiford, 2006), concrete thinking (Anderson, 2009), counterfactual thinking (Baron, 2000; Carsrud & Brännback, 2009), and critical thinking (Neck & Greene, 2011; St-Jean & Tremblay, 2010). Ko (2004) found evidence of bisociative thinking in entrepreneurial opportunity identification. In particular, the Network Expanders and Respect Seekers spoke about the extent to which they engaged in internal processing, and "taking in advice and going away to

evaluate alternatives" as a feature of their decision-making. These participants highlighted that mentoring for them was not having someone give them answers, but to elicit information from trusted sources that inform their own personal decision-making (Vaillant, 1977). In this study, the Network Expanders and Respect Seekers had greater entrepreneurial competencies, most likely due to prior experiences in diverse networks. These two groups had less desire to gain knowledge and skills, or increase their capacity to produce something new, unlike the Competence Builders.

The findings of this study are consistent with the cognitive theory of multiple intelligences (Gardner, 1999, 2011; Johnson, 2010; Lawley, 1997), where the traditional notions of intelligence are replaced with perceptions that everyone is potentially smart in a number of ways. It is reasonable to suggest that multiple intelligences and exposure to alternative frames of mind help to "tease out capabilities that seem central or 'core' to an intelligence" (Gardner, 1999, p. 37). The findings of this study showed that participants were able to apply their strengths to new venture development, and find mentors who would empower them and guide them to develop to their fullest potential.

Vicarious learning and learning through experience are core features of entrepreneurial learning (Bandura, 1977; Cope, 2005; Deakins & Freel, 1998; Kolb, 2014; Kolb & Kolb, 2005; Wang & Chugh, 2015). In this study, having a variety of learning experiences contributed to personal and professional growth of the entrepreneur *in the* business. This finding supports how entrepreneurs learn by experimentation, followed by reflection on the results of action (Neck et al., 2014, King & Kitchener, 2015; Schön, 1983).

In the practice of entrepreneurship, it is not uncommon to experience failure, disappointing results, surprise events, and unexpected success. Entrepreneurs must adapt to changing fortunes and occasional crises (Smith, 2013), and as such, transformational learning experiences feature prominently in the lifecycle of a new venture. This transformation is manifest in new ways of thinking, organizing information, and new patterns of behavior (e.g., identifying and acting on opportunities, creating and growing successful new ventures) (Duffy, 2007; Rae & Carswell, 2000). Findings in this study suggest that this group experienced an iterative, evolving way of learning and development, described by Breslin and Jones (2012), that stands in contrast to the idea of set stages for adult transitions, put forward by stage theorists like Levinson et al., 1978. With effective mentoring support, entrepreneurs theoretically have an unlimited potential for development (Wilber, 2000). The participants in this study seemed to exude the confidence that they could learn how to do just about anything with the right support.

Theme 3: Support structures conducive to innovation.

The support structures in place for entrepreneurial development belong to contextual factors, and may be designed to be more conducive to innovation (e.g., flexible conditions, exposure to social networks) (Bishop, 2012; Carsrud & Brännback, 2009). The participants in the study highlighted a variety of benefits associated with working out of an accelerator, incubator, co-working space, or similar built and managed environment. Because of the nontraditional structures of these arrangements, entrepreneurs find acceptance and encouragement from peers, as well as connections to vast resources to grow their new

venture (Buttner, 2001; Rodenbaugh, 2002). Positive and enthusiastic people and environments encourage creation of high-quality connections (Cameron & Spreitzer, 2012).

Breslin and Jones (2012) say, “entities both make, and are made, as a consequence of interaction with their environment” (p. 300). Support structure was an important aspect of effective mentoring for the entrepreneurs in the study. For Competence Builders, the entrepreneurial workspace provided access to expertise and opportunities for experimentation and testing. Self-Developers look to support structures for inspiration, aspiration, and encouragement, as well as opportunities to mentor others. Network Expanders enjoyed having a positive and enthusiastic environment, with open meeting places for peer interaction and growth of their professional network. Finally, Respect Seekers tap into support structures through regular networking events that bring them closer to the people who they turn to for advice on current ideas.

Overall, the support structures described by participants in this study were similar to a “third place” consistent with Oldenburg’s (1989) description of a place that is welcoming and comfortable, accessible, free or inexpensive, with food and drink, and with regulars and staff. He calls this the “great good place” to meet, socialize, and share ideas with and learn from peers. This description fits the feeling of community and energy that exists in entrepreneurial workspaces and the ecosystem.

Increasingly, more people are attracted to entrepreneurial events and competitions to test their ability to create something innovative and useful. This serves to widen the base of the ecosystem and build the knowledge of the community as a whole. These diverse networks are comprised of people who possess different abilities and a mix of different

perspectives and intelligences (Bishop, 2012; Dobrow et al., 2011; Gardner, 1999). Diversity enhances the collective capacity of the network more than if everyone possessed the same set of competencies. One benefit of diverse groups is that collectively they are good at different things, and this increases in power when there is shared language (e.g., terms used in startups). This study found that the level of prior experience was positively related to a greater ability to tap into diverse networks of potential mentoring partners.

There are different expectations of mentoring in a formal sense as opposed to informal or peer mentoring prevalent in the workplace environments of this group of participants. For the Network Expanders, informal mentoring relationships had the potential to blossom into peer mentoring, and strong, committed business friendships (Gaggioli, 2011). The Competence Builders did not recognize their peers as mentors. They considered a relationship with a business mentor as completely different from those with peers.

The literature shows that effective mentoring influences the development of social capital (Hezlett & Gibson, 2007). The participants in the study have different levels of social capital, and it follows that more experienced entrepreneurs accrue more benefits as they expand their network to include mutually beneficial types of partnerships with peers and others. This stands in contrast to the Competence Builders who experienced the least amount of commitment from their mentors. Newer members of the entrepreneurial ecosystem arrive in a deficit position of social capital – the liability of newness they must work to overcome.

Self-Developers would argue that true mentoring is not a business or investor relationship, it is voluntary process that offers trust and respect, more so than cognitive outcomes with an expectation of measurable results. This is at odds with perceptions of

mentoring as coaching, which entails a business relationship with financial rewards. For example, Ragins and Cotton (1993) found that, although women anticipated more barriers to becoming a mentor than men, they expressed equivalent intentions to serve as a mentor in the future. This was the case with Competence Builders who expressed the desire to eventually mentor others. Women may have a stronger desire for interpersonal relationships than men do, which means that they may have stronger relational motivations (Ragins & Cotton, 1993).

Mentoring research has focused on instrumental motives to engage in mentoring relationships, and has neglected relational support until most recently in Ragins' development of relational mentoring theory (2005, 2012). In this study only the Competence Builders equated effective mentoring support with instrumental functions, such as task related assistance, while the Self-Developers, Network Extenders, and Respect Seekers placed more emphasis on psychosocial and relational functions for effective mentoring.

Fiske's (1992) theory posited four types of relationships that people use to organize, evaluate, and enact their social relationships. These relationships and associated rules serve as guiding principles, or norms, that have a profound effect on behavior. The entrepreneurs in this study had differing points of view about how to negotiate transactions with mentoring partners and the construction of social identities they would like to establish in the eyes of others. The findings demonstrate the use of social exchange and relational models in their mentoring relationships and how these transform over time and through stages of new venture development.

This brings to question the role of power in mentoring interactions (Miller, 1976). Fletcher and Ragins (2007) describe how "relational perspectives emphasize mutual learning

and influence—a model that has been called ‘power with’ (see Follett, 1924; Miller, 1976), contrasted with ‘power over’ modes of influence that characterize hierarchical work relationships” (p. 375). The Network Expanders in particular resisted the notions of a command-and-control structure in entrepreneurial environments, and preferred a flatter, collaborative approach. The authority relationships that are based on hierarchy do not match the entrepreneurial sensibility of democratic group behavior and teamwork (Rodenbaugh, 2002). To negotiate leadership in non-traditional workplaces, entrepreneurs must learn how to exercise their personal authority and influence. This was described by Respect Seekers and underscored the importance of respect, influence, and confidentiality. Developing power in a relationship includes both positional and personal authority, requiring an understanding of the role of leadership and authority and how best to exercise it in constructive ways within the entrepreneurial ecosystem to empower others in mutually beneficial ways.

Theme 4: Relational savvy in entrepreneurial mentoring.

Mentoring relationships change people in positive ways (Kram, 1985). The mentoring scholarship is abundant with findings that support the positive benefits associated with mentoring across a number of contexts (Eby et al., 2013). In addition, the reach of the learning from these experiences extends beyond the workplace, into future relationships, and results in changed behavior at home and in the world. This theme suggests that entrepreneurs may have more satisfying mentoring experiences when a mentor exhibits relational proficiency and is perceptive about emotions and personally meaningful goals.

In addition, there is evidence that “entrepreneurs’ emotions are contagious” (Carsrud & Brännback, 2009, p. 172). Enhanced relationships with mentors, investors, and peers and

the ensuing positive emotions could serve for the ultimate growth and success of a new venture (Seligman & Csikszentmihalyi, 2000). It should not be assumed however that positive emotions are more helpful to the success of a new business than are negative emotions (Carsrud & Brännback, 2009). In this study, the Self-Developers remarked that having positive energy and enthusiasm was not necessary to have great mentoring. Ideally, they wanted a mentor who could sense when listening was needed more than cheerleading, and encouragement instead of advice.

For this group compassion and empathy were important indicators of positive experiences. McLaren (2013) defines empathy as "a social and emotional skill that helps us feel and understand the emotions, circumstances, intentions, thoughts, and needs of others, such that we can offer sensitive, perceptive, and appropriate communications and support" (p. 11). The participants holding this viewpoint described themselves as empathic and attuned to values that served them as they mentor to others. This behavior is related to having higher levels of emotional intelligence, (Chun et al., 2010; Goleman, 1995; Johnson, 2010; Raina & Sharma, 2013; Rodenbaugh, 2002).

Since strong social networks are seen as critical to entrepreneurial success, the lack of support resulting from negative emotions might negatively influence the success of a new venture (Ozgen & Baron, 2007). Eby et al. (2008) found that when comparing mentored and non-mentored individuals, mentoring was negatively related to psychosocial stress and strain, and this was evidence of the personal and emotional benefits from mentoring.

Relational mentoring integrates behaviors in the work and non-work domain (Ragins, 2005). And high-quality relationships can influence the quality of life within and outside the

workplace (Ragins & Dutton, 2007). It is reasonable to suggest that relational competencies would be particularly important in the work-life balance of entrepreneurs who live with risk and uncertainty, often expending tremendous energy in pursuit of their dreams and visions.

According to Cullen and Russell (1990) the capacity for self-actualization (the development to one's full potential) has a strong connection with the will, purpose and values of the individual. Mentoring scholars have suggested that self-actualization is an ultimate goal of mentoring. This corresponds with the Self-Developers and Respect Seekers viewpoints as the behaviors enacted by these participants were in alignment with their core values in a way that spurred the growth of the individual toward fulfillment of their highest goals for themselves. This finding is consistent with the Development Mentor described by Burlew (1991), who guides an individual to the fulfillment of their highest potential.

Over time and through experience, entrepreneurs develop a practical understanding of and proficiency in building strong developmental relationships. The findings in this study showed the importance of mutual trust, commitment, and time spent (Gaddis, 2009; Wang et al., 2009; Shrader, 2004), as well as reciprocity and equity (Baker & Dutton, 2007; Ragins, 2012). The quality of the connection with a mentor can serve as a proxy for mutual respect (Ragins & Verbos, 2007; Stephens et al., 2012), meaning good experiences with a mentoring partner may speed the development of the relationship.

Connecting findings to the theoretical and conceptual framework.

In this section, the findings are compared to the theoretical framework presented in Chapter One. The social exchange (Homans, 1958) and relational models (Fiske, 1992) theories were consistent with the findings in this study as it relates to the expectations and behaviors that take place in effective mentoring. Mentoring is an exchange that is regarded as mutually beneficial to both mentoring partners (Chao, Walz, & Gardner, 1992; Hunt & Michael, 1983; Kram, 1985).

In this study, the four patterns of relational models (Fiske, 1992) mapped to the four viewpoints. The Competence Builder is associated with two of Fiske's models. The first, authority ranking (AR), assumes asymmetry or hierarchy between a novice and an individual who is the mentor, and the second, market pricing (MP), accepts a proportional return from an investment of time or money, such as percent share of the business or a seat on the board. This finding is consistent with the goals of mentoring this group. The Competence Builder is willing to exchange a piece of the business for expert advice from an authority.

Self-Developers and Respect Seekers are associated with Fiske's communal sharing (CS) pattern, where members see each other as having things in common and will share resources and information freely. It is natural for this factor to be respectful and considerate of others. These two viewpoints believed good mentors can be found anywhere, and what is important is having a sense of trust with the other person, as well as an encouraging attitude.

Finally, the Network Seekers operate relationally using the equality matching (EM) pattern, based on balance, correspondence, turn taking and reciprocity. This study showed

that equality-matching patterns corresponded with the flat and collaborative structure of the co-working environment, where there were greater levels of equivalence among members.

Regarding the conceptual framework, the findings from this study fit into Figure 1.1, to give new meaning to the micro processes and behaviors that take place in the “black box” (Bunge, 1963, 1972). The findings in this study make a contribution to the research into subjectivity. Consistent with Bunge (1972), the exploration of conceptual models reveal traits that remain hidden as long as the whole was regarded as a black box.

Connecting findings to three types of mentoring support.

The four viewpoints that emerged in this study differed in the types of support they prefer. These were described in Chapters Two and Three. The reader will recall the three types of mentoring support and associated constructs that were revealed in the analysis: instrumental [task-related assistance, connection and advocacy, and coaching], psychosocial [acceptance and encouragement], and relational [personal learning and growth, trust and commitment, and shared respect].

The indicators presented as the answer to research question 2 are visually depicted in Table 5.2, through a matrix that compares the types of support preferred by each group in this study. For example, while Self-Developers were not looking for task-related business development assistance (they ranked 3 task-related items as unimportant), they did highly value relational mentoring support (they ranked 3 personal learning and growth items as important). It will help the reader to understand this matrix as simply a count of the number of important and unimportant items, presented in such a way that allows us to make some assumptions about what these four viewpoints value in mentoring.

Table 5.2

Matrix of Mentoring Support by Viewpoint

Type of Support	Construct	Competence Builders		Self-Developers		Network Expanders		Respect Seekers	
		IM	UN	IM	UN	IM	UN	IM	UN
Instrumental	Connection and advocacy	1				1			2
	Task-related assistance	4			3		2		
	Coaching	1		2			1	1	1
Psychosocial	Encouragement			1	1	1	1	1	
	Acceptance				1	3			2
Relational	Personal learning and growth	1	1	3			1		1
	Affirmation of best self		1	1					
	Inspiration			1					1
	Relational trust and commitment		2			1		1	
	Shared influence and respect		1					1	
	Reliance on communal norms				1	1			

Note: Important (IM) and Unimportant (UN), the amount of 1s and 0s from Table 4.19.

Even with the cursory look at this matrix, it is reasonable to suggest that Competence Builders value instrumental support more than relational support. This could be because these individuals seek practical help and therefore want mentors who can provide task-related assistance and introductions to the mentor's network. Because this group is focused on growth and success, they place less importance on the relational aspects of mentoring.

The Self-Developers would rather receive coaching and encouragement from a mentor rather than business development help. Because the focus is on personal learning and growth, this viewpoint is the most relational of the four groups in this study. They want mentoring to empower, inspire, and affirm that they are becoming their best selves.

Similar to Self-Developers, Network Expanders are not looking for mentoring to provide task-related assistance. The psychosocial functions are of greater importance, in particular 'being accepted' by those in their growth-fostering networks. Some of these

participants left a hierarchical corporate structure for a more collaborative and flattened structure of the entrepreneurial context where they feel free to think differently.

The Respect Seekers considered several indicators less important than the other viewpoints. This group looks for a balance of instrumental, psychosocial, and relational support from their mentoring relationships.

The matrix would be useful to an individual who is considering an interdisciplinary career such as entrepreneurship. Reflecting on the participants' stories from this study, it is possible to see oneself and identify with particular aspects of mentoring support. The matrix in Table 5.2 presents, in tabular form, the important micro processes and interactions that transpired inside the "black box" of mentoring for this set of entrepreneurs. To get at the subjectivity within, we turned to the voices of participants. To sum it up, effective mentoring support builds practical entrepreneurial competency and capacity, develops the self, empowers leadership, expands influence, values diversity, and respects action.

Implications

The following section discusses implications for practice, policy, and research to better support effective mentoring for entrepreneurs and growth outcomes for the business.

Implications for Practitioners

The findings from this study have implications for different practitioner groups participating in the entrepreneurial ecosystem. There are implications that could influence the activities and practices of a founder-entrepreneur-practitioner who represents innovation, learning, and change in organizational structures and career processes.

The findings would be useful when considering a boundaryless, interdisciplinary career, such as entrepreneurship. A novice entrepreneur could read about these participants, see themselves reflected in a viewpoint, and identify with particular aspects of mentoring support they may not have previously considered. This study exposed the thinking of a group of entrepreneurs, which may be unfamiliar to novices. The findings shed light on new ways of understanding career development and the meaning of success.

The findings have implications for experienced entrepreneurs who have been successful in their startups and who desire to give back to the community and mentor aspiring entrepreneurs. The study brings out important reflections about the expectations, costs, and benefits that surround mentoring. Knowing more about effective mentor support may increase the likelihood of a positive and high quality match. Mentors could benefit from doing the card sorting activity as professional development. An online tool could be used to replicate the sorting experience and provide opportunities for reflection on learning.

Aspiring entrepreneurs could use the findings to identify and name the things that are most important to them when seeking support for their new venture. The findings present a common language and set of terms that can guide the protégé to ask questions up front and let the mentor know their expectations for support in the relationship. The findings from this study identified different ways of thinking and behaving that a novice may want to consider before seeking out a mentor. Knowing more about these perspectives may help to establish a good match between the mentor's skills and resources and the mentee's expectations.

The findings provide a richer understanding of entrepreneurs' lived experiences of being mentored and the resulting stories of learning and transformation. There are implications for the discipline of entrepreneurship to prioritize adult learning characteristics and the ability to build and maintain strong relationships in research and practice.

Educators will find the results of this study informative when designing curriculum segments about learning and development for degree programs in entrepreneurship. While management knowledge is critical for building a business, the findings from this study add a dimension of self-knowledge and reflection on the changing needs of the entrepreneur during the startup process. Courses can be designed to educate entrepreneurs on alternative perspectives and how to make the most of growth-fostering relationships. By inviting entrepreneurs to reflect on their thinking, they develop skills that are essential to success, such as learning how to learn from mistakes and failure. Workshops and professional development experiences could use card sorting activities to discover similarities and differences among a group of students or faculty.

Higher education degree program directors may use the outcomes of this study to improve curriculum designed to prepare future entrepreneurs to (a) create awareness of how to build relational skills through the practice of entrepreneurship, and (b) have a deeper understanding of the expectations and benefits through social exchange and relational models. Other entrepreneurial training and development initiatives, whether privately or publicly funded, can use the findings to incorporate meaningful experiences that will best match the needs and support the learning of entrepreneurs who participate in their programs.

Administrators who are managing formal mentor programs can use the findings from this study to establish guidelines and expectations around behavior. This may help alleviate breakdowns in mentoring relationships that are caused by unclear expectations. By increasing the occurrence of positive and high quality mentoring relationships, more entrepreneurs are likely to be attracted to these programs.

Corporate organizations may find the study results insightful about the effects of command-and-control cultures on the ability of their employees to question routines, be innovative, and think about the world from other perspectives.

The findings have implications for the inclusion of diverse perspectives at all levels of the ecosystem. Barry's (1997) work on acculturation and adaptation suggests the development of pluralistic communities (presence and tolerance of ethnic, religious, or cultural groups) transcends mere tolerance and moves toward an energetic engagement with diversity by seeking out and valuing differing points of view.

The demographic variation among the viewpoints, while not used to infer causality, could be connected and compared to existing research and discourse about the gendered

nature of entrepreneurial activity. For example, the majority of Competence Builders in this study were Caucasian women, while the Self-Developers were majority male and had the most non-Caucasian representation. These demographic patterns may confirm or refute existing gendered stereotypes and suggest new criteria for being a successful entrepreneur.

Of interest is how entrepreneurial mentoring is experienced differently for males and females. Also, women's' conceptions of their 'entrepreneurial self' and how they develop through what Gill and Ganesh (2007) call 'bounded empowerment'.

Implications for Policymakers

Many of the participants in this study expressed concerns about the difficulty in finding mentors who could effectively help them as their needs changed during the growth of their startup. To address this concern, the following section presents some ways that policymakers can influence and improve options for mentoring in the entrepreneurial context.

The strongest finding of this study at the policy level was a deeper understanding of the support structures conducive to growth such as sponsored programs, collaborative environments, and an increase in places people can go to work, network, and collaborate (i.e., accelerators, incubators, co-working spaces, public spaces with free meeting rooms).

Policymakers may see another interpretation of the findings. One that recognizes the liability of newness associated with being an aspiring entrepreneur. Examples include the cost of learning new knowledge and skills, navigating conflicts with partners about roles, and the very high potential for failure. Organizations that provide business development assistance and accelerator programs would be interested in knowing how to provide effective support at differing stages of the entrepreneurial journey.

The findings from this study can inform organizational policies to create supportive structures conducive to entrepreneurial activity. This may be a collaborative workspace where individuals can engage, network, and innovate in a diverse, pluralistic environment. In addition, program policy may include the provision of different types of mentoring support based on the needs of the entrepreneur in the moment. Policymakers can use the findings as evidence to support funding of entrepreneur-centric programs that cater to the unique needs of a growing startup. If effective mentoring helps move entrepreneurs along more quickly, resulting in growth and job creation, then disseminating these findings is imperative.

Implications for Researchers

The findings in the current study have implications for research. The research focus could ask different questions on the same statements thus changing the condition of instruction. Participants could be asked to reverse their thinking and use the cards to describe their worst or most negative mentoring experience. Another way to modify the design would be to sort only the 22 indicators found in the study instead of the 50 statements in the Q sample. This would greatly reduce the amount of time for an individual to complete the card sort. Another approach would be to give the 22 indicators as a self-assessment using a Likert scale before and after a mentoring program training to measure differences or changes in participants' viewpoints. The researcher could run a one-way ANOVA to determine whether there are differences in type of support within the factors.

The findings of this study could be used to compare other geographical regions or participant demographics, or to validate the viewpoints found in this study. Knowing the demographics found in this study allows a future line of inquiry to look at one of these

factors and conduct a survey to see if these findings are supported. A qualitative study could be done to explore the career experiences of entrepreneurs and identify emerging themes on the future of work. Researchers who have used Q-methodology could visualize the results of Q sort data in a three-way matrix to confirm the findings and highlight important themes in the data.

There are implications for research into subjectivity and interbehaviorism for social science research, or any inquiry where group preferences or opinions are investigated.

Future Research Directions

The findings from the current study provide a number of potential research pathways. A follow-up study could be planned with the same participants in five years. Reported statistics show that half or more of new businesses will fail in the first five years. A study of the same 46 participants could test this finding, and ask questions about the impact of mentoring. A longitudinal cohort study could be designed for the same participants to try and recall (via the same Q sort) what their views were five years previously. Are representatives of some factors more accurate in recalling their initial viewpoints than are representatives of other factors? By doing the same card sorting activity with a different population would provide an opportunity to see if the same viewpoints hold up in other contexts such as formal mentoring at a university or in a rural economic development program.

The findings from this study could be turned into a quantitative study on a larger sample of entrepreneurs. In this case, the indicators could be used to come up with a set of

competencies for mentors who work with entrepreneurs. This would help confirm the types of support that were found in this study.

A study could be planned in an organizational setting to measure the extent to which the indicators for effective mentoring in entrepreneurship are present, and to measure how 'entrepreneurial' these organizational mentoring programs are. Finally, in the contemporary career setting, a study could look at the role of the environment on entrepreneurial success. A potential question – What is the impact of diverse social networks and flat organizational structures on entrepreneurial innovation and creativity? Are there patterns in the way people view mentoring and the impact on the quality and quantity of their social capital?

Exploring themes from the narrative synthesis described in this study could extend the research of Hamilton (2014) on entrepreneurial narrative identity and gender, and the gendered nature of entrepreneurial activity. Critical scholarship has even questioned the need for the term 'female entrepreneurship', as if this population should be viewed as discrete. Further, the use of post-positivist and interpretive methodologies can be used to explore the presence of 'androcentricity', characterized by the dominant discourse of masculinity in entrepreneurship research (Green & Cohen, 1995; Mirchandani, 1999).

Conclusion

This dissertation investigated viewpoints held by entrepreneurs on their experiences of effective mentoring support. The research included a broad look at the literature about learning and development for entrepreneurs, as well as the extensive body of knowledge on mentoring, and created a tool that was used to probe the individual subjectivity of the participants, and invite them to express their opinions, thoughts, and beliefs about what

makes an effective mentoring experience. Finally this study produced detailed findings about the behaviors, processes, and interactions that take place within the "black box" of entrepreneurial mentoring.

This study found that entrepreneurs held different views about what they consider effective mentoring. Subjectivity is an ongoing and underlying process by which thoughts, behaviors, and actions mark the progress of development. It validates the idea of exchange relationships as a type of currency between members of an entrepreneurial ecosystem. As this study has shown, in general, effective mentoring support is a function of prior knowledge and experience, levels of self-awareness, emotional intelligence, human and social capital, and advanced entrepreneurial capacities for design thinking and innovation.

This study produced a set of findings that increased our understanding of how mentoring in the entrepreneurial context differs from mentoring in the workplace or in academia. It generated a useful matrix of unique indicators of effective mentoring that may be tested in different settings. The matrix suggests that effective mentoring support for entrepreneurs, in general, builds practical entrepreneurial competency and capacity, develops the self, empowers leadership, expands influence, values diversity, and respects action. The findings in this study are in line with the contemporary view of mentoring as a mutually beneficial relationship. With the addition of the boundaryless career, the study surfaced indicators that are not typically found in research done in workplace or academic contexts.

The current study set out to explore entrepreneurs' viewpoints of effective mentoring, as well as to understand important indicators of mentoring in an entrepreneurial context. It

found entrepreneurs value mentoring support when it meets their expectations. These expectations varied based on individual perspectives and the reason for seeking development.

The findings revealed four distinct viewpoints about effective mentoring for entrepreneurs, and the participants in the study were grouped according to the viewpoint on which they loaded significantly. There were 13 participants (31%) who loaded significantly on the first viewpoint, Competence Builders. This group valued instrumental support that focuses on the learning needs of the entrepreneur for goal attainment. There were 9 participants (21%) who loaded on the second viewpoint, Self-Developers. The participants in this group valued relational support that helps them become the person they aspire to be. There were 12 participants (29%) who loaded on the third viewpoint, Network Expanders. The participants in this group valued diversity, acceptance, and engagement in positive and mutually beneficial interactions within an expanding network. Finally, there were 8 participants (19%) who loaded on the fourth viewpoint, Respect Seekers. This group of participants believed effective mentoring can happen with anyone anywhere, as long as there is a felt sense of respect and trust. Mentoring for this group was just-in-time and episodic.

The contributions from this study are important because they shed light on effective processes and behaviors transpiring in the “black box” of a mentoring relationship. One conclusion of the study is that outcomes of effective mentoring are those that fulfill the intents and purposes and satisfy expectations, on both sides. Entrepreneurs need to be able to articulate their intentions, purpose and expectations from mentoring.

Entrepreneurship is an ongoing learning experience. In the case of entrepreneurship, the founder is the organization. Learning how to increase capacity entails learning to learn,

learning to question, learning to lead, and learning to think. Learning is a lifelong process that grows and changes from every encounter in one's life.

The entrepreneurial journey represents evolution over time, through the vicissitudes and changing fortunes of the entrepreneur. It is through an extended experience of gathering knowledge, skills and entrepreneurial capacity, that one who receives such knowledge can in turn become one who transmits it, to other aspiring entrepreneurs or to peers who became partners, colleagues, and friends along the way.

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APPENDICES

Appendix A: Relational Mentoring Index (Ragins, 2012)

No.	Items	Constructs
1	My partner is helping me learn and grow as a person.	Personal Learning and Growth
2	My partner helps me learn about my personal strengths and weaknesses.	
3	My partner helps me learn more about myself.	
4	My partner has inspired or been a source of inspiration for me.	Inspiration
5	My partner gives me a fresh perspective that helps me think “outside the box.”	
6	I am often inspired by my partner.	
7	My partner is helping me become the person I aspire to be.	Affirmation of ideal/best/ authentic selves
8	My partner sees me not only for who I am now, but also for who I aspire to be.	
9	My partner always sees the best in me	
10	My partner seems to bring out the best in me.	
11	My partner accepts me for who I am.	
12	I can be myself with my partner.	
13	In our relationship, we help each other without expecting repayment.	Reliance on Communal Norms
14	We never keep score of who gives and who gets in our relationship.	
15	We give to each other without expecting repayment.	
16	My partner and I respect and influence each other.	Shared Influence and Mutual Respect
17	We respect each other and we value what each person has to say.	
18	There is mutual respect and influence in our relationship.	
19	Our relationship is founded on mutual trust and commitment.	Relational trust and Commitment
20	My partner and I trust each other and we are committed to the relationship.	
21	Trust and commitment are central to our relationship.	

Appendix B: Mentor Functions for Novice Entrepreneurs (St-Jean, 2011)

No.	Items	Constructs
1	The mentor gives the mentee feedback on who he is and his business project. The mentor reflects the image the mentee projects to others, somewhat like a mirror does. This function provides the mentee with a kind of personal progress report where strengths to be bank on and weaknesses to be worked on are identified.	Psychological/ Reflector
2	The mentor reassures the mentee during difficult times. He acts as a pressure valve enabling the mentee to evacuate accumulated stress and put problems into perspective.	Psychological/ Reassurance
3	The mentor motivates and encourages the mentee. The mentor helps the mentee build self-confidence and gives him incentives to persevere.	Psychological/ Motivation
4	With time, the mentee may confide in the mentor just as he would in a friend. The mentoring relationship may also transform into friendship.	Psychological/ Confidant
5	The mentor facilitates the integration of the mentee in the business community by presenting him to business contacts who may be of need in the future.	Career-related/ Integration
6	The mentor gives the mentee information. He transfers various types of personal knowledge including on business management, laws to be aware of, useful information on the industry, and so on.	Career-related/ Information support
7	The mentor confronts the mentee's ideas to help further his reflection. This confrontation appears in a problem-solving context where the mentee's beliefs, attitudes, or habits prevent him from reaching his goals and makes him part of the problem rather than the solution.	Career-related/ Confrontation
8	When problem solving, the mentor helps the mentee improve problem comprehension, widen problem vision and context. When necessary, the mentor also makes suggestions and gives advice towards a solution.	Career-related/ Guide
9	The role model function focuses on the mentor as a person. During meetings, the mentor presents excerpts from his life and the mentee takes what applies to him and learns the lessons that need to be learned according to his particular situation. The mentor may also be a source of inspiration, or at least, of comparison.	Role model

Appendix C: Mentor Functions in Organizations

Items	Constructs
Someone who offers or appoints the mentee to a job	Advocacy
Someone who promotes, recommends and advocates the mentee to "people that count"	
Someone who "goes into bat" for the mentee and/or uses their power or influence on the mentee's behalf	
Someone whose reputation reflects positively on the mentee	
Someone who introduces the mentee to networks of people who can assist with her/his career	Career Development
Someone who makes the mentee aware of, and encourages the mentee to take advantage of, opportunities or promotions that are available	
Someone who advises and guides the mentee generally with regard to his/her career	
Someone who provides specific practical assistance to advance the mentee's career (e.g. give feedback on CV's, discussion of selection processes)	
Someone who provides support, assistance or guidance for undertaking tasks or projects	Coaching
Someone who provides professional or technical advice	
Someone who provides assistance in developing job related skills and knowledge	
Someone who provides performance feedback on work tasks or projects	
Someone with whom the mentee gets together socially outside the work setting	Friendship
Someone with whom the mentee has a friendship	
Someone who provides feedback and/or alternative perspectives on the mentee's ideas	Learning facilitation
Someone who shares the wealth of their experience to enhance the mentee's understanding or learning	
Someone who shares information and knowledge	
Someone who facilitates the mentee in thinking things through for him/herself	
Someone with whom the mentee reflects on a particular work situation or incident and provides feedback on it for future improvement	
Someone who shares an experience to help illustrate a particular point for learning	

Source: Fowler & O'Gorman, 2005

Appendix C, Continued

Someone who is a mutual confidant for the mentee to share personal values and beliefs, views and interests	Personal and emotional guidance
Someone who supports and helps guide the mentee's personal development	
Someone who encourages the mentee to discuss personal issues, insecurities and aspirations	
Someone who discusses and helps with decisions re balancing professional and personal issues and commitments	
Someone who shows understanding of the mentee's feelings and emotions	
Someone who actively listens to, and acts as a sounding board for the mentee	
Someone who provides affirmation of the mentee's behaviour and/or self	
Someone who provides emotional support and encouragement	
Someone who is an effective role model	Role Model
Someone whose approaches, attitudes and values the mentee admires and would like to develop	
Someone who displays skills and behaviours that the mentee would like to learn	
Someone the mentee wants to emulate in terms of what they know and who they are	
Someone who discusses and/or provides advice on how to handle internal politics	Strategies and systems advice
Someone who provides knowledge about the system or strategies for working within the system	
Someone who shares "inside knowledge" or passes information down from higher levels	
Someone who provides strategic advice for handling certain situations and/or people	
Someone who provides the mentee with developmental opportunities to participate in new and/or different tasks	**
Someone who supports and helps guide the mentee's professional development	
Someone who makes the mentee feel important and/or a priority	

**Three items failed to load in confirmatory factor analysis (Fowler & O'Gorman, 2005).

Appendix D: Factor Analysis Results (Fowler & O’Gorman, 2005)

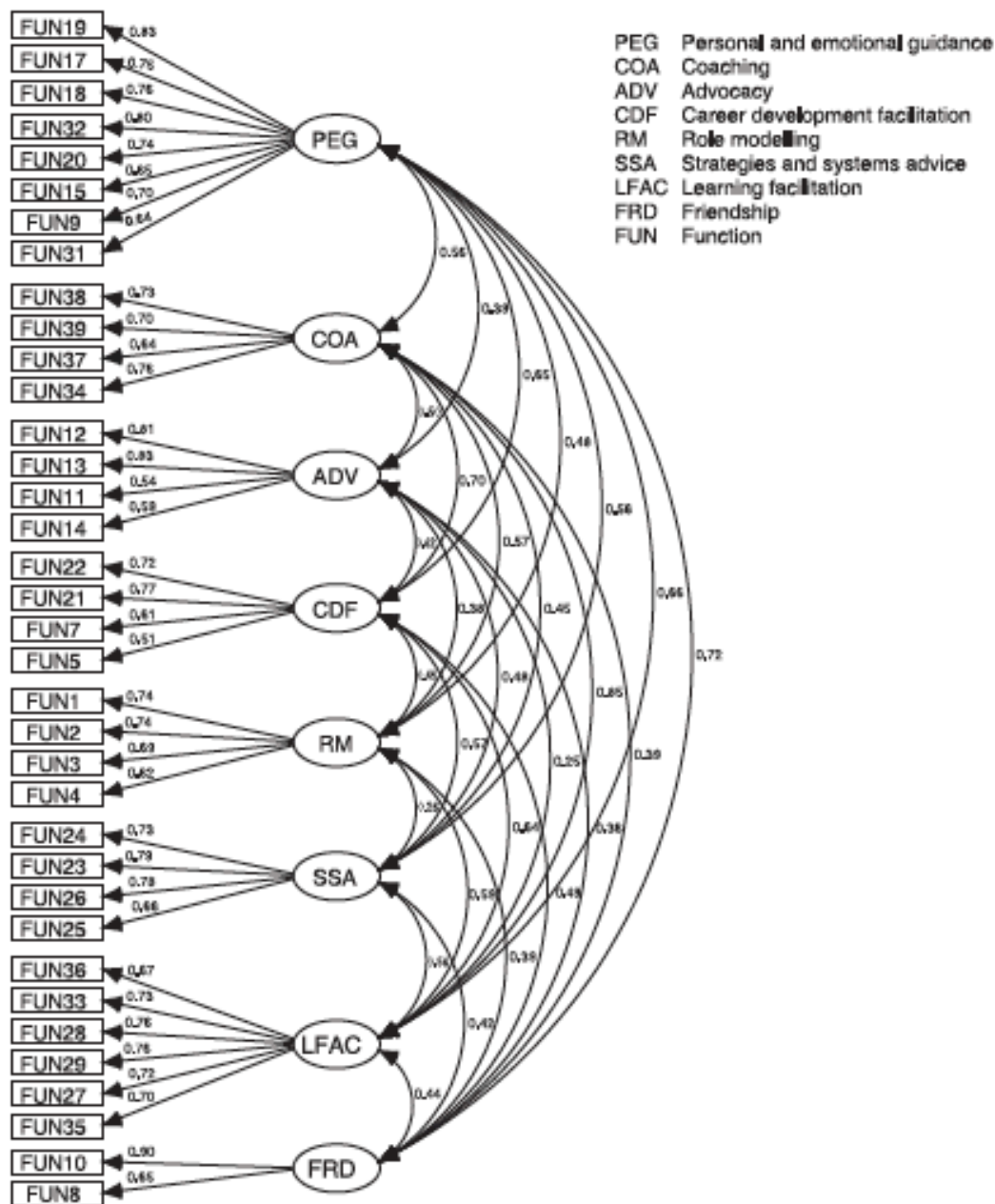


Figure 1. Results of a confirmatory factor analysis of mentoring functions as perceived by mentees

Appendix E: Instructions for Card Sorting Activity (Q sort)

Thank you for your willingness to participate in this study. In this card sorting activity, you will rank a set of 50 statements from those you feel are most important to those that are most unimportant. Then, you will fill out the attached Scoring Sheet to record your Q sort.

The question/condition of instruction for this Q sort:

Sort the cards based on your views of the types of support that are important in the development of your high-quality and effective mentoring relationships.

Instructions:

1. Lay out the column titles from -5 to +5 (left to right) across the top of the table or desk.
2. First, please read through all 50 cards to become familiar with the statements while considering the question/condition of instruction in the box above.
3. Next, please read through the statements a second time, organizing them into three piles:
 - a. On the right, place the cards with the statements you feel are most important.
 - b. On the left, place the cards with the statements you feel are most unimportant.
 - c. In the middle, place the cards that are more unimportant than the cards on the right (+5, +4, +3, +2) and more important than the cards on the left (-5, -4, -3, -2).
4. From the pile on the right, place the 2 cards that you perceive as most important in the far right column +5 and the next 3 most important cards under +4, in any order in the column.
5. Next, from the left pile, place the 2 cards that you perceive as most unimportant in the far left column -5 and the next 3 most unimportant cards under -4, in any order in the column.
6. Now, from the pile on the right, choose 4 cards that represent the next most important statements and place these under marker +3, in any order. From the pile on the left, choose the next 4 cards most unimportant and place under marker -3, in any order in the column.
7. Continue to follow this pattern as you work your way to the center of the distribution.
8. You may change your mind and switch items around as long as you maintain the requested number of items under each marker, as follows:
 - You will have 2 cards under markers +5 and -5
 - You will have 3 cards under markers +4 and -4
 - You will have 4 cards under markers +3 and -3
 - You will have 5 cards under markers +2 and -2
 - You will have 7 cards under markers +1 and -1
 - You will have 8 cards under marker 0.
9. Please record the number found in the lower right corner of each card on your Scoring Sheet in the exact order as you sorted the cards.
10. Let the researcher know when you are done and a photograph of your card sort will be recorded.
11. Finally, please complete the Post-Sort Questionnaire. This information is confidential.

Appendix F: Scoring Sheet for Card Sorting Activity (Q sort)

Instructions: Lay out the column headings as shown below. Follow instructions for the Card Sorting Activity. When complete, please record the number on the lower right of each card in the appropriate space below. The researcher will photograph your card sort as a record.

Most Unimportant					Neutral	Most Important				
-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5

PARTICIPANT CODE _____

Please indicate here if you would like to receive the final results of this study

Appendix G: Post-Sort Questionnaire

Demographic Information

Please indicate your choice with a or in front of your selection, or write your answer.

1. Age (yrs): 25 and under 26-35 36-45 46-55 56-65 Over 65

2. Gender: Male Female

3. Education: High School Bachelor Master Doctoral Other_____

4. Race/Ethnicity: African-American/Black Asian Caucasian Hispanic
Native American Multi-racial/Multi-ethnic _____

5. Experience as an entrepreneur (yrs): Less than 1 1-5 6-10 11-20 Over 20

6. Industry Sector: Technology Health/Biotech Design/Fashion Food
Social entrepreneur Education Other_____

7. Number of founders (including you) _____ and employees_____

8. Have you participated in a formal mentoring program, now or in the past? Yes No

9. How many people have mentored you? None 1 2 3 4 5 or more

10. My firm has participated in/with (select all that apply): Accelerator Incubator
Angel Investor Co-working Small Business Development assistance/SCORE
Entrepreneurship program Other_____ None of these

11. I consider myself a successful entrepreneur. Yes No

12. Overall my mentoring relationships have been: Positive Average Negative

Appendix G, Continued

1. Consider the two statements you placed in the +5 “Most Important” column. Why did you place them there? What do those statements mean to you?
2. Consider the two statements you placed in the -5 “Most Unimportant” column. Why did you place them there? What do those statements mean to you?
3. As you sorted the cards, did you feel that any statement that represents your views about high-quality mentoring was missing? If so, please list them here.

Where would you place that card and why?

4. Which statements were the most difficult to place? Why?
5. Which statements were the easiest to place? Why?
6. When you sorted the statements, were you thinking of a positive or negative mentoring relationship?

PARTICIPANT CODE _____

Appendix H: IRB Application

**North Carolina State University
Institutional Review Board for the Use of Human Subjects in Research
REQUEST FOR EXEMPTION (Administrative Review)**

IRB#

GENERAL INFORMATION

1. Date Submitted: November 4, 2014
2. Title of Project: Viewpoints of High-Quality Mentoring Relationships: An Exploratory Study of Support for Entrepreneurs.
3. Principal Investigator: Jennifer J. Stanigar
4. Principal Investigator Email: jennifer_stanigar@ncsu.edu
5. Department: Leadership, Policy, and Adult and Higher Education
6. Campus Box Number: 7801
7. Phone Number:
8. Faculty Sponsor Name if Student Submission: Dr. Diane D. Chapman
9. Faculty Sponsor Email Address if Student Submission: diane_chapman@ncsu.edu
10. Source of Funding (Sponsor, Federal, External, etc.): N/A <i>If Externally funded, include sponsor name and university account number:</i>
<p style="text-align: center;">RANK:</p> <p style="text-align: center;">Faculty: <input type="checkbox"/>; Student: <input type="checkbox"/> Undergraduate <input type="checkbox"/> Masters <input checked="" type="checkbox"/> PhD; Other:</p>

As the principal investigator, my signature (or electronic submission) testifies that I have read and understood the University Policy and Procedures for the Use of Human Subjects in Research. I assure the Committee that all procedures performed under this protocol will be conducted exactly as outlined in the Proposal Narrative and that any modification to this protocol will be submitted to the Committee in the form of an amendment for its approval prior to implementation.

Electronic submissions to the IRB are considered signed via an electronic signature

Principal Investigator:

Jennifer J. Stanigar		November 4, 2014
(typed/printed name)	(signature)	(date)

As the faculty sponsor, my signature (or electronic submission) testifies that I have reviewed this application thoroughly and will oversee the research in its entirety. I hereby acknowledge my role as the principal investigator of record.

Faculty Sponsor:

Diane D. Chapman		November 4, 2014
(typed/printed name)	(signature)	(date)

PLEASE COMPLETE AND E-MAIL TO: irb-coordinator@ncsu.edu

Project Description: *Describe your project by providing a summary and answering the requests for information below.*

1. Project Summary. Please make sure to include the purpose and rationale for your study and a brief overview of your methods.

The purpose of this study is to explore the viewpoints of entrepreneurs about the types of mentoring support that are important to the development of their high-quality relationships. The aim is to find out how different types of mentoring support are perceived to be important to participants, using a research approach called Q methodology that allows for the study of subjectivity. This study will use three forms of data collection, a card sorting activity (called the Q sort), a post-sort demographic questionnaire, and a participatory interpretation using affinity groups after the initial factor analysis.

The Q sort involves participants following a set of instructions (Appendix A), sorting a set of statement cards, called the Q sample (Appendix B), and recording the placement of cards on a Scoring Sheet (Appendix C). Following the sorting activity, participants will complete a post-sort questionnaire (Appendix D). After the analysis, a few participants will be invited back to participate in focus groups to provide additional insight into the factor interpretation.

2. Describe your participant population. This includes age range, inclusion/exclusion criteria, and any vulnerable populations that will be targeted for enrollment.

The population for this study is entrepreneurs who have had positive experiences with mentoring. The study will have between 30 and 40 participants. The researcher will select participants using purposive sampling (i.e., individuals who are able to shed light on the research questions) from the researcher's social and professional network and through university liaisons and local entrepreneurial groups (e.g., CED, Blackstone, HQ Raleigh). The researcher will recruit entrepreneurs in the Research Triangle Park region of North Carolina with a goal to achieve diversity of gender, race, ethnicity, socio-economic level, and industry sector groups. To be included in the study, the participant must be an entrepreneur (someone who has started a new venture) with prior positive experiences being mentored as an entrepreneur. There is no criteria for age range. No vulnerable populations will be targeted for enrollment.

3. Describe how potential participants will be approached about the research and how informed consent will be obtained. Alternatively, provide an explanation of why informed consent will not be obtained. Include a copy of recruitment materials, such as, scripts, letters of introduction, emails, etc. with your submission.

There will be approximately 30 to 40 subjects involved in this study. The process will include the following (supporting documents are in the Appendices attached to this submission):

1. The researcher has compiled a list of potential participants for the study who have previously expressed interest in the topic and who are known to meet the inclusion criteria. This list has been compiled over one year from the researcher's social and professional network and through university liaisons and local entrepreneurial agencies. Additional potential participants will be sought through this network, as needed, to fulfill the total number for the study.
2. The researcher will send an email to potential participants to gauge their willingness to participate (Appendix E).
3. Once the participant has agreed, the researcher will send a second email to confirm participation, arrange date/time for data collection, and provide copies of the informed consent forms (Appendix F & Appendix G).
4. On the date of the data collection, the researcher will provide copies of the informed consent forms and ask the participant to read and sign both copies. The researcher will keep one copy and give the other to the participant.

4. **Describe how identifying information will be recorded and associated with data (e.g. code numbers used that are linked via a master list to subjects' names). Alternatively, provide details on how study data will be collected and stored anonymously ("anonymously" means that there is no link whatsoever between participant identities and data). Describe management of data: security, storage, access, and final disposition.**

Both the Scoring Sheet (Appendix C) and post sort questionnaire (Appendix D) will use a unique participant code number to match participants with the data. There will be no personally identifying information on these documents that could link the data to the participant. The researcher will create a hand-written master document that will contain a list of participants' names and the code number used for each participant. This master document will be kept in a locked file cabinet in the researcher's home office. All digital transcription and data analyses will use the participant code number as a reference and will be stored electronically on the researcher's personal laptop computer that is password-protected. There is a possibility that the researcher's Chair (Dr. Diane Chapman) and methodologist (Dr. Matthew Militello) will have access to the data with participant code numbers. The master list will be consulted after the initial analysis to select participants for affinity groups to assist with factor interpretation. At the conclusion of the study, after the final defense, the master document will be shredded and any emails or documents containing participants' names will be securely deleted from the researcher's laptop.

5. **Provide a detailed (step-by-step) description of all study procedures, including descriptions of what the participants will experience. Include topics, materials, procedures, for use of assessments (interviews, surveys, questionnaires, testing methods, observations, etc.).**

Once the participant has agreed to meet the researcher, the following steps will happen:

1. The researcher will meet with the participant either alone or in small groups of 2-6 participants.
2. Prior to the data collection, both the participant and researcher will review and sign the informed consent forms and each keep a copy (see Appendices F & G)
3. Each participant will have an approximately 2 foot x 4 foot table space to complete the card sorting activity and questionnaire privately. The table will have a copy of the instructions, scoring sheet, statement cards, column heading cards, and post-sort questionnaire. The table will also have a pencil and a bottle of water.
4. The researcher will introduce the card sorting activity and read through the instructions with the participants (see Appendix A). The researcher will emphasize that the cards should be sorted keeping the condition of instruction in mind. The condition of instruction is "Sort the cards based on your view of the types of support that are important in the development of your high-quality mentoring relationships."
4. The Q sort and post-sort questionnaire will take approximately 60-90 minutes total to complete.
5. Within 48 hours, the researcher will email participants to thank them for their participation (Appendix I).
6. After the 30 to 40 card sorts have been completed, the researcher will conduct the factor analysis to determine the factor loading. This analysis process will determine the factors, or "clusters" of perspectives, that have been identified in the card sorting activity.
7. The researcher will send an email to invite a few of the participants whose card sorts most closely reflects each of the distinct factors to return for a group interpretation activity (Appendix J). This process is called an affinity group and will take approximately 90 minutes to resort the cards based on a combined factor viewpoint and answer some questions that are included on the Affinity Group Interview Protocol (Appendix K).

6. **Will minors (participants under the age of 18) be recruited for this study:**

NO

7. **Is this study funded? NO**

- a. Is this study receiving federal funding? NO
- b. If yes, please provide the grant proposal or any other supporting documents.

8. **Do you have a conflict of interest or significant financial interest in this research?**

NO

- a. **What does your plan include for managing this conflict of interest and is it being properly followed? N/A**

9. **HUMAN SUBJECT ETHICS TRAINING**

*Please consider taking the Collaborative Institutional Training Initiative (CITI), a free, comprehensive ethics training program for researchers conducting research with human subjects. Just click on the underlined link.

12. **ADDITIONAL INFORMATION:**

- a) If a questionnaire, survey or interview instrument is to be used, attach an editable version to this proposal.
- b) Attach an editable version of the informed consent form to this proposal. See the IRB website for a Sample Consent Form and Informed Consent Checklist <http://www.ncsu.edu/sparcs/irb/forms.html>
- c) Please provide an editable version of any additional materials (i.e., recruitment materials, such as “flyers”, recruitment scripts, etc.) that may aid the IRB in making its decision.

**If a survey instrument or other documents such as a consent form that will be used in the study are available, attach them to this request. If informed consent is not necessary, an information or fact sheet should be considered in order to provide subjects with information about the study. The informed consent form template on the IRB website could be modified into an information or fact sheet.*

The Following are categories the IRB office uses to determine if your project qualifies for exemption (a review of the categories below may provide guidance about what sort of information is necessary for the IRB office to verify that your research is exempt):

Exemption Category: (Choose only one of the following that specifically matches the characteristics of your study that make this project exempt)

- 1. Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
- 2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

***Please Note- this exemption for research involving survey or interview procedures or observations of public behavior does not apply to research conducted with minors, except for research that involves observation of public behavior when the investigator(s) do not participate in the activities being observed.**

3. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section, if: (i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

4. Research, involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available, or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

5. Not applicable

6. Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed, or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration, or approved by the Environmental Protection Agency, or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

Appendix I: Email Invitation and Thank You for Participants

Date: [INSERT DATE]

To: [INSERT NAME], [COMPANY]

From: Jennifer Stanigar

Re: Inviting your participation in research study of mentoring support for entrepreneurs

Dear [FIRST NAME],

You are invited to participate in a research study on effective mentoring support for entrepreneurs. The purpose of this study is to understand your viewpoint about the types of mentoring support that are important to high-quality relationships, based on your experience. The data collection involves a card sorting activity and a brief post-sort survey that will take approximately 60-90 minutes to complete.

Your perspective will contribute unique insight into this topic and will be useful for entrepreneurship education programs, mentor training, and will fill gaps in our understanding about the dynamics of mentoring relationships for entrepreneurs.

The NC State University Institutional Review Board has approved this study. Attached to this email is an informed consent form that you will be asked to sign if you agree to participate. You do not have to answer any questions you do not want to answer and you may withdraw your participation at any time.

If you are willing to participate in this study, please click [\[this link\]](#) and the researcher will contact you to make arrangements. Thank you in advance!

Regards,

Jennifer Stanigar

Ph.D. Candidate

North Carolina State University

Mobile (xxx) xxx-xxxx

Date: [INSERT DATE]
To: [INSERT NAME], [COMPANY]
From: Jennifer J. Stanigar, NC State University
Re: Thanks for your participation

Dear [FIRST NAME],

Thank you very much for taking part in my research study on effective mentoring support for entrepreneurs. Your perspective is valuable and could impact the kind of support that entrepreneurs will receive from mentors, informally and formally, in the future.

After the initial data analysis, you may be invited back by the researcher to participate in the interpretation of your card sorting results as part of a small affinity group with other entrepreneurs who hold a similar point of view to yours.

If you indicated an interest on the scoring sheet to receive the final results of this study, I will email you a copy of the dissertation after my final defense.

Kind Regards,
Jennifer Stanigar
Ph.D. Candidate
North Carolina State University
Mobile (xxx) xxx-xxxx

Appendix J: Informed Consent Form for Card Sorting Activity

North Carolina State University
INFORMED CONSENT FORM for RESEARCH

Title of Study: Viewpoints of High-Quality Mentoring Relationships: An Exploratory Study of Support for Entrepreneurs

Researcher: Jennifer J. Stanigar, under the guidance of Dr. Diane D. Chapman

You are being asked to take part in a research study by participating in a Card Sorting Activity. Your participation in this study is voluntary. You have the right to be a part of this study, to choose not to participate or to stop participating at any time without penalty. The purpose of research studies is to gain a better understanding of the phenomenon being examined. You are not guaranteed any personal benefits from being in this study. Research studies also may pose risks to those who participate. In this consent form you will find specific details about the research in which you are being asked to participate. If you do not understand something in this form it is your right to ask the researcher for clarification or more information. If you wish, a copy of this consent form will be provided to you. If at any time you have questions about your participation, do not hesitate to contact the researcher named above.

Purpose of the Study

The purpose of this study is twofold. First, the study will seek to understand what elements of support are most important to high-quality mentoring relationships for entrepreneurs. Second, the study will identify groups of perspectives that will highlight distinguishing factors of these viewpoints.

What will happen if you take part in the study?

If you agree to participate in this stage of the study, you will be asked to follow the instructions provided and sort 50 cards. These cards have statements printed on them and your task will be to sort them according to your own beliefs. This process should take no more than 45-60 minutes. During the process, I may ask you questions about why you placed specific statements in certain areas on the Scoring Sheet. After sorting the cards, you will be asked to complete a brief questionnaire about the statements and some general demographic data. Your card sort and your responses to the questionnaire will remain confidential.

Risks

There are no known risks to sorting the cards.

Benefits

Aside from adding to the body of knowledge about entrepreneurial mentoring support participants may enjoy thinking about and expressing their own opinions.

Confidentiality

The information collected will be kept confidential to the full extent allowed by law. Data will be stored securely on a password-protected computer and in a file cabinet of which only the researcher has access. No reference will be made in any oral or written reports that could link you to the study.

Compensation

You will not receive any compensation for your participation.

What if you have questions about the study?

If you have questions at any time about the study or the procedures, you may contact the researcher, Jennifer J. Stanigar, jennifer_stanigar@ncsu.edu.

What if you have questions about your rights as a research participant?

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Deb Paxton, Regulatory Compliance Administrator, Box 7514, NCSU Campus (919-515-4514).

Consent to Participate

“I have read and understand the above information. I have received a copy of this form. I agree to participate in this study with the understanding that I may choose not to participate or to stop participating at any time without penalty or loss of benefits to which I am otherwise entitled.”

Subject's signature _____ Date _____

Investigator's signature _____ Date _____

Appendix K: Informed Consent Form for Post-Sort Questionnaire

North Carolina State University
INFORMED CONSENT FORM for RESEARCH

Title of Study: Viewpoints of High-Quality Mentoring Relationships: An Exploratory Study of Support for Entrepreneurs

Researcher: Jennifer J. Stanigar, under the guidance of Dr. Diane D. Chapman

You are being asked to take part in a research study by completing a post-sort questionnaire. Your participation in this study is voluntary. You have the right to be a part of this study, to choose not to participate or to stop participating at any time without penalty. The purpose of research studies is to gain a better understanding of the phenomenon being examined. You are not guaranteed any personal benefits from being in this study. Research studies also may pose risks to those who participate. In this consent form you will find specific details about the research in which you are being asked to participate. If you do not understand something in this form it is your right to ask the researcher for clarification or more information. If you wish, a copy of this consent form will be provided to you. If at any time you have questions about your participation, do not hesitate to contact the researcher named above.

Purpose of the Study

The purpose of this study is twofold. First, the study will seek to understand what elements of support are most important to high-quality mentoring relationships for entrepreneurs. Second, the study will identify groups of perspectives that will highlight distinguishing factors of these viewpoints.

What will happen if you take part in the study?

If you agree to complete the questionnaire, you will be asked to provide demographic information that will help the researcher report the findings from the card sorting activity. In addition, there are a few open-ended questions that will allow you to provide in-depth answers about your placement of the cards and whether you felt cards were missing that represent your viewpoint about mentoring support for entrepreneurs.

Risks

There are no known risks to sorting the cards.

Benefits

Aside from adding to the body of knowledge about entrepreneurial mentoring support, participants may enjoy thinking about, reflecting on, and expressing their own opinions.

Confidentiality

The information collected will be kept confidential to the full extent allowed by law. Data will be stored securely on a password-protected computer and in a file cabinet of which only

the researcher has access. No reference will be made in any oral or written reports that could link you to the study.

Compensation

You will not receive any compensation for your participation.

What if you have questions about the study?

If you have questions at any time about the study or the procedures, you may contact the researcher, Jennifer J. Stanigar, jennifer_stanigar@ncsu.edu.

What if you have questions about your rights as a research participant?

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Deb Paxton, Regulatory Compliance Administrator, Box 7514, NCSU Campus (919-515-4514).

Consent to Participate

“I have read and understand the above information. I have received a copy of this form. I agree to participate in this study with the understanding that I may choose not to participate or to stop participating at any time without penalty or loss of benefits to which I am otherwise entitled.”

Subject's signature _____ Date _____

Investigator's signature _____ Date _____

Appendix L: Informed Consent Form for Affinity Groups

North Carolina State University
INFORMED CONSENT FORM for RESEARCH

Title of Study: Viewpoints of High-Quality Mentoring Relationships: An Exploratory Study of Support for Entrepreneurs

Researcher: Jennifer J. Stanigar, under the guidance of Dr. Diane D. Chapman

You are being asked to take part in a research study by participating in an Affinity Group to interpret your results from the Card Sorting Activity. Your participation in this study is voluntary. You have the right to be a part of this study, to choose not to participate or to stop participating at any time without penalty. The purpose of research studies is to gain a better understanding of the phenomenon being examined. You are not guaranteed any personal benefits from being in this study. Research studies also may pose risks to those who participate. In this consent form you will find specific details about the research in which you are being asked to participate. If you do not understand something in this form it is your right to ask the researcher for clarification or more information. If you wish, a copy of this consent form will be provided to you. If at any time you have questions about your participation, do not hesitate to contact the researcher named above.

Purpose of the Study

The purpose of this study is twofold. First, the study seeks to understand the types of support most important to high-quality mentoring relationships for entrepreneurs. Second, the study will identify perspectives that will highlight distinguishing factors of these viewpoints.

What will happen if you take part in the study?

If you agree to participate in this study, you will be asked to join 1 or 2 other participants from the Card Sorting Activity to interpret the findings specific to how you sorted the cards. You will be placed into a group with others who share the same viewpoint reflected by your card sort. Together, your group will sort the cards to reflect the shared model of your viewpoint, and you will discuss the salient aspects of your perspective with each other. You will be asked reflection questions by the researcher: Look around your group. Are there any commonalities? What statements are most important to your group? What defines your perspective? Why do you hold this viewpoint? You will give your perspective a short, descriptive name. The researcher will digitally record and takes notes of the discussion.

Risks

There are no known risks to sorting the cards.

Benefits

Aside from adding to the body of knowledge about entrepreneurial mentoring support participants may enjoy thinking about and expressing their own opinions.

Confidentiality

The information collected will be kept confidential to the full extent allowed by law. Data will be stored securely on a password-protected computer and in a file cabinet of which only the researcher has access. No reference will be made in any oral or written reports that could link you to the study.

Compensation

You will not receive any compensation for your participation.

What if you have questions about the study?

If you have questions at any time about the study or the procedures, you may contact the researcher, Jennifer J. Stanigar, jennifer_stanigar@ncsu.edu.

What if you have questions about your rights as a research participant?

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Deb Paxton, Regulatory Compliance Administrator, Box 7514, NCSU Campus (919-515-4514).

Consent to Participate

“I have read and understand the above information. I have received a copy of this form. I agree to participate in this study with the understanding that I may choose not to participate or to stop participating at any time without penalty or loss of benefits to which I am otherwise entitled.”

Subject's signature _____ Date _____

Investigator's signature _____ Date _____

Appendix M: Interview Protocol for Affinity Groups

1. Sort out the cards into composite sort. How does this sort reflect your POV?
2. Look at the others around you in your affinity group. What do you have in common?
3. Which statements in the composite sort:
 - a. Most reflect your perspective
 - b. Evoke the most emotion or response
4. What do the differentiating statements mean to you as a feature of your factor profile?

Appendix N: Demographic Descriptive Statistics

This table summarizes the participant demographics in aggregate. The identity of participants is confidential and no sort was tied to a particular person. ($N=46$)

Gender

Answer	Response	%
Male	22	48
Female	24	52

Age

Answer	Response	%
25 and under	9	18
26-35	18	40
36-45	10	22
46-55	6	13
56-65	3	7
Over 65	0	0

Highest Level of Education

Answer	Response	%
High school	1	2
Bachelor	24	52
Master	16	35
Doctoral	4	9

Experience as Entrepreneur (years)

Answer	Response	%
Less than 1	5	11
1-5	29	63
6-10	5	11
11-20	4	9
Over 20	3	7

Have you ever participated in a formal mentoring program?

Answer	Response	%
Yes	26	57
No	20	43

I consider myself a successful entrepreneur.

Answer	Response	%
Yes	40	87
No	6	13

Appendix N, Continued

Race/Ethnicity

Answer	Response	%
African-American/Black	3	7
Asian	0	0
Asian Indian	2	4
Caucasian	37	81
Hispanic/Latino	2	4
Native American	0	0
Multi-racial/Multi-ethnic	2	4

Industry Sector (select all that apply):

Answer	Response	%
Technology/Data	24	52
Health/Biotech	4	9
Energy/Water	3	7
Food/Beverage	2	4
Design/Fashion	8	17
Social entrepreneur	7	15
Education/Consulting	6	13
Sustainability/Environment	2	4
Other (below):	19	41
Agricultural Cooperatives	E-commerce/E-Retail	Economic Development
Finance/"FinTech"	Gov't. Contracting (R&D)	Int'l. Third-World Designers
Lifestyle/Farm Animal Service	Music Research	Non-profit/Non-profit Support
Outdoor Consumer Goods	Real Estate/Coworking	Service/Social
Venture Capital	Wearable Technology	Web-based Product Distribution

My company has participated in the following (select all that apply):

Answer	Response	%
Accelerator	13	28
Incubator	9	20
Angel Investor	14	30
Co-Working Space	28	61
Small-BizDev/SCORE ⁴	13	28
CED ¹	10	22
Entrepreneurship program	11	24
None of these	5	11
Other (below):	9	20
Business coach	Carolina challenge at UNC	Clinton Global Initiative
Colleague Entrepreneur/Peer	Community Work	Fellowship
SBTDC ³	University degree programs ²	Venture Capital

¹CED-Council for Entrepreneurial Development (<http://www.cednc.org/>); ²MIE-Management, Innovation, and Entrepreneurship programs at NC State University (<http://poole.ncsu.edu/index-exp.php/mie/mie>); ³SBTDC-Small Business and Technology Development Center (<http://www.sbtcd.org/>); ⁴SCORE-Counselors to America's Small Business (<https://raleigh.score.org/>)

Appendix O: Normalized Factor Array for Factor I

Item	Statement	Z-Score
28	Challenging me to move my vision and ideas into action	1.91
21	Receiving practical business development help in key areas	1.69
19	Making targeted introductions to people in the mentor's network	1.65
6	Having a mentor with skills in specific areas that I want to develop	1.56
23	Connecting me to expertise that I need to develop my business	1.48
39	Providing strategies for solving business problems	1.33
29	Receiving feedback on projects and tasks to improve performance	1.31
40	Increasing my capacity to produce or create something	1.29
36	Making me aware of opportunities to develop my business	1.23
44	Gaining knowledge to help me develop my entrepreneurial skills	1.17
45	Asking questions that challenge my assumptions and my thinking	0.93
13	Getting advice about how to handle specific situations	0.85
43	Evaluating alternatives to make important business decisions	0.80
50	Helping me "think outside the box"	0.69
48	Spending time doing specific business development tasks	0.67
1	Being mentored by an authority, someone with a higher position	0.58
11	Sharing experiences of mistakes and failures to illustrate learning	0.47
37	Providing reassurance during difficult times in starting my business	0.41
31	Feeling positive energy and enthusiasm when we are together	0.26
26	Having a mentor with attitudes and values that I want to emulate	0.20
30	Learning alternative approaches for undertaking tasks	0.14
9	Reflecting on my learning to adjust future decisions and actions	-0.01
8	Being committed to the mentoring relationship	-0.01
24	Having respect and valuing what each other has to say	-0.01
33	Being a source of inspiration for me	-0.03
27	Working in my best interest	-0.03
16	Having a relationship founded on mutual trust	-0.05
4	Learning about my strengths and weaknesses	-0.16
46	Helping me become the person I aspire to be	-0.37
3	Bringing out the best in me	-0.38
49	Having a professional friendship	-0.41
12	Feeling that I am important to my mentor	-0.43
15	Being cared about and held in positive regard	-0.61
7	Getting together socially to share an occasional drink or a meal	-0.64
42	Being taken under my mentor's wing in a nurturing way	-0.69
25	Being encouraged to grow and develop myself	-0.71
2	Being confidential and protecting my privacy	-0.73
34	Having a balanced and reciprocal relationship where we share resources	-0.76
10	Spending time together to build rapport	-0.76
41	Helping each other without expecting repayment	-0.77
18	Being able to be myself	-0.88
14	Helping me learn and grow as a person	-0.89
20	Getting as much out of the relationship as I put into it	-0.92
22	Trading off the role of learner and expert	-0.93
17	Having things in common that make us socially equivalent	-1.26
5	Feeling comfortable disclosing things about myself	-1.39
35	Receiving advice about achieving work-life balance	-1.48
47	Having personal and emotional support	-1.64
38	Being counseled on personal matters that are affecting me	-1.84
32	Feeling accepted for who I am	-1.84

Appendix P: Normalized Factor Array for Factor II

Item	Statement	Z-score
28	Challenging me to move my vision and ideas into action	1.97
46	Helping me become the person I aspire to be	1.96
14	Helping me learn and grow as a person	1.59
23	Connecting me to expertise that I need to develop my business	1.52
4	Learning about my strengths and weaknesses	1.44
18	Being able to be myself	1.21
16	Having a relationship founded on mutual trust	1.10
40	Increasing my capacity to produce or create something	1.05
19	Making targeted introductions to people in the mentor's network	0.95
44	Gaining knowledge to help me develop my entrepreneurial skills	0.87
45	Asking questions that challenge my assumptions and my thinking	0.87
11	Sharing experiences of mistakes and failures to illustrate learning	0.84
25	Being encouraged to grow and develop myself	0.81
9	Reflecting on my learning to adjust future decisions and actions	0.76
24	Having respect and valuing what each other has to say	0.75
3	Bringing out the best in me	0.66
33	Being a source of inspiration for me	0.56
6	Having a mentor with skills in specific areas that I want to develop	0.43
26	Having a mentor with attitudes and values that I want to emulate	0.40
36	Making me aware of opportunities to develop my business	0.32
29	Receiving feedback on projects and tasks to improve performance	0.24
50	Helping me "think outside the box"	0.18
43	Evaluating alternatives to make important business decisions	0.18
8	Being committed to the mentoring relationship	0.16
12	Feeling that I am important to my mentor	-0.01
32	Feeling accepted for who I am	-0.08
15	Being cared about and held in positive regard	-0.16
30	Learning alternative approaches for undertaking tasks	-0.24
13	Getting advice about how to handle specific situations	-0.26
10	Spending time together to build rapport	-0.35
35	Receiving advice about achieving work-life balance	-0.38
27	Working in my best interest	-0.38
39	Providing strategies for solving business problems	-0.39
31	Feeling positive energy and enthusiasm when we are together	-0.42
21	Receiving practical business development help in key areas	-0.44
2	Being confidential and protecting my privacy	-0.52
20	Getting as much out of the relationship as I put into it	-0.59
5	Feeling comfortable disclosing things about myself	-0.79
37	Providing reassurance during difficult times in starting my business	-0.82
41	Helping each other without expecting repayment	-0.96
49	Having a professional friendship	-1.08
42	Being taken under my mentor's wing in a nurturing way	-1.11
38	Being counseled on personal matters that are affecting me	-1.20
17	Having things in common that make us socially equivalent	-1.28
22	Trading off the role of learner and expert	-1.33
47	Having personal and emotional support	-1.34
34	Having a balanced and reciprocal relationship where we share resources	-1.40
7	Getting together socially to share an occasional drink or a meal	-1.46
1	Being mentored by an authority, someone with a higher position	-1.78
48	Spending time doing specific business development tasks	-2.03

Appendix Q: Normalized Factor Array for Factor III

Item	Statement	Z-Score
19	Making targeted introductions to people in the mentor's network	1.90
8	Being committed to the mentoring relationship	1.72
13	Getting advice about how to handle specific situations	1.51
16	Having a relationship founded on mutual trust	1.49
31	Feeling positive energy and enthusiasm when we are together	1.43
45	Asking questions that challenge my assumptions and my thinking	1.12
23	Connecting me to expertise that I need to develop my business	1.12
43	Evaluating alternatives to make important business decisions	1.05
41	Helping each other without expecting repayment	1.00
24	Having respect and valuing what each other has to say	0.96
12	Feeling that I am important to my mentor	0.86
20	Getting as much out of the relationship as I put into it	0.79
39	Providing strategies for solving business problems	0.74
10	Spending time together to build rapport	0.64
28	Challenging me to move my vision and ideas into action	0.63
7	Getting together socially to share an occasional drink or a meal	0.53
18	Being able to be myself	0.48
26	Having a mentor with attitudes and values that I want to emulate	0.48
27	Working in my best interest	0.38
11	Sharing experiences of mistakes and failures to illustrate learning	0.28
49	Having a professional friendship	0.27
36	Making me aware of opportunities to develop my business	0.27
6	Having a mentor with skills in specific areas that I want to develop	0.25
15	Being cared about and held in positive regard	0.19
33	Being a source of inspiration for me	0.14
32	Feeling accepted for who I am	0.09
5	Feeling comfortable disclosing things about myself	0.03
37	Providing reassurance during difficult times in starting my business	0.00
30	Learning alternative approaches for undertaking tasks	-0.02
40	Increasing my capacity to produce or create something	-0.33
46	Helping me become the person I aspire to be	-0.38
22	Trading off the role of learner and expert	-0.46
50	Helping me "think outside the box"	-0.47
21	Receiving practical business development help in key areas	-0.47
44	Gaining knowledge to help me develop my entrepreneurial skills	-0.48
2	Being confidential and protecting my privacy	-0.53
34	Having a balanced and reciprocal relationship where we share resources	-0.54
3	Bringing out the best in me	-0.59
14	Helping me learn and grow as a person	-0.70
25	Being encouraged to grow and develop myself	-0.73
47	Having personal and emotional support	-0.77
29	Receiving feedback on projects and tasks to improve performance	-0.86
9	Reflecting on my learning to adjust future decisions and actions	-1.06
4	Learning about my strengths and weaknesses	-1.25
48	Spending time doing specific business development tasks	-1.60
1	Being mentored by an authority, someone with a higher position	-1.68
17	Having things in common that make us socially equivalent	-1.80
35	Receiving advice about achieving work-life balance	-1.87
38	Being counseled on personal matters that are affecting me	-1.88
42	Being taken under my mentor's wing in a nurturing way	-1.91

Appendix R: Normalized Factor Array for Factor IV

Item	Statement	Z-Score
24	Having respect and valuing what each other has to say	2.29
13	Getting advice about how to handle specific situations	1.49
16	Having a relationship founded on mutual trust	1.45
6	Having a mentor with skills in specific areas that I want to develop	1.36
45	Asking questions that challenge my assumptions and my thinking	1.24
26	Having a mentor with attitudes and values that I want to emulate	1.20
29	Receiving feedback on projects and tasks to improve performance	1.17
31	Feeling positive energy and enthusiasm when we are together	1.14
18	Being able to be myself	1.08
25	Being encouraged to grow and develop myself	1.00
43	Evaluating alternatives to make important business decisions	0.88
8	Being committed to the mentoring relationship	0.72
9	Reflecting on my learning to adjust future decisions and actions	0.68
50	Helping me "think outside the box"	0.63
2	Being confidential and protecting my privacy	0.59
39	Providing strategies for solving business problems	0.56
30	Learning alternative approaches for undertaking tasks	0.50
21	Receiving practical business development help in key areas	0.49
27	Working in my best interest	0.37
41	Helping each other without expecting repayment	0.36
5	Feeling comfortable disclosing things about myself	0.34
11	Sharing experiences of mistakes and failures to illustrate learning	0.26
36	Making me aware of opportunities to develop my business	0.26
15	Being cared about and held in positive regard	0.24
32	Feeling accepted for who I am	0.11
23	Connecting me to expertise that I need to develop my business	0.11
3	Bringing out the best in me	0.06
44	Gaining knowledge to help me develop my entrepreneurial skills	-0.03
34	Having a balanced and reciprocal relationship where we share resources	-0.05
14	Helping me learn and grow as a person	-0.14
4	Learning about my strengths and weaknesses	-0.16
35	Receiving advice about achieving work-life balance	-0.30
46	Helping me become the person I aspire to be	-0.36
37	Providing reassurance during difficult times in starting my business	-0.55
47	Having personal and emotional support	-0.69
42	Being taken under my mentor's wing in a nurturing way	-0.69
12	Feeling that I am important to my mentor	-0.72
22	Trading off the role of learner and expert	-0.77
19	Making targeted introductions to people in the mentor's network	-0.90
48	Spending time doing specific business development tasks	-0.91
20	Getting as much out of the relationship as I put into it	-1.01
10	Spending time together to build rapport	-1.11
7	Getting together socially to share an occasional drink or a meal	-1.18
28	Challenging me to move my vision and ideas into action	-1.20
40	Increasing my capacity to produce or create something	-1.23
33	Being a source of inspiration for me	-1.45
49	Having a professional friendship	-1.52
38	Being counseled on personal matters that are affecting me	-1.77
17	Having things in common that make us socially equivalent	-1.88
1	Being mentored by an authority, someone with a higher position	-1.99

Appendix S: Distinguishing Items

Output from PQ Method used an asterisk to denote distinguishing items at $p < .01$. Distinguishing items are compared in the three-way analysis in Appendix U.

Factor I: Distinguishing Items

Item	I		II		III		IV	
	Rank	Z-Score	Rank	Z-Score	Rank	Z-Score	Rank	Z-Score
21	5	1.69*	-1	-0.44	-1	-0.47	1	0.49
39	3	1.33*	-1	-0.39	2	0.74	1	0.56
36	3	1.23*	1	0.32	0	0.27	0	0.26
13	2	0.85*	0	-0.26	4	1.51	5	1.49
48	1	0.67*	-5	-2.03	-3	-1.60	-2	-0.91
1	1	0.58*	-5	-1.78	-4	-1.68	-5	-1.99
37	1	0.41	-2	-0.82	0	0.00	-1	-0.55
31	1	0.26*	-1	-0.42	4	1.43	3	1.14
24	0	-0.01*	1	0.75	2	0.96	5	2.29
9	0	-0.01*	2	0.76	-3	-1.06	2	0.68
16	0	-0.05*	3	1.10	4	1.49	4	1.45
49	-1	-0.41*	-2	-1.08	1	0.27	-4	-1.52
15	-1	-0.61	0	-0.16	0	0.19	0	0.24
7	-1	-0.64	-4	-1.46	1	0.53	-3	-1.18
18	-2	-0.88*	3	1.21	1	0.48	3	1.08
5	-4	-1.39*	-2	-0.79	0	0.03	1	0.34
35	-4	-1.48	-1	-0.38	-4	-1.87	-1	-0.30
32	-5	-1.84*	0	-0.08	0	0.09	0	0.11

Note. $p < .05$; *indicates $p < .01$

Factor II: Distinguishing Items

Item	I		II		III		IV	
	Rank	Z-Score	Rank	Z-Score	Rank	Z-Score	Rank	Z-Score
46	0	-0.37	5	1.96*	-1	-0.38	-1	-0.36
14	-3	-0.89	4	1.59*	-2	-0.70	-1	-0.14
4	0	-0.16	4	1.44*	-3	-1.25	-1	-0.16
19	4	1.65	3	0.95*	5	1.90	-2	-0.90
3	-1	-0.38	1	0.66	-2	-0.59	0	0.06
29	3	1.31	1	0.24*	-3	-0.86	3	1.17
43	2	0.80	0	0.18*	3	1.05	2	0.88
12	-1	-0.43	0	-0.01	2	0.86	-2	-0.72
13	2	0.85	0	-0.26*	4	1.51	5	1.49
39	3	1.33	-1	-0.39*	2	0.74	1	0.56
31	1	0.26	-1	-0.42*	4	1.43	3	1.14
5	-4	-1.39	-2	-0.79*	0	0.03	1	0.34
38	-5	-1.84	-3	-1.20	-5	-1.88	-4	-1.77
34	-2	-0.76	-4	-1.40*	-2	-0.54	0	-0.05
48	1	0.67	-5	-2.03	-3	-1.60	-2	-0.91

Note. $p < .05$; *indicates $p < .01$

Factor III: Distinguishing Items

Item	I		II		III		IV	
	Rank	Z-Score	Rank	Z-Score	Rank	Z-Score	Rank	Z-Score
8	0	-0.01	0	0.16	5	1.72*	2	0.72
41	-2	-0.77	-2	-0.96	3	1.00*	1	0.36
12	-1	-0.43	0	-0.01	2	0.86*	-2	-0.72
20	-3	-0.92	-2	-0.59	2	0.79*	-2	-1.01
10	-2	-0.76	-1	-0.35	2	0.64*	-3	-1.11
28	5	1.91	5	1.97	1	0.63*	-3	-1.20
7	-1	-0.64	-4	-1.46	1	0.53*	-3	-1.18
18	-2	-0.88	3	1.21	1	0.48*	3	1.08
49	-1	-0.41	-2	-1.08	1	0.27*	-4	-1.52
37	1	0.41	-2	-0.82	0	0.00	-1	-0.55
40	3	1.29	3	1.05	-1	-0.33*	-3	-1.23
50	2	0.69	0	0.18	-1	-0.47*	2	0.63
44	2	1.17	2	0.87	-1	-0.48	0	-0.03
29	3	1.31	1	0.24	-3	-0.86*	3	1.17
9	0	-0.01	2	0.76	-3	-1.06*	2	0.68
4	0	-0.16	4	1.44	-3	-1.25*	-1	-0.16
48	1	0.67	-5	-2.03	-3	-1.60	-2	-0.91
35	-4	-1.48	-1	-0.38	-4	-1.87	-1	-0.30
42	-1	-0.69	-3	-1.11	-5	-1.91*	-1	-0.69

Note. $p < .05$; *indicates $p < .01$

Factor IV: Distinguishing Items

Item	I		II		III		IV	
	Rank	Z-Score	Rank	Z-Score	Rank	Z-Score	Rank	Z-Score
24	0	-0.01	1	0.75	2	0.96	5	2.29*
26	1	0.20	1	0.40	1	0.48	3	1.20*
8	0	-0.01	0	0.16	5	1.72	2	0.72
2	-2	-0.73	-1	-0.52	-1	-0.53	1	0.59*
21	5	1.69	-1	-0.44	-1	-0.47	1	0.49*
41	-2	-0.77	-2	-0.96	3	1.00	1	0.36*
23	4	1.48	4	1.52	3	1.12	0	0.11*
3	-1	-0.38	1	0.66	-2	-0.59	0	0.06
44	2	1.17	2	0.87	-1	-0.48	0	-0.03
34	-2	-0.76	-4	-1.40	-2	-0.54	0	-0.05
14	-3	-0.89	4	1.59	-2	-0.70	-1	-0.14
19	4	1.65	3	0.95	5	1.90	-2	-0.90*
48	1	0.67	-5	-2.03	-3	-1.60	-2	-0.91*
28	5	1.91	5	1.97	1	0.63	-3	-1.20*
40	3	1.29	3	1.05	-1	-0.33	-3	-1.23*
33	0	-0.03	1	0.56	0	0.14	-4	-1.45*

Note. $p < .05$; *indicates $p < .01$

Appendix T: Largest Z-Score Differences

One approach to report differentiating statements, albeit less precise is to arrange by largest z-score difference, found by subtracting a factor z-score from the ‘average of other’ factors.

Factor I: Largest Z-score Differences

Item	Statement	FI Zscore	Average F2-3-4	Z Diff
1	Being mentored by an authority, someone with a higher position	0.58	-1.82	2.40
48	Spending time doing specific business development tasks	0.67	-1.51	2.18
21	Receiving practical business development help in key areas	1.69	-0.14	1.83
40	Increasing my capacity to produce or create something	1.29	-0.17	1.46
29	Receiving feedback on projects and tasks to improve performance	1.31	0.18	1.13
44	Gaining knowledge to help me develop my entrepreneurial skills	1.17	0.12	1.05
39	Providing strategies for solving business problems	1.33	0.30	1.03
8	Being committed to the mentoring relationship	-0.01	0.87	-0.88
14	Helping me learn and grow as a person	-0.89	0.25	-1.14
5	Feeling comfortable disclosing things about myself	-1.39	-0.14	-1.25
24	Having respect and valuing what each other has to say	-0.01	1.33	-1.34
16	Having a relationship founded on mutual trust	-0.05	1.35	-1.40
18	Being able to be myself	-0.88	0.92	-1.80
32	Feeling accepted for who I am	-1.84	0.04	-1.88

Factor II: Largest Z-score Differences

Item	Statement	F2 Zscore	Average F1-3-4	Z Diff
46	Helping me become the person I aspire to be	1.96	-0.37	2.33
14	Helping me learn and grow as a person	1.59	-0.58	2.17
4	Learning about my strengths and weaknesses	1.44	-0.52	1.96
28	Challenging me to move my vision and ideas into action	1.97	0.45	1.52
40	Increasing my capacity to produce or create something	1.05	-0.09	1.14
33	Being a source of inspiration for me	0.56	-0.45	1.01
18	Being able to be myself	1.21	0.23	0.98
25	Being encouraged to grow and develop myself	0.81	-0.15	0.96
3	Bringing out the best in me	0.66	-0.30	0.96
9	Reflecting on my learning to adjust future decisions and actions	0.76	-0.13	0.89
34	Having a balanced and reciprocal relationship where we share resources	-1.40	-0.45	-0.95
21	Receiving practical business development help in key areas	-0.44	0.57	-1.01
7	Getting together socially to share an occasional drink or a meal	-1.46	-0.43	-1.03
41	Helping each other without expecting repayment	-0.96	0.20	-1.16
39	Providing strategies for solving business problems	-0.39	0.88	-1.27
31	Feeling positive energy and enthusiasm when we are together	-0.42	0.94	-1.36
48	Spending time doing specific business development tasks	-2.03	-0.61	-1.42
13	Getting advice about how to handle specific situations	-0.26	1.28	-1.54

Appendix T, Continued

Factor III: Largest Z-score Differences

Item	Statement	F3 Zscore	Average F1-2-4	Z Diff
20	Getting as much out of the relationship as I put into it	0.79	-0.84	1.63
7	Getting together socially to share an occasional drink or a meal	0.53	-1.09	1.62
41	Helping each other without expecting repayment	1.00	-0.46	1.46
8	Being committed to the mentoring relationship	1.72	0.29	1.43
10	Spending time together to build rapport	0.64	-0.74	1.38
19	Making targeted introductions to people in the mentor's network	1.90	0.57	1.33
49	Having a professional friendship	0.27	-1.00	1.27
12	Feeling that I am important to my mentor	0.86	-0.39	1.25
31	Feeling positive energy and enthusiasm when we are together	1.43	0.33	1.10
21	Receiving practical business development help in key areas	-0.47	0.58	-1.05
42	Being taken under my mentor's wing in a nurturing way	-1.91	-0.83	-1.08
25	Being encouraged to grow and develop myself	-0.73	0.37	-1.10
44	Gaining knowledge to help me develop my entrepreneurial skills	-0.48	0.67	-1.15
35	Receiving advice about achieving work-life balance	-1.87	-0.72	-1.15
9	Reflecting on my learning to adjust future decisions and actions	-1.06	0.48	-1.54
4	Learning about my strengths and weaknesses	-1.25	0.37	-1.62
29	Receiving feedback on projects and tasks to improve performance	-0.86	0.91	-1.77

Factor IV: Largest Z-score Differences

Item	Statement	F4 Zscore	Average F1-2-3	Z Diff
24	Having respect and valuing what each other has to say	2.29	0.57	1.72
25	Being encouraged to grow and develop myself	1.00	-0.21	1.21
2	Being confidential and protecting my privacy	0.59	-0.59	1.18
5	Feeling comfortable disclosing things about myself	0.34	-0.72	1.06
35	Receiving advice about achieving work-life balance	-0.30	-1.24	0.94
29	Receiving feedback on projects and tasks to improve performance	1.17	0.23	0.94
34	Having a balanced reciprocal relationship where we share resources	-0.05	-0.90	0.85
12	Feeling that I am important to my mentor	-0.72	0.14	-0.86
10	Spending time together to build rapport	-1.11	-0.16	-0.95
1	Being mentored by an authority, someone with a higher position	-1.99	-0.96	-1.03
49	Having a professional friendship	-1.52	-0.41	-1.11
23	Connecting me to expertise that I need to develop my business	0.11	1.37	-1.26
33	Being a source of inspiration for me	-1.45	0.22	-1.67
40	Increasing my capacity to produce or create something	-1.23	0.67	-1.90
19	Making targeted introductions to people in the mentor's network	-0.90	1.50	-2.40
28	Challenging me to move my vision and ideas into action	-1.20	1.50	-2.70

Appendix U: Three-way Analysis of Unique Differences

This table compares top 10 extreme items, largest z-score differences, and the distinguishing items from PQM ($p < .01$). The researcher found this visualization useful, to estimate the magnitude of difference between factors, at a glance.

For example, item #8 ‘being committed...’ is consistently important to Factor III, and not for Factor I. Item #1 ‘being mentored by an authority’ shows Factors II, III, and IV agree this is unimportant for effective mentoring. This three-way analysis makes it possible to compare and contrast what is unique about the factors.

Item Number and Statement	Sort Score Extreme Items				Largest ZDiff Between Factors				Distinguishing Items ($p < .01$)			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
1 being mentored by an authority, someone with a higher position		-5	-4	-5	1			0	1			
2 being confidential and protecting my privacy								1				1
3 bringing out the best in me						1						
4 learning about my strengths and weaknesses		4				1	0			1		
5 feeling comfortable disclosing things about myself	-4				0			1	0	0		
6 having a mentor with skills in specific areas that I want to develop	4			4								
7 getting together socially to share an occasional drink or a meal		-4				0	1				1	
8 being committed to the mentoring relationship			5		0		1				1	
9 reflecting on my learning to adjust future decisions and actions							0					
10 spending time together to build rapport							1	0			1	
11 sharing experiences of mistakes and failures to illustrate learning												
12 feeling that I am important to my mentor							1				1	
13 getting advice about how to handle specific situations			4	5		0			1			
14 helping me learn and grow as a person		4			0	1				1		
15 being cared about and held in positive regard												
16 having a relationship founded on mutual trust			4	4	0							
17 having things in common that make us socially equivalent			-4	-5								
18 being able to be myself					0	1			0		1	
19 making targeted introductions to people in the mentor's network	4		5				1	0		1		0
20 getting as much out of the relationship as I put into it							1				1	
21 receiving practical business development help in key areas	5				1	0	0		1			1

Appendix U, Continued

Item and Statement	Sort Score Extreme Items				Largest ZDiff Between Factors				Distinguishing Items (p<.01)			
	1	2	3	4	1	2	3	4	1	2	3	4
22 trading off the role of learner and expert												
23 Connecting me to expertise that I need to develop my business	4	4						1				
24 having respect and valuing what each other has to say				5	0			1				1
25 being encouraged to grow and develop myself						1	0	1				
26 having a mentor with attitudes and values that I want to emulate												1
27 working in my best interest												
28 challenging me to move my vision and ideas into action	5	5				1		0			1	0
29 receiving feedback on projects and tasks to improve performance					1		0	1		1		
30 learning alternative approaches for undertaking tasks												
31 feeling positive energy and enthusiasm when we are together			4			0	1		1	0		
32 feeling accepted for who I am	-5				0				0			
33 being a source of inspiration for me				-4		1		0				0
34 having a balanced reciprocal relationship where we share resources		-4				0				0		
35 receiving advice about achieving work-life balance	-4		-4				0					
36 making me aware of opportunities to develop my business									1			
37 providing reassurance during difficult times in starting my business												
38 being counseled on personal matters that are affecting me	-5		-5	-4								
39 providing strategies for solving business problems					1	0			1	0		
40 increasing my capacity to produce or create something					1	1		0				0
41 helping each other without expecting repayment						0	1				1	1
42 being taken under my mentor's wing in a nurturing way			-5				0					
43 evaluating alternatives to make important business decisions												
44 gaining knowledge to help me develop my entrepreneurial skills					1		0					
45 asking questions that challenge my assumptions and my thinking				4								
46 helping me become the person I aspire to be		5				1				1		
47 having personal and emotional support	-4	-4										
48 spending time doing specific business development tasks		-5			1	0			1			0
49 having a professional friendship				-4			1	0	0		1	
50 helping me "think outside the box"												
Indicators on each factor	10	10	10	10	14	17	17	13	11	9	9	10

Appendix V: Stephenson's Letter to *Nature*

Eighty years ago on June 28, 1935, Professor Steven Brown reminded us that the pioneer "William Stephenson penned the following four paragraphs to the Editor of the British science journal *Nature*, first describing Q-methodology. The letter was published in the August 1935 issue (p. 297):

Technique of Factor Analysis

Factor analysis is a subject upon which Prof. G. H. Thomson, Dr. Wm. Brown and others have frequently written letters to *Nature*. This analysis is concerned with a selected population of n individuals each of whom has been measured in m tests. The $(m)(m-1)/2$ intercorrelations for these m variables are subjected to either a Spearman or other factor analysis.

The technique, however, can also be inverted. We begin with a population of n different tests (or essays, pictures, traits or other measurable material), each of which is measured or scaled by m individuals. The $(m)(m-1)/2$ intercorrelations are factorized in the usual way.

This inversion has interesting practical applications. It brings the factor technique from group and fieldwork into the laboratory, and reaches into spheres of work hitherto untouched or not amendable to factorization. It is especially valuable in experimental aesthetics and in educational psychology, no less than in pure psychology.

It allows a completely new series of studies to be made on the Spearman 'central intellectual factor' (g), and also allows tests to be made of the Two Factor Theorem under greatly improved experimental conditions. Data on these and other points are to be published in due course in the *British Journal of Psychology*.

W. Stephenson
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 June 28.

Appendix W: A surprise in Koestler's *The Act of Creation*

From the Foreword to the First Edition (Koestler, 1964)

By Professor Sir Cyril Burt

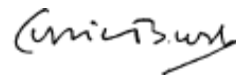
“From time immemorial the gift of creativity has been venerated almost as if it were divine. Prometheus, the discoverer of fire, Vulcan, the first of the smiths, Hermes, the inventor of writing, Aesculapius, the founder of the most ancient school of medicine each was welcomed into the classical Pantheon, much as today an outstanding scientist is elected to the Royal Society. In the Middle Ages the scientific pioneers—the leading alchemists, anatomists, and physicists—were almost as frequently suspected of owing their miraculous knowledge and skill to the devil rather than to the deity. Even as late as the nineteenth century relics of the old superstitious awe still lingered on, translated into the biological jargon of the day. These intellectual prodigies, it was argued, were plainly endowed, not with supernatural, but certainly with superhuman powers: they must therefore be either congenital sports or members of a rare anthropological species. Cynics, like Nordau and Lombroso, retorted that the much vaunted superman was nothing but an unbalanced pathological freak, suffering from a hypertrophied cerebrum, or else the victim of some mental degeneracy, akin no doubt to the 'sacred disease' of epilepsy. 'After all,' it was said, 'who could be more original than a lunatic, and what is more imaginative than a dream?' Perhaps the so-called genius is just a 'sleepwalker' whose dreams have hit upon the truth.

As Mr. Koestler has so clearly indicated in his earlier volumes, in *Insight and Outlook* and again in *The Sleepwalkers*, each of these views once we have allowed for naivetés resulting from the system of thought in which it appeared—brings out an important aspect of the problem. It is therefore curious, as he goes on to observe, that not until the close of the nineteenth century were any systematic attempts made to investigate the matter scientifically. At the moment the views of professional psychologists still seem mainly to be in a state of bewildered confusion; and there is a crying need for an entirely fresh examination of the subject from top to bottom. It is scarcely profitable to discuss the relative importance of genetic constitution and social environment until we have first determined in what precisely the 'act of creation' really consists. Here, as it seems to me, is one of the greatest gaps in the psychology of today. It is not an issue that can be satisfactorily solved by the tools and techniques which present-day psychologists commonly employ—mental testing, experimental research, planned observations on men and animals. What is really needed is a systematic study carried out by one of those rare individuals who himself happens to possess this peculiar gift of creativity. And here, I venture to suggest, Mr. Koestler enjoys an advantage that few, if any, of the professional psychologists who have touched upon the subject can genuinely claim. This does not mean that the book is just based on the author's 'introspective reflections' about his methods of working as an essayist or novelist; on the contrary, he has

been at pains to keep personal introspection, as the phrase is commonly understood, out of his chapters. The ground which he has covered and the evidence which he offers for his main conclusions are very much wider and more varied. He has in fact undertaken a new and comprehensive analysis of the whole problem; and is, so I believe, the first to make such an attempt.

The impartial reader will scarcely need any independent witness to testify in advance that Mr. Koestler is admirably equipped for the task. Although most widely known as a creative artist in the field of general literature, he received his early training as a scientist at the University of Vienna. In the course of travels in both hemispheres, he has visited most of the more progressive places of learning where psychological research is being carried out. His knowledge of the relevant literature, both psychological and non-psychological, is unusually extensive and fully up to date. Moreover, he has enjoyed the intimate friendship of some of the most original investigators in contemporary branches of science, from nuclear physics to experimental neurology; and he has thus been able to watch the daily workings of their minds. The outcome is a wide and an entirely novel synthesis.

Many of those who find Mr. Koestler's arguments completely convincing on all essential points may nevertheless be inclined, as I am myself, to query minor details here and there. My own hesitations arise, not so much from definable objections, but rather from doubts requiring further information or factual evidence, which is at present unobtainable. But his book is not merely a highly original contribution to present-day psychology. It is also a richly documented study in the history of scientific discovery and an essay in the analysis of literary and artistic creation. It will, therefore, present an irresistible challenge, and should appeal, not only to psychological or educational specialists, but also to every cultivated reader who is interested in 'the proper study of mankind'.



Note: William Stephenson authored a celebrated paper with Sir Cyril Burt (1939) in which the two laid out their contrasting views of Q methodology.

Burt, C. & Stephenson, W. (1939). Alternative views on correlations between persons. *Psychometrika*, 4, 269-281.