

A TEAM IS ONLY AS GOOD AS ITS PEOPLE:  
THE IMPACT OF INDIVIDUAL SUPPLY CHAIN MEMBER SUCCESS  
ON THE CROSS-FUNCTIONAL TEAM'S SUCCESS  
IN THE GLOBAL APPAREL SUPPLY CHAIN

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A Dissertation Presented to  
The Faculty of the Graduate School  
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In Partial Fulfillment  
Of the Requirements for the Degree  
Doctor of Philosophy

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By  
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MAY, 2015

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**APPROVAL PAGE**

The undersigned, appointed by the dean of the Graduate School,  
have examined the Dissertation entitled

**A TEAM IS ONLY AS GOOD AS ITS PEOPLE:  
THE IMPACT OF INDIVIDUAL SUPPLY CHAIN MEMBER SUCCESS  
ON THE CROSS-FUNCTIONAL TEAM'S SUCCESS  
IN THE GLOBAL APPAREL SUPPLY CHAIN**

Presented by

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A candidate for the degree of

**Doctor of Philosophy**

And hereby certify that, in their opinion, it is worthy of acceptance.

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*To my mother, my first teacher, who has taught me to find my strength in the valleys  
And to share my laughter on the peaks of this beautiful journey of life*

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## **CHAPTER 1. INTRODUCTION**

Chapter 1 contains the following sections: (a) background of the global apparel supply chain, (b) purpose of the study, (c) significance of the study, (d) definition of key terms, (e) guiding paradigms and research assumptions, and (f) organization of the study.

### **Background of the Global Apparel Supply Chain**

#### **The Global Apparel Supply Chain**

##### **The business of creating apparel.**

The apparel industry exemplifies today's global economy with large production circuits between developed and developing countries. Due to low barriers to enter and its labor-intensive nature, much of apparel production takes place in developing countries (Dicken, 2011). Until the 1980s, apparel production and the end consumer were geographically close in proximity. The industry was supply-driven, production cycles were predictable, and suppliers were regional and relatively stable (International Labor Organization, 2014). However, with the demand of more products from consumers and strong competition between brands, retailers were forced to consolidate and shift apparel production to foreign countries for lower prices (International Labor Organization, 2014; Porter, 1985). This shift has been transformative for the apparel industry, resulting in an extremely challenging business environment (Dyer & Ha-Brookshire, 2008).

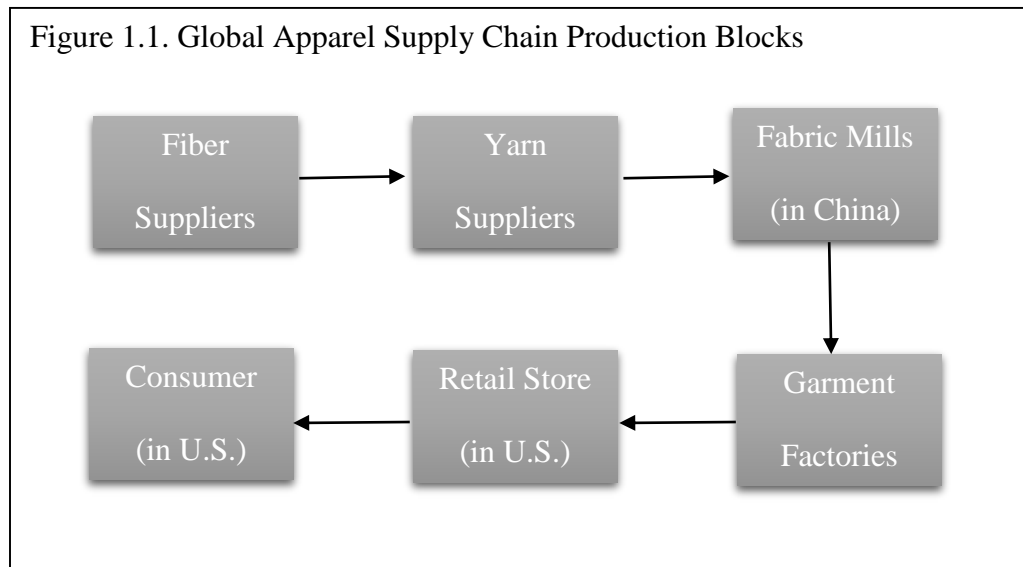
The apparel industry has been described as hyper-dynamic (Dyer & Ha-Brookshire, 2008), in other words a market full of uncertainty and volatility. The core of the apparel industry consists of designing, producing, and selling clothing, which depends on a company's ability to predict or influence what consumers want to buy (Dickens,

2011). These kinds of market demands create an environment tethered to short deadlines and scarce resources, crafting a uniquely challenging environment. The apparel industry is powered by the nature of the fashion cycle, which is ever-changing and driven by the newest trends, causing an acceleration of business practices and functions (Dyer & Ha-Brookshire, 2008).

Fragmentation refers to the physical and geographical dispersion of the different production circuits. Fragmented production takes place when activities are organized into blocks that do not necessarily need to be performed in proximity to one another (Arndt & Kierzkowski, 2001). Further, the researchers describe fragmented production circuits as a finer and more complex division of labor than those that are not. Fragmentation allows for different production circuits to be located in areas where costs are the lowest (Arndt & Kierzkowski, 2001). In the apparel industry, fragmentation of production is utilized for speed and efficiency, thus giving the competitive advantage to retailers (Porter, 1985). The linkage of these production blocks to supply, transform, and demand materials, information, and services processing is referred to as a supply chain (Chen & Paulraj, 2003, p.119).

Communication between individuals and coordination of groups of people working within supply chains are two of the biggest challenges within the fragmented production circuits (Arndt & Kierzkowski, 2001). When communication and coordination fail, the supply chain slows and becomes inefficient (Dickens, 2011). Managing relationships across production circuits is an important element of a successful supply chain (Chen & Paulraj, 2003). This is especially important for the apparel industry for selecting the right suppliers and sharing apparel design details. Managing these

complex production circuits in different global locations has made it even more difficult for retailers to gain and sustain a competitive advantage (Hitt, Hoskisson, & Kim, 1997). Figure 1.1 illustrates fragmentation in the apparel industry throughout the entire supply chain. Each production block may be separated physically and located in different geographic locations.



*Note.* Author's pictorial representation of the fragmented apparel industry throughout the global apparel supply chain.

Through fragmented and globalized production networks, there are millions of workers employed globally in the apparel industry. The International Labor Organization (2014) estimates that there are 60 million workers worldwide in the textile, clothing, and footwear sector, which has great potential to contribute to economic development worldwide. The apparel industry is composed of predominately unskilled workers, young women, and a number of internal migrant workers on short-term contracts (Dickens, 2011). In many countries, the apparel industry may be one of the only opportunities to

move into the formal sector and is frequently one of the few jobs acceptable for women (International Labor Organization, 2014). This sector remains highly labor intensive, despite the advances in technology and workplace practices (Dickens, 2011). With cost competition and consumer demands in a hyper-dynamic industry, it leaves millions of workers vulnerable to the constant shifts in the apparel industry.

To illustrate the enormity of the global apparel supply chain, the World Trade Organization's (WTO) import and export statistics are reviewed. In 2013, the total world export of clothing was 460.3 million US dollars. China was the leading clothing exporter to the world, accounting for 177.4 million US dollars, and Italy was the second leader, exporting clothing worth up to 23.7 million US dollars. In 2013, the total world imports of clothing were \$481.1 million dollars. The United States was the leading importer of clothing, accounting for 91.0 million US dollars, and Germany was the second leader, importing clothing worth up to 35.5 million US dollars (WTO, 2014). The statistics illustrate how impactful the apparel industry is on the world economy.

At the same time, apparel consumers today expect high quality at a low price. Apparel retailers have had to focus on the importance of strategic partnerships in this fragmented and global industry (Arndt & Kierzkowski, 2001; Hit, Hoskisson, & Kim, 1997). In the apparel industry, retailers are using strategic partnerships with different supply chain members to maintain a competitive advantage (Divita & Cassill, 2002). A strategic partnership is defined as an association between two or more organizations in which resources, capabilities, and core competencies are pooled together for the benefit of all organizations involved (Hitt, Ireland, & Hoskisson, 1997). These alliances share business systems, information, risks, and other elements necessary to effectively and

efficiently meet the demands of consumers (Lewis, 1996). Strategic partnerships tend to be formed and maneuvered on a small scale within teams across functions (or cross-functional teams). In the case of the global apparel industry, different job functions bring different expertise to the development of a finished apparel product. In addition, these teams and expertise may be fragmented across organizations and locations. For example, design expertise may be done at the headquarters in New York City, garment production may be done in Vietnam, and fabric/trim suppliers may be located in different locations throughout Asia. Each team of supply chain members contributes to the finished apparel product.

Within the hyper-dynamic global apparel industry, the interactions of these teams can have a global impact. A significant proportion of apparel production takes place in developing countries. However, the production of apparel is organized and driven by developed countries' organizations and consumers (Dicken, 2011). Large retailers (for example, Wal-mart, Sears, J.C.Penny's, Dayton Hudson) and specialty retailers (for example, The Gap, Banana Republic, The Limited, Liz Claiborne) in both the U.S. and European markets dominate the purchasing policies of the global apparel industry (Dicken, 2011). These large and specialty retailers have a highly concentrated amount of purchasing power over apparel production around the world (Dicken, 2011).

### **Supply chain management in the apparel industry.**

#### ***Definition.***

As a way of managing production networks that are fragmented and dynamic, the management literature emphasizes supply chain management. A supply chain has been described as “a network of materials, information, and services processing links with the

characteristics of supply, transformation, and demand” (Chen & Paulraj, 2003, p.119). Simply stated, a supply chain is a set of three or more organizations or individuals directly linked by flows of products, services, finance, or information from a source to a customer (Mentzer, 2004). This view of the supply chain emphasizes the importance of inter-organizational and inter-functional reliance. An organization does not stand alone in its success. It is intertwined with multiple organizations along a network in which superior relationships are mutually beneficial (Chen & Paulraj, 2003). The health of one organization is dependent on the health of all organizations in this network.

***The role of supply chain management.***

Mentzer (2004) defined supply chain management (SCM) as the “systematic, strategic coordination of the traditional business function within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole” (p. 4). Supply chain management’s goal is to gain “improved performance through better use of internal and external capabilities in order to create a seamlessly coordinated supply chain, thus elevating inter-company competition to inter-supply chain competition” (Anderson & Katz, 1998, p. 3).

Supply chain management has been a paradigm shift in the business research literature for the concepts of cooperation and competition (Su, Dyer, & Gargeya, 2009). Grounded in strategic management theory, supply chain management emphasizes the development of collaborative advantage as opposed to competitive advantage (Chen & Paulraj, 2003). Collaborative advantage describes an industry that is composed of a network of interdependent relationships and is fostered through strategic collaboration

with mutual benefits for all organizations involved (Miles & Snow, 1986). Supply chain management draws a relational view of inter-organizational competitive advantage as opposed to the resource-based view (Chen & Paulraj, 2003). Although supply chain management and Barney's (1991) resource-based view are complementary, the relational view in supply chain management goes beyond looking at individual organizations as a unit and considers the network (Chen & Paulraj, 2003).

Supply chain management is central to a firm's sustained competitive advantage in today's global economy and is used as a tool to improve quality, customer service, and competitive success (Su, Dyer, & Gargeya, 2009). Supply chain management is recognized for achieving benefits of both operational and strategic natures, improving organizational competitiveness in both manufacturing and services (Gunasekaran, Patel, & McGaughey, 2004). Supply chain management has really been a holistic approach with the integrated way in which supply chain members are globally planning, designing, and controlling the production and flow of apparel and textiles to the marketplace (Su, Dyer, & Gargeya, 2009).

#### *Application of supply chain management.*

The supply chain may be conceptualized as a movement beyond linear processes, toward a business strategy encapsulating collective learning, creating, and constructing new, more flexible ways of doing work (Hethorn & Ulasewicz, 2008, p159). Dicken's (2011) central idea was that the global economic map has been changed and redrawn by the emergence of complex organizational and geographic networks of production, distribution, and consumption—what he calls global production networks. The methods of how these networks are controlled and coordinated shape not just the economy, but

also society. Global production networks integrate transnational organizations into developed structures, along with places, both national and local economies in ways that have immense implication for economic development and prosperity (Dickens, 2011).

### **Organizational dynamic.**

With various members in mind within the global apparel supply chain, organizational dynamic is discussed. In today's business world, organizations are required to engage in exchanges with other organizations at a rate that far exceeds any in past decades. Czander (1993) explains how inter-organizational events increasingly permeate all aspects of organizational life. Further, he states how organizations are expected to engage with their vendors and suppliers with increased intimacy and continuity. The management literature discusses inter-organizational cooperation and teamwork as key for organizational success (Chen & Paulraj, 2003; Mentzer, 2004). The business literature discusses inter-organizational dynamics within the supply chain management to describe this arrangement of resources, suppliers, and buyers. The organizational literature explores the organizational systems, internal subsystems, and departments' capability of working with each other within a culture and dynamic exchange that promotes harmony and continuity (Bolman & Deal, 2008).

Czander (1993) postulates how understanding inter-organizational dynamics is important for three reasons. First, it is through the interaction of various groups and subsystems that the goals and objectives of the organization are accomplished. Second, management coordinates the flow of work, communication, and people across the boundaries of departments and subsystems. If one subsystem breaks down, the remaining subsystems are affected, many times negatively. Third, understanding the intergroup

process provides a foundation for studying the larger system and the nature of the relationship between the larger system or organization and other systems in its environment.

***Definition of organizational dynamics.***

Successful supply chains are effective in the face of severe pressures or volatile environments. In an organization, individuals and groups throughout the supply chain need to work and behave effectively. As supply chain members carry out their job functions with other members, miscommunications and conflicts begin to arise surprisingly often (Schein, 2010). Schein (2010) goes on to say that when organizational dynamics are understood in the supply chain, supply chain members are less likely to be puzzled, irritated, and anxious when unfamiliar and seemingly irrational behavior occurs. Additionally, the study of dynamics helps individuals gain a deeper understanding of why various groups or teams in an organization can be so different (Schein, 2010). Organizational dynamics can be defined as “a pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid and therefore to be taught to new members as the correct way to perceive, think, and feel in relation to those problems” (Schein, 2010, p. 18).

All members in the supply chain need to understand the similarities and differences between the different supply chain functions as they struggle to influence the behavior of their organizations or manage relationships of other supply chain members (Chen & Paulraj, 2003; Mentzer, 2004). The situation may become even more complicated for members in the global apparel supply chain, coping with the subtleties of

different systems and traditions. Because of the fragmented supply chain in the apparel industry, supply chain members are also physically and geographical divided. In a single supply chain, members not only may have different job functions and goals but also different ethnicities, nationalities, languages, and others. Variations in collectivism influence people's cultural, regional and ethnic, and generational differences (Forsyth, 2010). Across functions and organizations along the supply chain, members often harbor narrow, stereotypic conceptions of one another that impede effectiveness on both sides (Schein, 2010). This may affect the overall performance of the global supply chain.

Organizational dynamics have predominately been studied from the qualitative perspective (Czander, 1993; Schein, 2008). Organizational dynamics can be explored from a multitude of observable events and underlying forces that contribute to an organization's dynamic. From a qualitative perspective, researchers have investigated the following aspects within an organization: (a) observed behavioral regularities when people interact (Trice & Beyer, 1993); (b) group norms (Kilman & Saxton, 1983); (c) espoused values (Deal & Kennedy, 1999); (d) formal philosophy (Pascale and Athos, 1981); (e) rules of the game (Ritti & Funkhouser, 1987); (f) climate (Ashkanasy et al, 2000); (g) embedded skills (Ang & Van Dyne, 2008); (h) habits of thinking, mental models or linguistic paradigms (Hofstede, 2001); (i) shared meanings (Hatch & Schultz, 2004); (j) root metaphors or integrative symbols (Schultz, 1995); and (k) formal rituals and celebrations (Deal & Kennedy, 1999).

Technological advances and social changes have produced a world that is far more interconnected, frantic, and complicated than ever before. Humans struggle to catch up, but we are at a continual risk of drowning in complexity that puts us in over our heads

(Kegan, 1998). Forms of management and organization effective a few years ago are now obsolete. Serieux (1993) refers to this as the organizational big bang, which is “the information revolution, the globalization of economies, the proliferation of events that undermine all our certainties, the collapse of the grand ideologies, the arrival of the CNN society which transforms us into an immense, planetary village—all these shocks have overturned the rules of the game and suddenly turned yesterday’s organizations into antiques” (p. 14-15).

Organizations are formidably difficult to comprehend and manage because of their innate characteristics. Bolman and Deal (2008) identified four organizational characteristics: complex, surprising, deceptive, and ambiguous. In particular, large organizations include an array of people, departments, technologies, and goals with behaviors that are hard to predict. According to the authors, the solution to yesterday’s problems may often create future obstacles. Organizations may be considered deceptive as they at times camouflage mistakes and surprises (Diamond, 2008). Diamond goes on to state that communication in organizations is rarely candid, open, or timely. Complexity, unpredictability, and deception generate rampant ambiguity. Different people may interpret the same information in a variety of ways, depending on mind-sets and organizational policies (Bolman & Deal, 2008).

In this light, according to Fineman’s (2000) research in “corporate greening,” organizations are sites of everyday healing and pain. His study explored global organizations and their ability to initiate “corporate greening,” which is done from the perspective of organizational dynamics. Fineman and other researchers measure the relative emphasis on the individual and the group in countries all around the world. The

United States, other English-speaking countries, and Western Europe tend to be more individualistic, compared to Asian, Eastern European, African, and Middle Eastern countries (Forsyth, 2010). Current concepts of feeling reflect a dominant Western cultural tradition that diminishes feeling in favor of reason; especially in organizations, emotion is regarded as the enemy of reason, as something to be managed and overcome (Fineman, 1996). In a culture that emphasizes rationality, being “at work” means maintaining a narrow focus on the task at hand. It is this focus that drives out or at least minimizes an awareness of emotion and ethics (Adams & Balfour, 2009).

### **Connecting organizational dynamics with supply chain management.**

From the traditional quantitative perspective in supply chain management literature, the members of the University of Tennessee Supply Chain research group identified 15 managerial conclusions regarding supply chain management (SCM) (Mentzer, 2000). Among those 15 items, “inter-corporate coordination in SCM” and “performance measurement in SCM” are of a particular interest to this current study. According to Mentzer, inter-corporate coordination considers and calls for each organization in the supply chain to be flexible to demands, assist each member in improving, cooperate, and develop close relationships. Further, Mentzer explains that performance measurement in SCM capitalizes on the opportunities to plan and measure key supply chain processes and improves both the single organizational performance and supply chain outcomes. Both conclusions from Mentzer (2000) can be studied by taking a close examination of not just the supply chain or a single organization, but the members or people working in each function and their intra- and inter-relational dynamics.

In the realm of organizational dynamics, there is a gap in qualitative and quantitative research, which should be considered. The integration of both could tie together the various elements of an organization and those that reside at a deeper level. Such integration ultimately derives from the human need to make the work environment as sensible and orderly as possible (Weick, 1995). From both a qualitative and quantitative perspective, the organizational dynamics' aspects to be considered would be rituals, climate, values, and behaviors that tie together to make up how supply chain members interact and form relationships (Schein, 2010).

There is a need to explore the organizational dynamics working within the supply chain, which is composed of the individual members working within each organization and working across the supply chain. An understanding of the members, organizations, and supply chains may alleviate inefficient processes and contribute to an overall competitive advantage. Organizations need members who can provide a durable sense of purpose and direction, rooted deeply in values and human emotion (Guehenno, 1993). Many of the world's legendary corporate leaders articulated their philosophies and values so poignantly that they are still visible in today's organizational behavior and operations (Bolman & Deal, 2008). Grant (1996) study operationalized organizational capabilities, as the outcome of knowledge integration. The study found that organizational capabilities are dependent upon the organizations' ability to harness and integrate the knowledge of many individual specialists (Grant, 1996). Thus, the investigation of supply chain members is vital to supply chain management.

## **Purpose of the Study**

In investigation of supply chain members' successful performance, previous literature has tended to focus on assessing it from the firm resource theory (Barney, 1991), knowledge-based theory (Grant, 1996), management operations (Mentzer, 2004), or organizational structures (Bolman & Deal, 2008) perspectives. Most of these approaches assume that positive employee performance can be attained by applying tactics at the top level of management. The assumption is that when there are clear goals and leadership in creating unique resources, knowledge, management, and/or organization structures, supply chain performance would enhance. However, this study takes a position that an organization's or a supply chain's performance is, in fact, an outcome of individual employees' dedications and successful performance.

In this light, this research is designed to investigate the relationships between individual employees' success and cross-functional teams' success within the global apparel supply chain. Particularly, multiple intelligence perspectives from psychology and sociology are reviewed within the context of job satisfaction and career success. That is this research specifically investigates the impact of an individual's successful intelligence and emotional intelligence on his or her job satisfaction and career success, which are critical to cross-functional team performance within the global apparel supply chain context.

## **Significance of the Study**

The study investigated the global supply chain at the individual level of the supply chain member and how it may affect the cross-functional team performance. The

fragmented, hyper-dynamic, and global apparel industry may create a unique work environment where cross-functional teams need to collaborate and innovate on short timelines (Dicken, 2010). Every supply chain member has a role in the success of the cross-functional team, organization, and entire supply chain. Therefore, it is important to understand the supply chain individual's keys to career success—more specifically, successful intelligence, emotional intelligence, and job satisfaction.

This study adds to the supply chain literature by finding a significant relationship between individual success and cross-functional team success. First, the study fills the gap in literature regarding cross-functional team dynamics. The global apparel supply chain is organized into cross-functional teams that are comprised of diverse team members with different job functions, such as design, merchandising, sourcing, and product development. This study is one of the first to look beyond the team outcome and examine the individual. Emotional intelligence, job satisfaction, and subjective career success influence the overall cross-functional team's success.

Second, these results may have great impact and significance for organizations. Traditional organizational structure pays little attention to the individual, especially the emotional intelligence of the employee. This study encourages the development and support of emotional intelligence in the work environment for the success of teams, apparel organizations, and supply chains. Findings of the study provide insights into how apparel supply chain members could interact more successfully with other cross-functional team members, who may have very different levels of emotional and successful intelligence, to create competitive products in the hyper-dynamic apparel

industry. The results of the study could guide personnel training strategies for human development departments to implement for their employees' successful performance.

Third, the results are impactful in terms of the concept of career success, which has previously been measured by both objective and subjective dimensions of success. However, in this study, objective career success measures of income and promotions were not reliable and thus not used in analysis. These findings challenge previous literature and a call for reexamining how career success is measured for the apparel industry who may define career success beyond just income and promotions.

Fourth, academia could use the study's findings in developing and instructing future supply chain members and leaders in the global apparel supply chain. Unlike intelligence quotient (IQ), emotional intelligence is thought that it can be learned and developed (Goleman, 2001; Mayer et al., 2000). Educators may need to focus not only on task-oriented curriculum but also on the development of students' emotional intelligence, in order to support successful careers within the global apparel supply chain.

Finally, the study adds to the literature on supply chain management by taking theories from psychology, sociology, organizational dynamics, and business. Traditional supply chain management literature focuses on tangible resources and input and output of a team's and an organization's performance. This study takes a different perspective by examining the performance of an individual and a cross-functional team that make up apparel organizations and the global supply chain. By incorporating literature and theories from psychology, sociology, business, and organizational dynamics to investigate the supply chain, this study provides a new undertaking that adds to the textile and apparel supply chain management literature.



## **Guiding Paradigms and Research Assumptions**

A phenomenon can be looked at from a multitude of paradigms and every researcher must not only understand a study's theory construction but also the guiding paradigms and assumptions of how reality and human behavior will be explored and interpreted (Jaccard & Jacoby, 2010). This research was informed by the two guiding paradigms or grand theories: (a) structuralism and (b) functionalism. Each comes with its own assumptions.

From the structuralist perspective, underneath the surface structure of society, there is an even deeper structure that represents a finite set of organizing principles, and they serve as a universal blueprint for human behavior (Jaccard & Jacoby, 2010). Therefore, the researcher tries to measure, organize, and discover the principles that create this blueprint or larger structure. Further, structuralism focuses on discovering how people think rather than what people think (Jaccard & Jacoby, 2010). This study aims to discover the relationship between employees' successful intelligence, their emotional intelligence, and job satisfaction and career success. Through this research, it is assumed that there was an underlying principle that assisted in understanding the overall structure of the team dynamic in the global apparel supply chain.

In addition to the structuralist viewpoint, functionalism is another guiding paradigm of this study. There are two types of functionalist theory, one that focuses on the societal level and another that focuses on the individual level (Jaccard & Jacoby, 2010). Functional analysis explores social institutions and segments of society in terms of the functions they serve and conceptualizes society as a system of interdependent parts that tend toward equilibrium (Jaccard & Jacoby, 2010). When a society or individual is

not working in equilibrium, conflict is expected. In this study, it is assumed that when individuals and cross-functional teams work to achieve equilibrium or balance, higher performance and success of both individuals and cross-functional teams was achieved.

## Definitions of Key Terms

The definitions for key terms used throughout the text are available in the following section:

<b>Supply Chain</b>	Refers to a network of materials, information, and services processing links with the characteristics of supply, transformation, and demand (Chen & Paulraj, 2003)
<b>Supply Chain Members</b>	Refers to individuals working in the global apparel supply chain. This study looks at the individual level of people in the supply chain.
<b>Cross-Functional Teams</b>	Refers to groups of individuals drawn from different functional specialties or departments who are brought together for the common purpose of creating and refining new products” (Sarin & McDermott, 2003, p. 707).
<b>Successful Intelligence</b>	Refers to the balance of analytic, creative, and practical intelligence (Sternburg, 1999)
<b>Analytic Intelligence</b>	Refers to the components of intelligence applied to analyze, evaluate, judge, or compare and contrast (Sternberg, 1999)
<b>Creative Intelligence</b>	Refers to the components of intelligence assessing how well an individual can cope with relative novelty (Sternberg, 1999)
<b>Practical Intelligence</b>	Refers to applying the components of intelligence to experience so as to (a) adapt to, (b) shape, and (c) select environments (Sternberg, 1999)
<b>Emotional Intelligence</b>	Refers to the processes involved in the recognition, use, understanding, and management of one’s own and others’ emotional states to solve emotion-laden problems and to regulate behavior (Mayer & Salovey, 1990)
<b>Job Performance</b>	Refers to an attitude, a positive (or negative) evaluative judgment one makes about one’s job or job situation (Weiss, 2002)

**Career Success**

Refers to the positive psychological or work-related outcomes or achievements one has accumulated as a result of one's work experiences (Judge et al., 1998)

**Perceived Cross-Functional Team Success**

Refers to how the supply chain member perceives the success of their cross-functional team on the dimensions of efficiency, quality, technical innovation, adherence to schedules, adherence to budgets, and work excellence (Ancona & Caldwell, 1992)

## **Organization of the Study**

This dissertation proposal is divided into five chapters. Chapter 1 presents the background of the global supply chain, purpose, and significance on the study, as well as key terms and guiding paradigms and research assumptions. Chapter 2 provides the literature review introducing the study's theoretical framework. Fundamental theories of triarchic theory and emotional intelligence are introduced and explained. Job satisfaction and career success, outcomes of the fundamental theories of the study are then described. In addition, the cross-functional team is described. Research hypothesis are then proposed along with the conceptual model of the study. Chapter 3 presents the research methods, survey design, sampling, data collection procedures, and data analysis techniques. Chapter 4 details the results of data collection, including the demographic characteristics of the study's sample, scale reliabilities, and finally, both SEM and Path analyses. In conclusion, Chapter 5 summarizes the study with discussions of the major findings, contributions and implications, along with limitations and future research opportunities.

## CHAPTER 2. LITERATURE REVIEW

Chapter 2 contains the following sections: (a) theoretical framework of individual success, (b) outcomes of individual success, (c) cross-functional team, and (d) research hypotheses summary.

### **Theoretical Framework of Individual Success**

Every organization wants the best possible employees to structure the best possible cross-functional teams. Many organizations' recruiters believe that intelligence is the best predictor of job performance and organizational success. Psychologists and educators have started to recognize that there is more to intelligence than abstract and mechanical cognitive processing, which makes up the well-researched IQ intelligence. Goleman's (2001) Emotional Intelligence is an examination of the emotional component of intelligence: how feelings affect thoughts and how to deal with them. There are several proposed forms of intelligence, but this study investigated the kind of intelligence that matters to everyone in reaching important life and career goals, also referred to as successful intelligence (Sternberg, 1996).

#### **History of intelligence.**

A British psychologist, Charles Spearman (1927) proposed two kinds of factors, general ability, which he labeled "g" and specific abilities, which he labeled "s". Spearman claimed that *g* is a single mental capability measured by all intelligence tests and that it is some form of generalized mental energy. Specific abilities are capabilities uniquely measured by a particular mental test, like a mathematical computation. Sir Godfrey Thomson (1939), a rival of Spearman, proposed that instead of mental energy, *g*

actually consists of many different intellectual capabilities, plus skills and motivation, which operate simultaneously when people take a mental test.

American psychologist Louis L. Thurstone (1938) was one of the most influential people who disagreed with Spearman. Thurstone contended that intelligence comprises seven distinct but interrelated factors: verbal comprehension, verbal fluency, number, memory, perceptual speed, inductive reasoning, and spatial visualization. Spearman suggested one “health condition” underlying a wide set of “symptoms,” where Thurstone believed there are seven health conditions, each with its own set of symptoms. The idea that there exist multiple intellectual capabilities, and that people can have different patterns of strengths and weaknesses in these abilities, dates back as far back as the sixteenth century (Cianciolo & Sternberg, 2004). Both Spearman and Thurstone were the first to mathematically explore the geography of the human intellect (Blinkhorn, 1995).

In hierarchical theories of intelligence, general intelligence is at the top of the hierarchy, and more specific abilities, such as verbal ability of numerical ability are lower in the hierarchy (Cianciolo & Sternberg, 2004). Horn and Cattell (1966) and Carroll (1993) were influential in developing two hierarchical theories of intelligence. Horn and Cattell’s (1966) theory features nine abilities at the top of the hierarchy, but the best known of these abilities are crystallized ability and fluid ability. They defined fluid ability as flexibility of thought and abstract reasoning capability, and crystallized ability as the accumulation of knowledge and skills. Carroll’s (1993) hierarchical theory, called the three-stratum theory, is based on an extensive reanalysis of nearly every major data set featuring tests of intellectual ability. At the top of the hierarchy, there is general

intelligence, then abilities like fluid, learning and memory, and finally narrow abilities like mathematical reasoning (Carroll, 1993).

Researchers in neurology, psychology, and philosophy have all asked the question, “Why do people differ in their intelligence?” Dating back to the late 1800s, the measurement of head size was a predictor of intelligence, which has appeared to be a weak answer. Technological developments such as the electroencephalogram (EEG), positron emission tomography (PET), and functional magnetic resonance imaging (fMRI) have provided a means for exploring the inside of the working brain (Cianciolo & Sternberg, 2004). Studies using these technological developments suggest that the efficiency of various neurological functions may play an important role in why people perform differently on tests of intelligence (Vernon, 1993).

Gardner’s (1983) theory of multiple intelligences integrates methodological approaches and findings from the geographical mapping, biological, and anthropological areas of research. Similar to the initial theorizing of geographic intelligence theorist Thurstone and Guilford, Gardner’s view of intelligence does not recognize intelligence as a single entity, but rather as a system of independent intelligences. He has proposed eight kinds of intelligence, which interact to create successful performance. Gardner’s intelligences include linguistic intelligence, logical-mathematical intelligence, spatial intelligence, musical/rhythmic intelligence, bodily-kinesthetic intelligence, interpersonal intelligence, intra-personal intelligence, naturalist intelligence, and possible existential intelligence, but he also suggested the possibilities to even more types of intelligences.

It is important to highlight the difference between general intelligence, which is tested by a traditional IQ test, and multiple intelligences, including the successful and

emotional intelligences investigated in this study. General intelligence has been focused on the brain's ability, an individual-centered view. However, successful and emotional intelligences focus on one's capabilities, a distributed view that encompasses the artifacts and individuals that surround an individual. An IQ test does predict one's ability to handle school subject, however it does little to forecast success later in life (Gardner, 2011).

### **Triarchic Theory of Successful Intelligence**

Sternburg's (1988, 1997, 1999) triarchic theory of successful intelligence is an integration of the geographic, computational, and anthropological areas of research. Sternburg (1988) defines successful intelligence as the balancing of analytical, creative, and practical abilities to achieve success within a particular sociocultural context. All three of these aspects were suggested to be keys to managerial intelligence (Sternburg, 1999).

Analytical abilities are used whenever a person analyzes, evaluates, compares or contrasts pieces of information. Creative abilities are involved in the creation, invention, or discovery of objects and ideas. Practical abilities permit people to practice, apply, or use what has been learned in either formal or informal settings. Success in life is determined by people's ability to capitalize on their strengths in analytical, creative, and practical abilities and to correct or compensate for their weaknesses (Cianciolo & Sternberg, 2004).

The triarchic theory of successful intelligence has three sub-theories, which characterize (a) the mental mechanisms that underlie successful intelligence, (b) the way in which people use these mechanisms to attain an intelligent fit to the environment, and

(c) the role of experience in mobilizing cognitive mechanisms to meet environmental demands (Sternburg, 1999). The triarchic theory characterizes the problem-solving process where knowledge is utilized from previous experience and strategies are created for arriving at a successful solution (Cianciolo & Sternberg, 2004).

Sternburg's (1988) theory specifies not only the kinds of broad abilities (analytical, creative, and practical) that play a role in achieving success, but also the cognitive processes required to apply these abilities and the problem-solving strategies through which success may be achieved. The theory also recognizes a dynamic aspect of successful performance—that success requires not simply applying acquired knowledge, but also coping with novelty and transforming novel experiences into automatic information processing. It states that successful people find a way to capitalize on their strengths and to correct or compensate for their weaknesses (Cianciolo & Sternberg, 2004).

When individuals have identified their multiple intelligences' strengths and weaknesses they are able to interact in their environment with successful intelligence. Sternburg (1996) explains both the personal attributes and performance of successfully intelligent people: They (a) motivate themselves, (b) control impulses, (c) know how to make the most of their abilities, (d) complete tasks and follow through, (e) initiate, (f) do not procrastinate, and (g) accept fair blame. Successful intelligence can be nurtured and developed in many environments, such as schools, workplaces, and social situations.

***Analytical intelligence.***

Analytic intelligence is involved when the components of intelligence are applied to analyze, evaluate, judge, or compare and contrast. Many times this intelligence

involves components being applied to relatively familiar kinds of problems in which the judgments can be made in a fairly abstract way (Sternberg, 1999). Analytical intelligence “involves conscious direction of our mental process to find a thoughtful solution to a problem” (Sternberg, 1996, p. 155). The mental processes used involve problem-solving and decision-making.

The triarchic theory distinguishes three kinds of information-processing components that, together, constitute the building blocks of the analytical aspect of intelligence (Sternburg, 1997). He goes on to explain that these three kinds of components are referred to as meta-components: (a) components used to plan, monitor, and evaluate one’s problem-solving abilities and successful performance, (b) components used to execute the plans for problem-solving devised by the meta-components, and finally, (c) knowledge-acquisition components that are used to learn how to solve the problems in the first place (Sternburg, 1985).

Problem definition is important in organizations and especially in cross-functional teams in the global apparel industry. Correct definition of a problem results in a gain for team members, while incorrect definition of a problem results in a loss (Sternburg, 1997). Further, proper analysis of a problem is essential to cross-functional team success. In addition to problem definition, formulating a strategy for problem solving is also vital for organizations and teams (Sternburg, 1997). Strategic planning is recognized as important by management in almost all organizations, however, the question is whether or not they do it and do it well.

The knowledge-acquisition component—selective comparison—is used when one draws on past experiences to help solve problems in the present (Sternburg, 1997). This is

a skill that makes team members who are successful in one organization attractive to another organization. The assumption when hiring such team members is that they will draw upon a large knowledge base of experiences, which will help them solve problems on the new team the way they solved them on the old team. However, team members who succeeded on a previous team may fail on a different team. There are a number of reasons why team members may fail on a new team, but selective comparison may be one reason. Each team and organization is different with its own set of working conditions, organizational culture, and dynamic. Thus, to understand intelligence as it applies to real-world organizations and teams, it is beneficial to think beyond the narrow definition of IQ, and to think instead in terms of broader abilities that are directly relevant in an organizational dynamic and cross-function team context.

Production and sourcing implement the designers and product developers' strategies. Sourcing activities include global supply chain management, identifying vendors, factories, countries, and regions to manufacture apparel products. Members also develop, implement, and inspect finished products for quality. Other job functions are to strategize and plan timely logistics. Merchandisers assort and plan for "the optimal amount of finished apparel products in a timely manner so producers gain profits while consumers find the needed and/or wanted products" (Ha-Brookshire & Hawly, 2013).

Some supply chain functions may value analytic intelligence. Examples of supply chain function that may use more analytic intelligence may be merchandising/buying, consumer research, sourcing, and production and planning.

### *Creative intelligence.*

When one goes beyond the range of convention, one starts to tap sources of individual differences measured little or not at all by standard intelligence tests. Creative intelligence is measured by assessing how well an individual can cope with relative novelty (Sternberg, 1999). In today's changing global apparel supply chain, the ability to think creatively has become important. Because of the hyper dynamism with rapid changes and scarce resources, creative intelligent people persist in the face of resistance and will move on to the next new or unpopular idea. Sometimes creative team members get frustrated because they put forth an idea prematurely or hold an idea so long that it becomes common or obsolete (Sternberg, 1997). According to the investment theory (Sternberg & Lubart, 1991) creativity requires a confluence of six distinct but interrelated resources: intellectual ability, knowledge, styles of thinking, personality, motivation, and environment. The intellectual ability requires the synthetic ability to see problems in new ways and to escape the bounds of conventional thinking, which makes team members successful (Sternburg, 1997).

In some instances, creative people are unrewarded for their demonstration of their abilities, because of the polarizing points of view creative people may express (Sternburg, 1997). This lack of reward results in wasted talent. In one study, Sternburg and colleagues (1996) taught a college-level course on introductory psychology to high-school students screened by the triarchic abilities test. The results of this study found that students who were identified as creative and who were then taught and assessed in their course performance in a way that permitted the students to be creative and rewarded for

their creativity performed better than did creative students who were not so encouraged and recognized.

Design is an important supply chain function in the apparel industry to help satisfy various customers' apparel needs and wants (Ha-Brookshire & Hawley, 2013). "Creativity in design satisfies humans' clothing needs and wants through artistic expression and appreciation, and in the longer term, drives fashion change in our society" (p.24-25). Product development is also fundamental to the creative supply chain function as members interpret designs and engineer finished apparel products to also satisfy customers' needs and wants (Ha-Brookshire & Hawley, 2013).

Some supply chain functions may value creative intelligence. Examples of supply chain function that may use more creative intelligence are design, forecasting, research and development, and product development.

### ***Practical intelligence.***

Practical intelligence enables a person to come up with strategies for solving real-life problems (Sternberg, 1996). Practical intelligence involves "applying the components of intelligence to experience so as to (a) adapt to, (b) shape, and (c) select environments" (Sternberg, 1999, p. 305). Adaptation is the way a person changes himself or herself to suit the environment. Shaping is the person changing the environment to benefit himself or herself. Selection is when a person chooses to seek a new environment that fits their needs, wants, and abilities (Sternberg, 1999).

A number of researchers have studied practical intelligence, or common sense, and suggested that it differs from the kind of intelligence measured by the IQ test (Sternburg & Varner, 1986). The best place to see practical intelligence is in the

workplace. Most of the important rules of the workplace are unspoken. Some people learn those unspoken rules, and others do not, which is tacit knowledge (Sternburg, 1997). Tacit knowledge refers to action-orientated knowledge, acquired without direct help from others, which allows individuals to achieve goals they personally value. The acquisition and use of such knowledge appears to be uniquely important to competent performance in organizations and within cross-functional teams (Sternburg, Wagner, & Okagaki, 1993). Tacit knowledge is procedural in nature, relevant to the attainment of goals people value, and acquired with little help from others or the environment (Sternburg, 1997).

Because practical is a broad base of knowledge used in solving practical problems, it may be more difficult to target a supply chain member relying more on this skill. In a sense, all supply chain members need a level a practical knowledge for success in the apparel supply chain. Individuals drawing on practical, tacit knowledge would derive information from personal experience or even formal training. Some supply chain functions may value analytic intelligence. Examples of supply chain functions that may use more practical intelligence are technical designer and computer-aided print-and-pattern designer.

Researchers in organizational and business literature have been exploring the relationship between intelligences and work success. In addition to the knowledge, skills, and abilities traditionally associated with job performance, success in today's work organizations may require more personal and interpersonal competencies, such as emotional intelligence.

## **Emotional Intelligence**

Multiple intelligences has been an area of research since the late 1880s, however, the specific research of emotional intelligence (EI) is a relatively new area. Research on EI is gaining momentum and becoming one of the most current areas of organizational research (Rooy & Viswesvaran, 2004). General cognitive ability (*g*) has played a central role in illuminating the understanding of human performance. Many studies have examined the relationship between *g* and academic success, corporate training success, and job performance (Gottfredson, 1997; Jensen, 1998; Salgado et al., 2003; Schmidt & Hunter, 1998), showing EI as the best single predictor of performance and success.

Mayer and his colleagues (1997) describe EI as the ability to recognize the meanings of emotions and relationships and to reason and solve problems. Also, they contend EI can be thought of having the same relation to emotional creativity as other intelligences do to general creativity. There has been an array of research investigating the relationship between EI and other intelligence (Bar-on, 1997; Goleman, 1995, 1998), as well as EI and the Big Five personality traits (McCrae, 2000). Research has shown that EI is a separate construct from general intelligence (*g*) and other intelligences (Mayer et al., 2000).

### **Definition.**

Emotions are “organized responses, crossing the boundaries of many psychological subsystems, including the physiological, cognitive, motivational, and experiential systems” (Salovey & Mayer, 1990, p. 185). As a response to an either internal or external event, positive or negative emotions arise depending on the varied meaning to the individual. Emotions differ from moods, as they are shorter and more

intense (Salovey & Mayer, 1990). Merriam-Webster (2012) defines emotion as “the affective aspect of consciousness; a state of feeling; a conscious mental reaction (as anger or fear) subjectively experienced as strong feeling usually directed toward a specific object and typically accompanied by physiological and behavioral changes in the body.”

In an almost contradiction of terms, intelligence has been most commonly defined as “the aggregated or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment” (Wechsler, 1958, p. 52). The idea of different types of intelligence has been explored since the birth of the intelligence research field. One type of intelligence that was explored along with general intelligence (*g*), was social intelligence. Thorndike (1920) originally introduced social intelligence as the ability to perceive one’s own and others’ internal states, motives, and behaviors, and to act toward them optimally on the basis of that information. Thorndike and Stein (1937) defined social intelligence as “the ability to understand and manage people (p.275). As these social skills may be internalized or externalized, it can also be said that social intelligence is also the ability to understand and manage oneself (Walker & Foley, 1973). Traditional views of social intelligence had a manipulative connotation, as Weinstein (1969) noted that social intelligence “boils down to the ability to manipulate the responses of others...” (p. 755).

One of the weaknesses of social intelligence was that it was not clearly distinguished from general intelligence. The definition was so broadly expressed that it was difficult to test social intelligence without the other intelligences affecting the results (Wechsler, 1958). Cronbach (1960) concluded that after “50 years of intermittent investigation...social intelligence remains undefined and unmeasured” (p. 319).

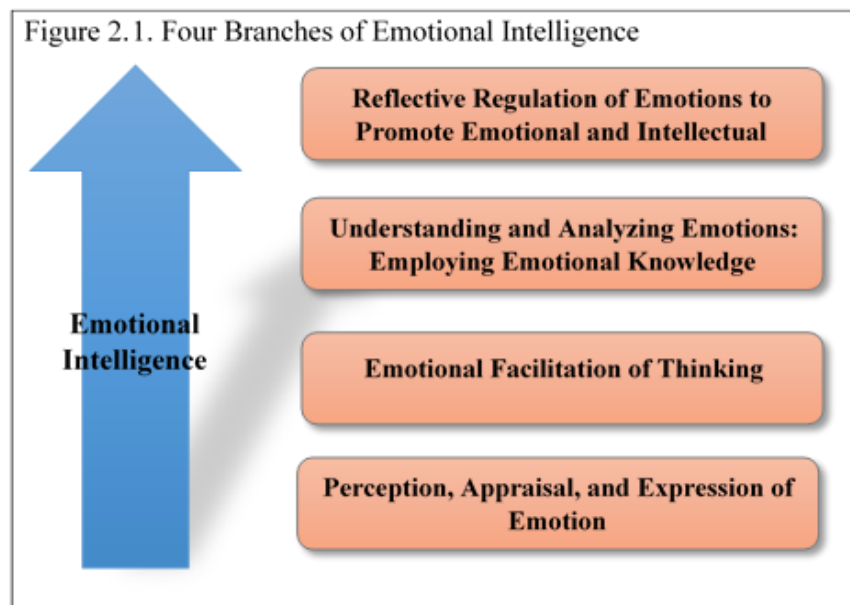
However, later research suggested that relying on scales that take a multidimensional view of social intelligence may result in finding a construct that ultimately can be measurable.

The term Emotional Intelligence (EI) refers to the processes involved in the “recognition, use, understanding, and management of one’s own and others’ emotional states to solve emotion-laden problems and to regulate behavior” (Mayer & Salovey, 1990, p. 187). The type of intelligence has become an emerging group of cognitive abilities along with social (Cantor & Kihlstrom, 1987), triarchic (Sternberg, 1995), and personal (Gardner, 1983) intelligences. EI differs from the general intelligences such as verbal-propositional, which relies on “cold” cognitive processes. Instead, EI operates on “hot” cognitive emotional processes that are of importance to the individual and the surrounding environment (Aberlson, 1963).

Research in EI developed out of two sectors of psychology. In the first sector, psychologists started to examine how emotions interacted with thought and vice versa (Bower, 1981). This type of psychological research explored how mood states can assist cognition and influence thought processes and personal judgments (Mayer & Bremer, 1985; Salovey & Birnbaum, 1989). However, in the second sector, research began to suggest a more open idea of the concept of intelligence that included an array of mental abilities rather than a single one (Cantor & Kihlstrom, 1987; Gardner, 1983). Garner (1983) concluded that educators and future research should place a greater emphasis on the search for multiple intelligences and appreciate students with diverse learning styles and potentials.

### **Conceptualization of emotional intelligence.**

Much of the research on Emotional Intelligence is descriptive and qualitative in nature. However, Salovey & Mayer (1990) developed a model that illustrates the conceptually related mental processes involved in emotional information. The mental processes include (a) perceiving emotions, (b) using emotions to facilitate thought, (c) understanding emotions, and (d) managing emotions. The EI four-branch diagram is arranged from the more basic psychological processes to higher, more psychologically integrated processes (Mayer & Salovey, 1997). The lowest level of the branch diagram concerns the simple abilities of perceiving and expressing emotion. The highest level of the branch diagram concerns the conscious, reflective regulation of emotion (Mayer & Salovey, 1997). Figure 2.1 illustrates the EI four-branch model.



*Note.* Author's pictorial illustration of Mayer and Salovey's (1997) EI four-branch model

Mayer and colleagues (2001) note that there is a distinction between the second branch (using emotions to facilitate thought) and the other three branches. Branches 1, 3, and 4 involve reasoning about emotions, while branch 2 uniquely involves using emotions to enhance reasoning. The four-branch model contributes to the understanding of Mayer and Salovey's (1997) final definition of emotional intelligence, which is defined as follows:

Emotional intelligence involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth (p.7).

***Perceiving emotions.***

The lowest branch of the diagram is concerned with the accuracy with which an individual can identify emotions and emotional content. This is done by reading facial expressions, a skill which is developed in early infancy. These emotions are not only identified for oneself, but for others (Mayer & Salovey, 1997). Simply put, this involves the accuracy with which a person can identify emotions in themselves and others.

Salovey and Mayer (1990) stated "the processes underlying emotional intelligence are initiated when affect-laden information first enters the perceptual system" (p. 188). Emotional intelligence allows for the accurate appraisal and expression of feelings, and stable laws may govern them (Weiner, 1985). These emotional appraisals determine expressions of emotion (Salovey & Mayer, 1990). Individuals who can

accurately appraise and quickly express their emotions have high emotional intelligence, because these skills require the processing of emotional information from within the self. It is clear that some level of minimal competency of these skills is necessary for adequate social functioning (Salovey & Mayer, 1990).

Within the model is included the skillful recognition of others' emotional reactions and empathic responses to them as a component of emotional intelligence. These skills enable individuals to gauge accurately the affective responses in others and chose socially adaptive behaviors in their responses. Others may perceive individuals skilled with this aspect of emotional intelligence as genuine and warm while individuals lacking these skills may appear callous and blunt (Salovey & Mayer, 1990).

One medium through which emotions are appraised and expressed is language. Verbally speaking about emotions helps individuals learn about emotions. There are two common scales that objectively score emotional verbal expression with an emphasis on specific attitudes about emotions. They are the State and Trait Meta-Mood Scale (Mayer & Gaschke, 1988; TMMS; Salovey & Mayer, 1988) and the Toronto Alexithymia Scale (Bagby, Taylor & Ryan, 1986).

A possible reason why the appraisal and expression of emotion have been overlooked as mental abilities may be that they often take place nonverbally, and nonverbal communication did not fit the format of early measurements of mental abilities (Salovey & Mayer, 1990). Individual differences in the clarity of the perception of these signals are illustrated in its expression, sometimes termed "nonverbal sending accuracy" (Buck, 1984). Two scales have been developed to measure nonverbal communication: the

Affect Expression Rating Scale (Buck, 1975) and the Affective Communication Test (Freeman, Price, Riggio & DeMatteo, 1980).

*Using emotions to facilitate thought.*

The next branch up on the diagram concerns emotion acting on intelligence, which describes emotional events that assist intellectual processing (Mayer & Salovey, 1997). Emotions signal changes in an individual and environment and an individual may then be able to anticipate certain emotions in a future experience. When this happens an individual can then “generate, feel, manipulate, and examine” not only their emotions in a situation, but others’ emotions, which can then help in better understanding emotions (Mayer & Salovey, 1997). Simply stated, this allows people to use emotions to guide their thinking and new emotions can also be generated during this stage.

In general, people experience emotions in a both direct and reflective manner. The reflective experience allows individuals to access knowledge regarding their own and others’ emotions. This experience represents an ability to monitor, evaluate, and regulate emotions (Salovey & Mayer, 1990). Many aspects of emotional regulation happen automatically, while some experiences of emotion are conscious and open to interpretation (Salovey & Mayer, 1990). Thus, there are two scales to measure emotional regulation: the State and Trait Meta-mood Scales (SMMS, Mayer & Gaschke, 1988; TMMS, Salovey & Mayer, 1988).

The ability to regulate and alter the affective reaction of others is vital in the Mayer & Salovey Model for emotional intelligence. An individual skilled in this ability can elicit strong reactions and emotions from people (Salovey & Mayer, 1990). Goffman (1959) describe the ways in which individuals present themselves and their activities to

others in order to guide and control the impressions formed of them. A skilled impression manager also knows when not to attend to the behaviors of others (Geller & Laor, 1988). Wasielewsski (1985) developed the theory of charisma, in which leaders view interpersonal relations as an emotional regulation of followers.

### ***Understanding emotions.***

The next branch on the diagram is the ability to understand emotions and to utilize emotional knowledge. Once individuals can identify emotions, they then start to understand the relationships between different emotions (Mayer & Salovey, 1997). For example, love and hate are at opposite ends of the emotional spectrum. Additionally, an individual may start to recognize complex, contradictory emotions in certain situations (Mayer & Salovey, 1997). This third branch involves how people understand their emotions. Knowledge of emotions allows a person to understand how emotions change and the relationship between these states.

### ***Managing of emotions.***

The top branch on the diagram concerns the conscious regulation of emotions to enhance emotional and intellectual growth. Emotional reactions must be experienced and even welcomed whether positive or negative. However, the individual must attend to these emotions and learn about them to allow for openness to feeling, which promotes an overall well-being in the individual and their environment (Mayer & Salovey, 1997). This final branch involves the management of not only one's own mood and emotions but also the emotions of others.

Salovey and Mayer (1990) stated that "individuals also differ in their ability to harness their own emotions in order to solve problems" (p. 208). The emotions an

individual experiences influence problem-solving skills in the following manner: First, emotions affect an individual's future reaction. Second, a positive emotion can alter the memory, so that cognitive material is strongly integrated and diverse ideas are closely related (Isen, 1987). Third, emotions serve as interruptions in complex systems by popping them out of a given level of processing and focusing them on more pressing needs. In the case of depression or anxiety, the emotion interrupts normal processing and the focus becomes on the self (Salovey & Rodin, 1985). Finally, emotions are used to motivate and assist performance of complex intellectual tasks (Salovey & Mayer, 1990).

Strong emotions that are connected to either positive or negative events in an individual's life may change the planning of future events. Emotions can assist an individual in thinking about the future and considering a variety of possible outcomes (Salovey & Mayer, 1990). Thus, emotions generate a larger number of future plans for the individual, which may make them better prepared to take advantage of future opportunities (Mayer, 1986).

Emotions may also affect the way an individual organizes and utilizes memory. This categorizing of memory may have a positive effect on creative problem-solving (Salovey & Mayer, 1990). Individuals that experience positive emotions are more likely to give unusual or creative first associations to neutral cues (Isen, Johnson, Mertz, & Robinson, 1985).

When a powerful emotion occurs attention is redirected to new problems. Individuals then attend to their feelings, which redirect attention away from the current situation onto the new, more immediate situation (Salovey & Mayer, 1990). Indeed,

“individuals learn to capitalize on the capacity of emotional processes to refocus attention on the most important stimuli in their environment” (Salovey & Mayer, 1990, p. 209).

Emotions may finally motivate persistence during difficult tasks. An individual may use good emotions to increase their confidence in their capabilities and persist in the face of challenges and adverse experiences (Salovey & Mayer, 1990). When an individual has a more positive outlook on life, they are able to construct interpersonal experiences that lead to better outcomes and greater rewards for themselves and others (Epstein & Feist, 1988).

In terms of relationship between SI and EI, previous studies suggest the triarchic theory of successful intelligence, a balance of analytic, creative, and practical intelligence, positively affects emotional intelligence. Emotional intelligence is the ability to recognize the meanings of emotions and relationships to reason and solve problems (Mayer et al., 1997). Researchers have shown the positive relationship between high successful intelligence and high emotional intelligence (Bar-on, 1997; Goleman, 1995). Emotional intelligence may strengthen the relationship between successful intelligence and job satisfaction and career success. Successful intelligence is a power skill in the work environment (Sternburg, 1999), however, emotional intelligence strengthens the individual’s abilities in interpersonal situations (Goleman, 2001; Salovey & Mayer, 1990). For instance, individuals who have identified their successful intelligence’s strengths and weaknesses are able to manage their environment with emotional regulation of self and others, which is an example of their high emotional intelligence (Cianciolo & Sternburg, 2004; Sternburg, 1996). Therefore, the study hypothesized:

**Hypothesis 1:** Apparel supply chain high successful intelligence (a balanced analytic, creative, and practical intelligence) positively affects emotional intelligence.

## **Outcomes of Individual Success in the Cross-Functional Team**

### **Job Satisfaction of Cross-Function Team Members**

Emotional intelligence has been said to be “more powerful than IQ” and “the best predictor of success in life” (Goleman, 1995, p.34). Such claims suggest that EI predicts major life outcomes at levels virtually unheard of in psychological science. More empirically, EI has been shown to predict several variables, such as academic performance (Ashkanasy & Dasborough, 2003), prosocial and other positive behaviors (Lopes et al, 2003), and leadership and organizational behavior (Collins, 2001; Giles, 2001). The lack of EI has been shown to be predictive of deviant behavior (Rubin, 1999). Collins’ (2001) study showed that high EI had a negative effect on senior executive career success. However, employees lower in an organization’s structure appreciated EI in their supervisors, and Giles (2001) found a positive relation between aspects of subordinates’ commitment to their organization and supervisors’ EI. In the current study and following with past literature, EI is theorized to be a mediating variable between multiple intelligence and job satisfaction and career success. Though research has been done using EI as a predictor of satisfaction and success, EI has not been used as a mediating variable specifically between the triarchic theory of intelligence and job satisfaction and career success in the global apparel industry.

### **Definition of job satisfaction.**

Locke (1969) defined job satisfaction as a “pleasurable emotional state resulting from the appraisal of one’s job as achieving or facilitating one’s job values.” Job dissatisfaction is “the unappeasable emotional state resulting from the appraisal of one’s job as frustrating or blocking the attainment of one’s values” (p.317). More recently, job satisfaction has been defined as “an affective (that is, emotional) reaction to one’s job, resulting from the incumbent’s comparison of actual outcomes with those that are desired (expected, deserved, and so on)” (Cranny, Smith, and Stone, 1992, p.1). However, Weiss (2002), refines the definition of job satisfaction is an attitude, “a positive (or negative) evaluative judgment one makes about one’s job or job situation” (p. 175), which is the definition used in this current study.

Job satisfaction has long been one of the most revered research subjects in industrial-organizational psychology (Landy, 1989). The link between workplace attitudes and productivity was shown in the Hawthorne studies (Roethlisberger & Dickson, 1939), a workplace experiment carried out by the Western Electric company in the Hawthorne place in the 1920s, where lighting, music, temperature, and others were all manipulated variables. This area has been researched both qualitatively (Herzberg et al, 1957; Locke, 1970) and quantitatively (Iaffaldano & Muchinsky, 1985; Petty et al, 1984). However, there have been many new developments to consider in the past several years, including globalization and the current economy to name just a few.

### **Competing theories explaining job satisfaction.**

The predominant measurement and theory for measuring job satisfaction is the Minnesota Satisfaction Questionnaire, which has been used since 1976. At the time of

construction there were two theories dominating job satisfaction research: (a) Herzberg's (1959) two-factorial Motivation Theory, and (b) Agency or Compensation Theory.

Herzberg and Mausner's (1959) two-factor theory defined job satisfaction in terms of hygiene factors and motivation factors. Hygiene factors were defined as pay, job title, status, supervisory practices, and company policies. In the short term, these hygiene factors may give employees a certain level of job satisfaction, but in the long run they will not bring job satisfaction. However, motivation factors, which were described as job responsibility, recognition, job importance, and personal growth, do give employees great job satisfaction. In the 1970s, many researchers started to question and try to debunk Herzberg's theory on the basis that the data collection and results were qualitative. However, Herzberg and Mausner's Motivation-Hygiene theory has dominated theories about job satisfaction for years and formed the basis of the development of job satisfaction assessments.

Business and economic theories quantitatively started to support and test Agency Theory or Compensation Theory (1975). This theory postulated that people will work as hard as they are compensated for. Research in agency theory supported companies giving extravagant compensation packages, prestigious job titles, and bonus because these kinds of factors motivated employees and resulted in job satisfaction. In general, agency theory and compensation theory was only focused on Herzberg's hygiene factors.

Applied psychologist and organizational research then started to research job satisfaction from a slightly different perspective. Fredrickson (1998) highlighted four positive emotions that related to high job satisfaction, which were joy (happiness, amusement, elation), interest (curiosity, intrigue, excitement, or wonder), contentment

(tranquility, or serenity), and love (emotions felt toward specific individuals). Joy, interest, and love came closest to describing employees' emotions in high-performing work groups and organizations. According to Kahn's (1991) conceptualization, employees become more cognitively and emotionally engaged when their basic needs are met. This conclusion is similar to studies in student engagement (Skinner, Wellborn, & Connell, 1990). Most employees have an inherent need to contribute to their group and organization, and employees' needs and those of the group or organization can be filled simultaneously (Harter, Schmidt, & Keyes, 2002)

### **The relationship between EI and job satisfaction**

Job satisfaction is an affective orientation that an employee has towards his or her work (Price, 2001). It can be considered as a universal feeling about the job or as a related collection of attitudes about various aspects or facets of the job (Lu, While, & Barriball, 2005). Spector (1997) stated, "although many traits have been shown to correlate significantly with job satisfaction, most research with personality has done little more than demonstrate relations without offering much theoretical explanation" (p. 51). The following facets of job satisfaction were outlined by Spector (1997): appreciation, communication, co-workers, fringe-benefits, job conditions, nature of the work itself, the nature of the organization itself, an organization's policies and procedures, pay, personal growth, promotion opportunities, recognition, security, and supervision.

There are several reasons why employees' EI may influence job satisfaction. Interpersonally, emotion awareness and regulatory processes associated with EI are expected to benefit people's social relationships, thus affecting the experience of emotion and stress at work (Kafetsios & Zampetakis, 2008). The researchers also state that, intra-

personally, the use of emotion and being aware of one's own emotions can lead to regulating stress and negative emotions so that one can perform better at work.

Surprisingly, very little empirical research analyzes the relationship between EI, job satisfaction, and job success. However, EI has been extensively researched as positively affecting work attitude in organizational literature (Blau, 1999; Chiva & Alegre, 2007). EI could be acutely sensitive to possible factors, and unlike conventional ability, EI may have both positive and negative associations with performance, depending on contextual factors (Chiva & Alegre, 2007). The Bar-On (1997) study is one of the only studies to report a modest relationship between total EI scores and job satisfaction. However, the direct positive effect could be due to the sample, which consisted of a group of individuals in higher-level occupations (Chiva & Alegre, 2007). Some EI people are satisfied and successful in their jobs while others are not. This might be mediated by certain other organizational conditions and/or individual characteristics (Chiva & Alegre, 2007).

Kafetsios and Zampetakis's (2008) study demonstrated that EI is an important predictor of work affectivity and job satisfaction. Specifically, they found that emotion and emotion regulation are two EI dimensions predictive of positive and negative affect at work, and that perceiving others' emotions was uniquely associated with job satisfaction in women. Further, Chiva and Alegre (2007) found that emotionally intelligent people can develop their competencies and abilities to achieve job satisfaction. The study also found that EI has a negative impact on levels of job satisfaction, since only those with well-developed emotional capabilities would be able to recognize and resist organizational politics and toxic work environments.

In sum, emotional intelligence has been shown to positively affect an individual's job satisfaction (Goleman, 2001). Job satisfaction is a positive evaluation a person gives their job (Weiss, 2002). Interpersonally, emotional awareness and regulatory processes associated with EI are expected to benefit people's social relationships, thus affecting the experience of emotion and the level of stress at work (Kafetsios & Zampetakis, 2008). Emotional intelligence has been shown to predict positive individuals' organizational behavior (Rubin, 1999) and job satisfaction (Giles, 2001; Weiss, 2002). From the review of literature, research implies that emotional intelligence positively affects job satisfaction, which leads to the following hypothesis:

**Hypothesis 2:** Apparel supply chain members' emotional intelligence positively affects job satisfaction.

### **Career Success for Cross-Functional Team Members**

The importance of understanding job satisfaction is not only beneficial to the individual and group but ultimately the organization as well. Parker et al. (2003) showed the mediating effect of job satisfaction on organizational climate and job performance and ultimately career success. An individual's positive evaluation of their work environment has been shown to evoke feelings of satisfaction and identification with one's job and organization (James et al., 1977), which has a direct effect on performance-related outcomes and positive work attitudes (James et al., 1990). The results of positive performance outcomes and work attitudes have predictive relationships with several factors such as absenteeism (Muchinsky, 1977), turnover (Griffith, Horn & Gaertner, 2000), and performance (Judge et al., 2001).

### **Definition of career success.**

Career success is defined as “the positive psychological or work-related outcomes or achievements one has accumulated as a result of one’s work experiences” (Judge et al., 1998, p. 486). Career success can be described in two different ways: (a) objective measures, reflecting the public observable positions, situations, and “status that serve as landmarks for gauging an individual’s movement through the social milieu” (Barley, 1989, p. 49); and (b) subjective measures, reflecting the individual’s own sense of his or her career and what it is becoming (Stebbins, 1970).

Jaskolka, Beyer, and Trice (1985) stated that career success is an evaluative concept, so judgments of career success depend on who does the judging. Therefore, objective measures of career success can be measured by observable exoteric metrics such as salary and number of promotions (Judge & Bretz, 1994). In addition to objective measures, career success can be judged subjectively by the individual pursuing the career (Judge et al., 1998). Past research has suggested that many individuals who are extrinsically successful do not feel successful or satisfied with their achievements (Korman, Wittig-Berman, & Lang, 1981), so it is vital to consider both objective and subjective evaluations of career success.

A career is a sequence of work-related positions (jobs) employed throughout an individual’s lifetime (London & Stumpf, 1982). This definition insists on the relevance of time, rather than adopting any static view of work arrangements (Arthur et al., 2005). Thus subjective career success includes both current job satisfaction and career satisfaction (Judge et al., 1998). Career satisfaction is defined as “the satisfaction individuals derive from intrinsic and extrinsic aspects of their careers, including pay,

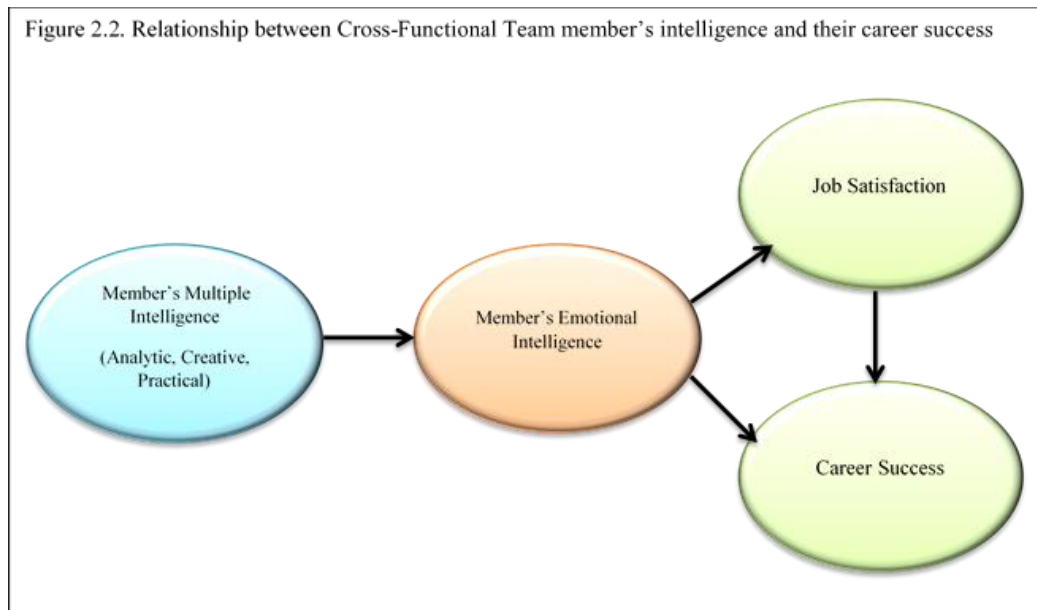
advancement, and developmental opportunities” (Greenhaus, Parasuraman, & Wormley, 1990, p. 65).

Objective career success may be viewed as an external perspective that delineates more or less tangible indicators of an individual’s career situation. These may include occupation, family situation, mobility, task attributes, income, and job level (Van Maanen, 1977, p. 9). The objective career success is public and concerned with social role and official position. This reflects shared social understanding rather than distinctive individual understanding (Arthur et al., 2005). Objective career success can be conceptualized as compensation and number of promotions (Judge et al., 1994).

Subjective career success may be viewed as the individual’s internal apprehension and evaluation of his or her career, across any dimensions that are important to that individual (Van Maanen, 1977, p. 9). People have different career aspirations, and place different values on such factors as income, employment security, the location of work, status, progression through different jobs, access to learning, the importance of work versus personal and family time, and so on (Arthur et al., 2005). The subjective careers of people in similar social and employment circumstances, such as women, minorities, white males, designers, merchandisers, and others, may overlap, but it would be a mistake to assume that all members in a particular social category would share the same subjective career orientations (Bailyn, 1989). Subjective career success can be conceptualized as current job satisfaction and career satisfaction (Judge et al., 1994).

Figure 2.2 illustrates the relationship between Sternburg’s (1999) multiple intelligences and Mayer and Salovey’s (1997) emotional intelligence and the impact on

job satisfaction and career success. These factors are key to the supply chain member's individual success, which may have an effect on cross-functional teams.



*Note.* Author's pictorial illustration of the relationship between a cross-functional team member's intelligence and their career success

Job satisfaction has been used in organizational literature as a predictor of a variety of important individual and organizational outcome variables (Parker et al., 2003). At an individual level of analysis, researchers have reported relationships between employees' perceptions of their work environment and outcomes such as job satisfaction (Schneider & Snyder, 1975), burnout (McIntosh, 1995), job involvement (Brown & Leight, 1996), and job performance (Pritchard & Karasick, 1973). At a group or organizational level, employee job satisfaction has been used to predict group outcomes such as customer satisfaction and financial performance (Schneider & Bowen, 1985). Based on the assumption that employee job satisfaction has important effects on both

individual and organizational outcomes, the investigation of job satisfaction is useful for organizations today.

Causal relationships are still debated, however evidence in individual studies suggests that aggregated employee attitudes have positive relations with customer satisfaction-loyalty and financials, and there is a negative relationship between employee attitudes and employee turnover (Harter, Schmidt, & Hayes, 2002). Over the past 30 years, the Gallup organization has conducted thousands of research polls across a wide variety of industries. Gallup researchers have focused on the consistently important human resource issues upon which managers can develop specific action plans. Both qualitative and quantitative data have indicated the importance of the supervisor or the manager and his or her influence over the engagement level of employees and their satisfaction with their company (Harter, Schmidt, & Keyes, 2003; Seligman & Csikszentmihalyi, 2000).

In the workplace, job satisfaction is a function of helping employees do what they naturally want to do, which is to contribute positively to their group and organization. In the Review of Gallup Studies (2002), the impacts of both short-term and long-term adjustment were evaluated. First, short-term fixes through negative reinforcement may result in behavior that helps the organization financially in the short-term. However, it may also narrow the ownership and creativity of employees and limit long-term benefits to the organization. Second, long-term fixes, such as behaviors that increase the frequency of positive emotions, lead to increased clarity of expectations, an understanding and use of resources that is congruent with company goals, individual fulfillment in work, a bonding of individuals through a sense of caring, ownership of the

altruistic and tangible impact of the company, and learning that it is in line with the shared mission. In the long run, this is what is good for the employee, work groups, and the organization.

In sum, job satisfaction has been used as a predictor of individual outcome variables, such as career success (Schneider & Snyder, 1975). Career success is the positive work-related outcomes a person accumulates throughout their lifetime (Judge et al., 1998). Job satisfaction is a function of helping employees to be successful at their job and within their organization (Gallup, 2002). In addition, job satisfaction helps employees achieve their work and career goals (Price, 2001). From the review of literature, research implies job satisfaction positively affects career success, which led to the following hypothesis:

**Hypothesis 3:** An apparel supply chain member's job satisfaction positively affects career success.

In addition, emotional intelligence is also known to affect an individual's satisfaction and success in an organization (Goleman, 2001). According to popular opinion and workplace testimonials, EI increases performance and productivity (Lam & Kirby, 2002). However, EI literature has been criticized as relying on expert opinion and anecdotes (Zeidner et al., 2004). The authors highlight the limited and sometimes highly controversial empirical evidence used to support the importance of EI in the workplace and recommend that scientific studies be carried out in organizations.

In fact, Goleman (1995) states that emotional intelligence may be one of the best predictors of individuals' successful life. Emotionally intelligent people are found to have

the ability to identify, use, understand, and manage their own emotions, leading to regulating stress and negative emotion (Mayer & Salovey, 1997). Therefore, one can perform better at work, which may result in a successful career. Chiva and Alegre (2007) found that emotionally intelligent people have the ability to recognize and resist organizational politics and toxic work environments, resulting in job promotions. From the review of literature, research implies emotional intelligence positively affects career success, which led to the following hypothesis:

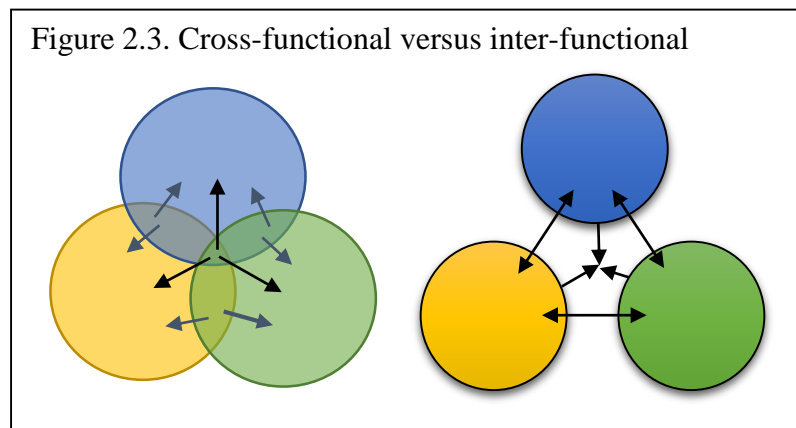
**Hypothesis 4:** An apparel supply chain member's emotional intelligence positively affects career success.

## **The Cross-Functional Team**

### **Definition of Cross-Functional Teams**

Cross-functional teams, in business settings, have been defined as “groups of individuals drawn from different functional specialties or departments who are brought together for the common purpose of creating and refining new products” (Sarin & McDermott, 2003, p. 707). These teams have been associated with lower development costs, faster speed to market, greater innovation, and better product design and quality (Sarin & Mahajan, 2001). However, misapplication and mismanagement of these teams would result in task failures (Henke, Krachenberg, & Lyons, 1993). In addition, organizations often fail to investigate the dynamics of the cross-functional team when new products do not succeed, missing out on opportunity to learn from past successes and mistakes (Sarin & McDermott, 2003).

In this study, cross-functional teams are considered different from inter-functional teams. The distinction between these different team formations comes from academic discipline research. Cross-disciplinary is viewing one's discipline from the perspective of another (Meeth, 1978). Interdisciplinary is integrating knowledge and methods from different disciplines using a real synthesis of approaches (Meeth, 1978). In organizational and business literature the cross-functional and inter-functional teams are used interchangeably. For the purpose of this study, the term cross-functional was used throughout. Figure 2.3 illustrates how cross-functional teams operate differently than inter-functional teams, consistent with academic research. Cross-functional teams not only have to view one's function from the perspective of another, but cross-functional teams need to use the functional expertise each member brings to creating and developing apparel products.



*Note.* Author's pictorial representation of cross-functional versus inter-functional teams

### **Compositions of Cross-Functional Teams**

In a business setting and from business literature, conventional teams and cross-functional teams do have many similarities, however cross-functional teams differ in

three facets. Denison, Hart, and Kahn (1996) describe these three distinct characteristics of cross-functional teams. First, each member in a cross-functional team has a unique and competing social identity with an obligation to another subunit in the organization. Second, these teams may be assigned temporarily, depending on tasks and experience, which can result in abundant pressure and conflict. Thus, the formation of these teams is critical to developing stable and effective group dynamics for success. Third, cross-functional team members typically have different performance expectations and reviews.

This study is considering two different compositional teams. One team is within the organization (intra-organizational) and one team is across the supply chain (inter-organizational). From the organizational dynamic perspective, intra-organizational culture and environment is driven and maintained by individuals and groups. From the business perspective of supply chain management, inter-organizational dynamics is vital to the success of the supply chain. Because the apparel industry is fragmented, supply chain members' roles and teams may change depending on task. The current study views both the intra- and inter-organizational cross-functional teams and supply chain members.

### **The roles of cross-functional teams.**

Cross-functional teams have become increasingly important in organizations for improving coordination and integration, spanning organizational boundaries, and reducing time in new product development (Denison, Hart, & Kahn, 1996). These cross-functional teams can be structured in many ways. Essentially, cross-functional teams are work groups created to carry out project tasks, build and manage relationships, and make decisions. These cross-functional teams have links to multiple subsets throughout the supply chain (Galbraith, 1994). Compared to conventional teams in the work

environment, cross-functional teams tend to be more self-governing and have greater authority to choose their own internal leader(s), establish their own operating procedures, and resolve conflicts through consensual group processes (Gersick & Davis-Sacks, 1990).

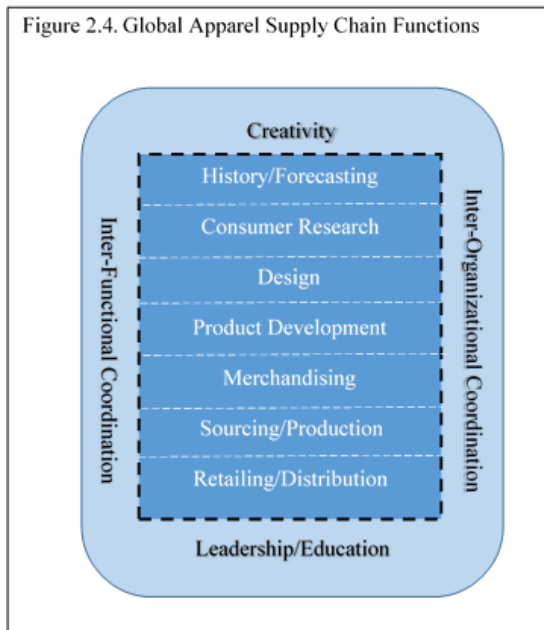
The notion of cross-functional teams is critical for the success of today's apparel organizations, working within the global supply chain, which have an expansive and unique set of supply chain members. Mentzer (2004) described the supply chain as consisting of suppliers' suppliers, suppliers, core organizations, customers, and customers' customers. In the case of today's apparel organizations, the supply chains include several upstream and downstream supply chain members who perform different functions (Ha-Brookshire & Hawley, 2013). Specifically, these supply chain functions are design, product development, merchandising/buying, research and development, technical design, production/sourcing, retailing, and more. Despite the importance of successful cross-functional teams for overall organizational success, in the apparel literature, the research on cross-functional teams' dynamics has been focused on product development teams in the context of developing innovative new apparel products (Denison, Hart, & Kahn, 1996).

Within the apparel organizations, there are several different functions. These individual functions make up a cross-functional team, which is becoming a common practice within the supply chain managing long-term intra- and inter-organizational relationships (Chen & Paulraj, 2004). Cross-functional teams within organizations have been seen as important contributors to the success of supplier selection and product design (Burt, 1987). Cross-functional team members are organized around the material

being purchased or according to the supplier's needs. This allows for the team members to interact and communicate with their supplier counterparts (Chen & Paulraj, 2004).

In an apparel business organization, cross-functional teams may consist of a designer, product developer, technical designer, sourcing or production, merchandiser or buyer, and research and development (R&D). These cross-functional teams play an intricate role within not just the organization but also the entire supply chain (Ha-Brookshire & Hawley, 2013). Figure 2.4 is an abbreviated representation from Ha-Brookshire and Hawley's (2013) paper on the apparel supply chain cross-functional team. Apparel cross-functional teams consist of history/forecasting, consumer research, design, product development, merchandising, sourcing/production, and retailing/distribution. Each member needs to communicate and coordinate with other team members within their organization and across the supply chain.

The responsibility of making buyer-supplier decisions falls to the cross-functional team, whose members may be drawn from engineering, quality, manufacturing, product planning, finance, and other related functions (Burt, 1987). For example, the New York design and product development team is the buyer for the Hong Kong production and sourcing team. In addition, that same Hong Kong team will be the buyer for a garment factory making the apparel product. The team carefully reviews short-term supplier capabilities in R&D, production, and quality management (Burt, 1987) throughout the product and production life cycles. In addition, the cross-functional team is responsible not just for short-term buyer-supplier relationships but also for long-term buyer-supplier relationships. Therefore, the synergy of the cross-functional team both within the organization and across the supply chain is vital for success.



*Note.* Adopted from Ha-Brookshire and Hawley (2013), illustrating the global apparel supply chain functions

**Individual career success on cross-functional team success.**

In the review of team success, individual team members' career success is expected to make positive effects on cross-functional team's success. In Denison, Hart, and Kahn's (1996) mixed methods study, the authors identified three factors for cross-functional team success. First, supply chain members' relationships in cross-functional teams are complex and differ from conventional teams, as it includes hierarchical, lateral, and inter-team dependencies that require continuous negotiation. Second, cross-functional team members need to be both representatives of their functional authority structures and creative problem-solvers with their team members, which demands both broad and flexible team processes. Finally, cross-functional teams have a wide range of outcomes, such as producing innovation, learning, and new capabilities, but need to be done in a compressed time and hit stringent task targets. In addition, the authors found

member satisfaction is a key outcome if the team structure is going to remain a viable arrangement for future tasks.

Career success is not just a goal for individuals, organizations benefit from employees' success. Judge and colleagues (1999) found a relationship between employee career success and organizational success. Further, career success has been found to have a positive relationship with group communication (Gladstein, 1984) team success (Ancoma & Caldwell, 1988), and trust and interdependence Katzenbach & Smith, 1993). Therefore, the relationship between supply chain members' career success and cross-functional team success needs to be empirically explored for the global apparel supply chain.

In sum, previous studies have shown that successful individual positively impact team performance (James et al., 1990). Successful cross-functional teams have been associated with lower development cost, faster speed to market, greater innovation, and better product design and quality (Sarin & Mahajan, 2001). Cross-function teams have become important in organizations as they improve coordination and communication as well as reduce time (Denison, Hart, & Kahn, 1996). However, for these cross-functional teams to optimize performance, each individual should be enhancing their multiple intelligences, which has been shown to positively affect an individual's success. Therefore the study hypothesized:

**Hypothesis 5:** Apparel supply chain member's career success affects cross-functional team's perceived success.

## Summary of Research Hypotheses

To summarize, previous literature about supply chains has tended to focus on firm resource theory (Barney, 1991), knowledge-based theory (Grant, 1996), management operations (Mentzer, 2004), or organizational structures (Bolman & Deal, 2008). This vast area of rich research and theoretical foundation has led to the current study. Building from this previous literature, the current study formulated the following seven hypotheses. Figure 2.5 shows the conceptual model and research hypotheses.

**Hypothesis 1:** Apparel supply chain members' high successful intelligence (a balanced analytic, creative, and practical intelligence) positively affects emotional intelligence.

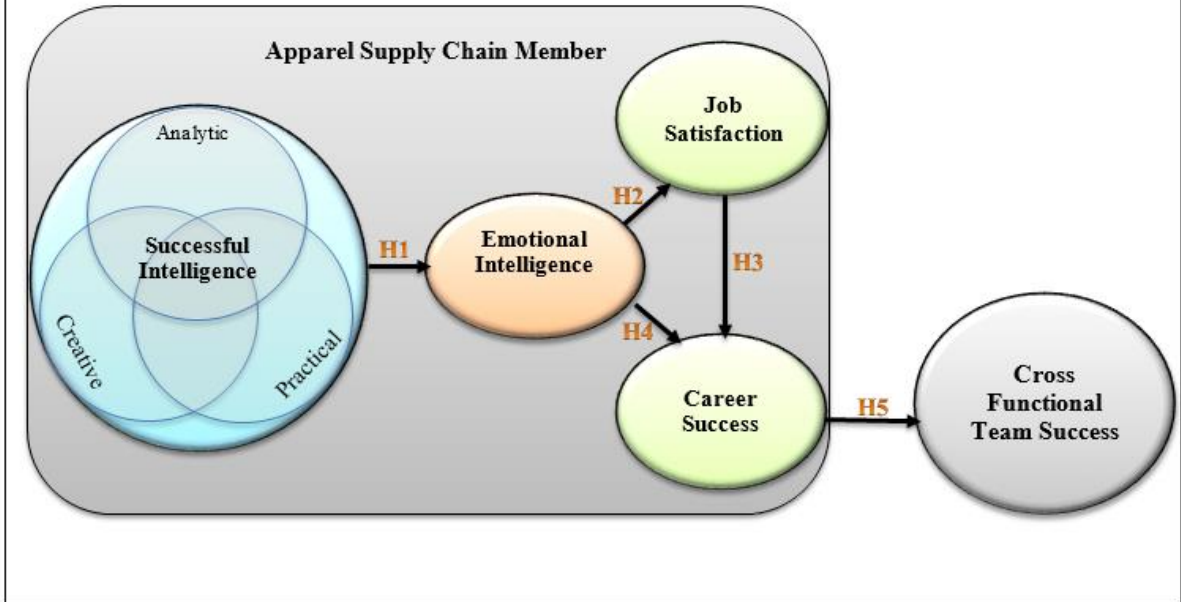
**Hypothesis 2:** Apparel supply chain members' emotional intelligence positively affects job satisfaction.

**Hypothesis 3:** Apparel supply chain members' job satisfaction positively affects career success.

**Hypothesis 4:** Apparel supply chain members' emotional intelligence positively affects career success.

**Hypothesis 5:** Apparel supply chain members' career success affects cross-functional teams' perceived success.

Figure 2.5. Conceptual Model with Hypotheses



## **CHAPTER 3. METHODS**

Chapter 3 contains the following sections: (a) research method, (b) survey design, (c) sample, (d) data collection, and (e) data analysis.

### **Research Method**

An online survey method was utilized to collect data to empirically test the relationships between successful intelligence and emotional intelligence on job satisfaction, career success, and perceived cross-functional success. There are several advantages to an online survey method. First, surveys are used to investigate problems in a realistic setting, not constrained by geographic boundaries, which helps in establishing external validity (Wimmer & Dominick, 2006). Second, surveys are a useful data collection method to estimate the distribution of characteristics in a population and also allow for a large number of respondents over a wide geographic area (Dillman, 2000). Third, surveys are used to describe or document current conditions or attitudes and to explain what exists at the moment (Wimmer & Dominich, 2006). Fourth, online surveys allow for email distribution of the survey, followed by easy follow-ups to participants (Dillman, 2009).

However, the survey method does have limitations. First, causality can be difficult to establish, as independent variables cannot be controlled, contributing to lower internal validity (Wimmer & Dominich, 2006). Second, response rates for online surveys may be quite low due to technology-related problems such as access, skill level, or email filtering (Dillman, 2009). Despite these limitations, online surveys are designed to reach a large number of people and provide insight into behaviors and attitudes in a timely and cost-efficient manner (Dillman, 2009).

Thus, the study used Dillman's (2009) mixed-mode survey design to reduce costs, improve timeliness, increase coverage, and improve response rates. The practice of asking some participants to reply to an online survey by one mode and others to respond via a different mode is increasingly common (Dillman, 2009). In this study, participants were recruited by emails to initial contacts and LinkedIn contacts with continuous follow-ups every 4 to 7 days.

### **Survey Design**

The online survey instruments were developed from existing scales in the literature to ensure clarity of responses and reliability. The survey consisted of six parts, which measured (a) successful intelligence using the Sternberg triarchic abilities test (STAT); (b) emotional intelligence using the abbreviated Mayer-Salovey-Caruso Emotional Test developed by Wong and Law (2002); (c) job satisfaction using the Gallup Workplace Audit for Overall Job Satisfaction (1992-1999); (d) career success (Arthur et al., 2005); (e) perceived team performance; and (f) demographic information.

### **Explanatory Variable**

#### **Successful intelligence.**

Successful intelligence is measured through the extent to which the respondents show the *balance* of analytical, creative, and practical abilities (Sternburg, 1999). The Sternburg Triarchic Abilities Test (STAT; Sternburg, 1993) is used to measure analytic, creative, and practical abilities. Correlations between analytic and creative were .08, analytic and practical .14, and creative and practical .06, suggesting that these three

dimensions are discriminant (Sternburg, 1999). However, the balance of the three dimensions predicts the overall successful intelligence.

The original version was four separate sections (three multiple choice tests and one essay) involving verbal, quantitative, and figural content. This version takes approximately 1 hour to complete, which was unrealistic for this study. An abbreviated version of the STAT (1996) was created and found to effectively measure successful intelligence for educational purposes (Sternburg, 2006). This version of the STAT test has been used to assess students' successful intelligence and the relationship to academic performance in both high school GPA and SAT scores (Sternburg, 2006). Northouse (2013) has also linked various intelligences with successful leadership and other measures of success in work and life. Therefore, the abbreviated version of the STAT was used for this study. The Cronbach alphas estimates of reliability were satisfactory (.67, .72, and .56 for the analytical, creative and practical subsets, respectively) (Sternburg, 1996).

The abbreviated version of the STAT comprises of 30 statements of activities. The participants are instructed to check the activities they enjoy or like to do. For example, an analytic activity listed is “comparing and contrasting points of view.” A creative activity listed is “designing new ways of doing things.” A practical activity listed is “taking things apart and fixing them.” Participants could select as many as 10 and as few as 0 per dimension. The full list of items is available in Table 3.1. Modifications to the scale, after the preliminary test, are discussed later in the chapter and detailed in Table 3.2.

A 30-item questionnaire was used to determine analytic, creative, and practical intelligence. Both inter-item reliability and correlation between the three subsets were checked to ensure measurement consistency. Since successful intelligence refers to the “balance” of analytic, creative, and practical intelligence, the differences between analytic-creative, analytic-practical, and creative-practical were added together, and then divided by three, to earn the average score of the three dimensions.

For example, a participant with low successful intelligence could have scored 0-analytic, 5-creative, and 10-practical. The absolute value of the summed differences of the three dimensions would be 20 ( $0-5 + 0-10 + 5-10$ ). The score of 20 would be divided by 3, which gives an SI score of 6.67. On the other hand, a participant with very high successful intelligence could have scored 4-analytic, 4-creative, and 4-practical. The summed differences of the three dimensions would be 0, divided by 3, giving an SI score of 0. The average of the three-subset difference was considered the successful intelligence score in this study, in which the SI score could range from 0 to 6.87. That is, the lower the score, the more balanced the successful intelligence the participants had in this study, since the differences between the three dimensions were smaller.

## **Mediating Variables**

### **Emotional intelligence.**

Emotional intelligence (EI) has been viewed as encompassing multiple aspects of personal functioning (Goleman, 1995) and has been measured through self-reporting tests, which are designed to assess beliefs and perceptions about an individual’s competencies in a specific domain (Chiva & Alegre, 2007).

Mayer, Salovey, and Caruso (1997) developed the Multifaceted Emotional Intelligence Scale (MEIS), which requires responses to more than 400 items and takes 1 to 2 hours to complete. In addition, emotional intelligence has generally been conceptualized as a trait-like characteristic (Goleman, 1995; Salovey and Mayer, 1990). Many trait-like characteristics are related to one of the big five personality dimensions (Digman, 1990), which are neuroticism, extraversion, agreeableness, conscientiousness, and openness to experience. Schette's (1998) goal was to create a shortened emotional intelligence scale that would not correlate so highly with the big five personality dimensions, thus showing discriminant validity for emotional intelligence. According to Schette (1998), this assessment has been shown to be highly reliable (Cronbach alpha .90; internal consistency .87) and valid for measuring emotional intelligence.

Further, Wong and Law (2002) refined Schette's (1998) scale to develop a 16-item EI measure to be used for organizational research purposes. In considering the four-branch model of EI, the Cronbach alphas for each dimensions, using Wong and Law's (2002) scale were (a) .89 for perceiving emotions, (b) .88 for using emotions to facilitate thought, (c) .76 for understanding emotions, and (c) .85 for managing of emotions.

Wong and Law's (1998) 16-item emotional intelligence scale was used in this study to measure the four-branch model for EI. A seven-point Likert-type scale (for example, 7=strongly agree, 1=strongly disagree) was used for this research. For example, with regard to self-emotion, questions included "I really understand what I feel" and "I have a good understanding of my own emotions." With regard to others' emotional appraisal, questions included "I always know my friends' emotions from their behavior" and "I am a good observer of others' emotions." With regards to use of emotion,

questions included “I always tell myself I am a competent person” and “I am a self-motivated person.” Finally, in regards to the regulation of emotion, questions included “I am quite capable of controlling my own emotions” and “I can always calm down quickly when I am very angry.” The full list of items is available in Table 3.1. Modifications to the scale, after the preliminary test, are discussed later in the chapter and detailed in Table 3.2.

## **Outcome Variables**

### **Job satisfaction.**

Gallup researchers have been at the forefront of assessing employee perceptions of management practices. The Gallup organization has conducted hundreds of qualitative focus groups across an array of industries. From this, a single and focused employee survey consisting of 12 statements evolved from a number of qualitative and quantitative studies. It's called the Gallup Workplace Audit for Overall Job Satisfaction (1992-1999). This survey showed a .91 Cronbach alpha. Since then, the Gallup survey has been shown to be effective in examining individual job satisfaction across several businesses and industry professionals (Collins, 2001). Many researchers have used this scale in studies to investigate the relationship between emotional intelligence, job satisfaction, and career success (Chiva & Alegre; Giles, 2001).

Again, a seven-point Likert-type scale (for example 1=strongly disagree, 7=strongly agree) was used throughout this section. Examples of questions asked in this section are “I know what is expected of me at work” and “At work, my opinions seem to count.” The full list of items is available in Table 3.1. Modifications to the scale, after the preliminary test, are discussed later in the chapter and detailed in Table 3.2.

### **Career success.**

Career success is measured by objective and subjective measures, which include promotions, income and career satisfaction (Judge et al., 1995). Objective measures were measured by annual income (including bonuses and other direct income), number of promotions at current employer, and promotions in career. Subjective measures were measured on a 5-item career satisfaction scale developed by Greenhaus, Parasuraman, and Wormley (1990). The scale has been used in an array of organizational, business, and psychology research in understanding individual and organizational success and performance. The reported Cronbach alpha is .83 (Judge et al., 1995).

A seven-point Likert-type scale (for example 1=strongly disagree, 7=strongly agree) was used to answer the subjective measures of career success. Examples of questions asked were “I am satisfied with the success I have achieved in my career” and “I am satisfied with the progress I have made toward meeting my goals for the development of new skills.” Both the objective and subjective dimensions of career success were standardized, summed, and average. The full list of items is available in Table 3.1. Modifications to the scale, after the preliminary test, are discussed later in the chapter and detailed in Table 3.2.

### **Perceived cross-functional team success.**

Ancona and Caldwell (1992) developed a perceived team success scale based on the results of a mixed-methods study investigating team members working in high-technology companies in the computer, analytic instrumentations, and photographic industries. This scale has been used in access product development team performances for assessing creativity in the workplace (Amabile et al., 1996) and for reorganization

(Eisenhardt & Martin, 2000). From their studies, six dimensions of team success were developed: efficiency, quality, technical innovation, adherence to schedules, adherence to budgets, and work excellence. A seven-point Likert-type scale (for example 1=strongly disagree, 7=strongly agree) was used to answer the subjective measures of career success. The reported Cronbach alpha is .83. The full list of items is available in Table 3.1.

## **Other Variables**

### **Demographic information.**

Finally, demographic information was collected from supply chain members, such as gender, age, years in the industry, job position/title, current job location, and ethnicity. The questions not only helped to gain an understanding of the sample's characteristics, but also the questions served as screening questions to confirm responses were from global apparel supply chain members. These demographic variables helped to provide more contextual description of the global apparel supply chain.

Table 3.1. Survey Constructs, Item Sources, and Cronbach alphas

Constructs	Measurement Items	Source & Reliability
Analytic Intelligence (10 items)	Y1 – analyzing characters when I’m reading or listening to a story	Sternburg (1996) Cronbach alpha .67
	Y2 – comparing and contrasting points of view	
	Y3 – criticizing my own and other’s work	
	Y4 – thinking clearly and analytically	
	Y5 – solving logical problems	
	Y6 – evaluating my own and other’s point of view	
	Y7 – explaining difficult ideas or problems to others	
	Y8 – making inferences and deriving conclusions	
	Y9 – sorting and classifying	
	Y10 – using graphic organizers or images to organize your thoughts	
Creative Intelligence (10 items)	Y11 – designing new things	Sternburg (1996) Cronbach alpha .72
	Y12 – coming up with ideas	
	Y13 – using my imagination	
	Y14 – thinking of alternative solutions	
	Y15 – noticing things others often ignore	
	Y16 – thinking in pictures and images	
	Y17 – supposing things were different	
	Y18 – drawing	
	Y19 – inventing new words, games, approaches	
	Y20 – composing	
Practical Intelligence (10 items)	Y21 – taking things apart and fixing them	Sternburg (1996) Cronbach alpha .56
	Y22 – learning through hands on activities	
	Y23 – putting into practice things I have learned	
	Y24 – working with people in teams or groups	
	Y25 – resolving conflicts	
	Y26 – advising friends on their problems	
	Y27 – convincing someone to do something	
	Y28 – learning by interacting with people	
	Y29 – applying my knowledge	
	Y30 – adapting to new situations	
Successful Intelligence	V1 - Balanced score of analytic, creative and practical intelligence	

(table continues)

Table 3.1. (continued)

Constructs	Measurement Items	Source & Reliability
Emotional Intelligence (16 items)	<p>V2 – I have a good sense of why I have certain feelings most of the time</p> <p>V3 – I have good understanding of my own emotions</p> <p>V4 – I really understand what I feel</p> <p>V5 – I always know whether or not I am happy</p> <p>V6 – I always know my friends’ emotions from their behavior</p> <p>V7 – I am a good observer of others’ emotions</p> <p>V8 – I am sensitive to the feelings and emotions of others</p> <p>V9 – I have good understanding of the emotions of people around me</p> <p>V10 – I always set goals for myself and then try my best to achieve them</p> <p>V11 – I always tell myself I am a competent person</p> <p>V12 – I am a self-motivated person</p> <p>V13 – I would always encourage myself to try my best</p> <p>V14 – I am able to control my temper and handle difficulties rationally</p> <p>V15 – I am quite capable of controlling my own emotions</p> <p>V16 – I can always calm down quickly when I am very angry</p> <p>V17 – I have good control of my own emotions</p>	<p>Wong &amp; Law (2002)</p> <p>Cronbach alpha</p> <p>Perceiving emotions .89,</p> <p>Using emotions .88</p> <p>Understanding emotions.76</p> <p>Managing emotions .85</p>
Job Satisfaction (12 items)	<p>V18 – I know what is expected of me at work</p> <p>V19 – I have the materials and equipment I need to do my work right</p> <p>V20 – At work, I have the opportunity to do what I do best ever day.</p> <p>V 21 – In the last seven days, I have received recognition or praise for doing good work</p> <p>V22 – My supervisor, or someone at work, seems to care about me as a person</p> <p>V23 – There is someone at work who encourages my development.</p> <p>V24 – At work, my opinions seem to count.</p> <p>V25 – The mission/purpose of my company makes me feel my job is important.</p> <p>V26 – My associates (fellow employees) are committed to doing quality work.</p> <p>V27 – I have a best friend at work</p> <p>V28 – In the last six months, someone at work has talked to me about my progress</p> <p>V29 – This last year, I have had opportunities at work to learn and grow.</p>	<p>Gallup Workplace</p> <p>Audit for Overall Job Satisfaction (1992-1999)</p> <p>Cronbach alpha .91</p>

(table continues)

Table 3.1. (*continued*)

Constructs	Measurement Items	Source & Reliability
Career Success (9 items)	<p>V30 - Income</p> <p>V31 - Job Level (defined as number of positions above entry level)</p> <p>V32 - Number of promotions with current employer</p> <p>V33 - Number of promotions in career except those with the current employer</p> <p>V34 - I am satisfied with the success I have achieved in my career.</p> <p>V35 - I am satisfied with the progress I have made toward meeting my overall career goals.</p> <p>V36 - I am satisfied with the progress I have made toward meeting my goals for income.</p> <p>V37- I am satisfied with the progress I have made toward meeting my goals for advancement.</p> <p>V38 - I am satisfied with the progress I have made toward meeting my goals for the development of new skills.</p>	<p>Judge et al. (1995)</p> <p>Cronbach alpha .83</p>
Perceived Cross- Functional Team Performance (6 items)	<p>V39 - My team works effectively together</p> <p>V40 - I am satisfied with the quality of work my team achieves.</p> <p>V41 - My team is open to hearing new ideas for all members to create new products.</p> <p>V42 - Team tasks are completed on time</p> <p>V43 - My team adheres to given budget and costing goals</p> <p>V44 - My team achieves work excellence</p>	<p>Ancona &amp; Caldwell (1992)</p> <p>Cronbach alpha .83</p>

## Sampling

To collect data for this study, participants were recruited using a snowball sampling technique. Snowball sampling is a technique for finding research participants. One participant refers the researcher to another participant, who in turn provides the name of a third, and so on (Vogt, 1999). This strategy is used to overcome the problems associated with sampling hard to reach populations (Faugier & Sargent, 1997), such as global apparel supply chain members. Snowball sampling takes advantage of social networks identified by participants to provide the research with an ever-expanding set of potential contacts (Thompson, 1997). A limitation with this sampling technique may be the lack of representativeness of a population, which may affect external validity. Because of this, screening questions were added on the survey to ensure participants in fact work in the global apparel supply chain. These screening questions asked participants to state their supply chain function, as well as how many years they worked in the global apparel supply chain.

The researcher contacted key supply chain members currently working in the global supply chain, targeting members working in cross-functional teams, via email, to complete the online survey and pass it along to cross-functional team members and other supply chain members within their organization and across the supply chain. The intended sample size was (N=120), which Kline (2011) suggests 10 respondents per model parameter, who are currently working within the realm of the global apparel supply chain, again, both within the apparel organization and across the supply chain. The initial email to supply chain members asked for participation in the study. Interested

individuals clicked on a Web address and were able to complete the survey. For maximum participation, follow-up emails to initial contacts were sent 4 and 7 days later.

### **Preliminary Test**

Traditionally, pretesting is administering a survey to individuals with special knowledge of the topic or similar members of the survey population, asking them to complete the survey, and to report any problems experienced (Dillman, 2009). Preliminary testing of the study's survey instrument was performed to help ensure content validity and scale reliability. The survey instrument was pretested to refine and modify before finalizing (see Appendix A and B).

First, feedback was obtained on the draft survey from several individuals, each with specialized knowledge in aspects of the survey quality (Dillman, 2009). Four professors in the areas of textile and apparel management and educational and counseling psychology reviewed the preliminary survey instrument. This initial review helped ensure content validity. During this process, items and introductions to questions were checked for common clarity and accuracy.

Second, the revised survey questions for successful and emotional intelligence were reviewed by up to 100 graduate and undergraduate students at a Midwestern university in the United States. Ten follow-up interviews were conducted of participants who completed the pretest survey to identify wording, question order, visual design, and any navigation problems, which is suggested by Dillman (2009). This pretest checked for clarity of individual item content, clarity of instructions, aesthetic design, and response format. Institutional Review Board approval was not needed for this preliminary test, as

no results were reported and the use of this pretest was only to ensure content and instruction clarity (M. Freeman, personal communication, December, 2014).

Finally, the full survey instrument was pretested by the International Textile and Apparel Association (ITAA) population after receiving Institutional Review Board approval. Conducting a pilot study, in which the proposed questions and all implementation procedures are tested on the sample survey population, helps to identify problems with the survey and related procedures (Dillman, 2009). The goal was to determine whether the proposed survey and procedures were adequate for the full study.

The researcher contacted ITAA, asking to distribute the survey through the member database. The ITAA population works, teaches, and researches in the global apparel supply chain, so population characteristics are similar. Scale reliabilities were checked in IBM SPSS for each construct. Item deletions were not suggested and would not have raised alphas. However, slight modifications were made for additional clarity. These modifications to items are noted in bold and italic. Relevant changes were implemented before the final survey was administered. Modifications and preliminary test's Cronbach alphas are reported in Table 3.2.

Table 3.2. *Adjusted Survey Constructs, Measurement Items after Pre-Testing, & Pre-Test Reliability*

Constructs	Changed Measurement Items after Pre-Test	Pre-Test Reliability
Analytic Intelligence (10 items)	Y1 – analyzing characters when I’m reading or listening to a story Y2 – comparing and contrasting points of view <b>Y3 – criticizing my own ideas and others’ work</b> Y4 – thinking clearly and analytically Y5 – solving logical problems Y6 – evaluating my own and others’ points of view Y7 – explaining difficult ideas or problems to others Y8 – making inferences and deriving conclusions Y9 – sorting and classifying Y10 – using graphic organizers or images to organize your thoughts	.52
Creative Intelligence (10 items)	Y11 – designing new things Y12 – coming up with ideas Y13 – using my imagination Y14 – thinking of alternative solutions Y15 – noticing things others often ignore Y16 – thinking in pictures and images Y17 – supposing things were different Y18 – drawing Y19 – inventing new words, games, approaches Y20 – composing	.58
Practical Intelligence (10 items)	Y21 – taking things apart and fixing them Y22 – learning through hands-on activities Y23 – putting into practice things I have learned Y24 – working with people in teams or groups Y25 – resolving conflicts Y26 – advising friends on their problems Y27 – convincing someone to do something <b>Y28 – learning by interacting with others</b> Y29 – applying my knowledge Y30 – adapting to new situations	.55
Successful Intelligence	V1 - Balanced score of analytic, creative and practical intelligence	

*Note.* Item modifications are indicated in bold and italic.

Table 3.2. (continued)

Constructs	Measurement Items after Pre-Test	Pre-Test Reliability
Emotional Intelligence (16 items)	<p>V2 – I have a good sense of why I have certain feelings most of the time.</p> <p><b>V3 – I have trouble understanding my own emotions.</b></p> <p>V4 – I really understand what I feel.</p> <p>V5 – I always know whether or not I am happy.</p> <p>V6 – I always know my friends' emotions from their behavior.</p> <p>V7 – I am a good observer of others' emotions.</p> <p>V8 – I am sensitive to the feelings and emotions of others.</p> <p><b>V9 – I am confused by the emotions of people around me.</b></p> <p>V10 – I always set goals for myself and then try my best to achieve them.</p> <p>V11 – I always tell myself I am a competent person.</p> <p><b>V12 – I have trouble motivating myself.</b></p> <p>V13 – I would always encourage myself to try my best.</p> <p>V14 – I am able to control my temper and handle difficulties rationally.</p> <p><b>V15 – I struggle controlling my own emotions.</b></p> <p>V16 – I can always calm down quickly when I am very angry.</p> <p>V17 – I have good control of my own emotions.</p>	.56
Job Satisfaction (12 items)	<p>V18 – I know what is expected of me at work.</p> <p>V19 – I have the materials and equipment I need to do my work right.</p> <p>V20 – At work, I have the opportunity to do what I do best ever day.</p> <p><b>V21 – I never receive recognition or praise for doing good work.</b></p> <p>V22 – My supervisor, or someone at work, seems to care about me as a person.</p> <p>V23 – There is someone at work who encourages my development.</p> <p>V24 – At work, my opinions seem to count.</p> <p>V25 – The mission/purpose of my company makes me feel my job is important.</p> <p>V26 – My associates (fellow employees) are committed to doing quality work.</p> <p>V27 – I have no close friends at work.</p> <p>V28 – In the last six months, someone at work has talked to me about my progress.</p> <p><b>V29 – In the last year, I have had opportunities at work to learn and grow.</b></p>	.87

Note. Item modifications are indicated in bold and italic.

Table 3.2. (continued)

Constructs	Measurement Items after Pre-Test	Pre-Test Reliability
Objective Career Success (3 items)	V30 - Income V31 - Number of promotions with current employer V32 - Number of promotions in career except those with the current employer	.50
Subjective Career Success (5 items)	V33 - I am satisfied with the success I have achieved in my career. V34 - I am satisfied with the progress I have made toward meeting my overall career goals. V35 - I am satisfied with the progress I have made toward meeting my goals for income. V36- I am satisfied with the progress I have made toward meeting my goals for advancement. V37 - I am satisfied with the progress I have made toward meeting my goals for the development of new skills.	.85
Perceived Cross-Functional Team Performance (6 items)	V38 - My team works effectively together <b>V39 - I am often dissatisfied with the quality of work my team achieves.</b> V40 - My team is open to hearing new ideas for all members to create new products. V41 - Team tasks are completed on time V42 - My team adheres to given budget and costing goals. V43 - My team achieves work excellence.	.95

*Note.* Item modifications are indicated in bold and italic.

## **Data Collection**

After receiving Institutional Review Board approval, Dillman's (2009) online survey implementation procedures were used to collect the study's data. Personalized recruitment emails were sent, at strategic times with the participants in mind, to initial supply chain members asking to both take the online survey and distribute it to other supply chain members within their organization and across their supply chain. Not only were direct emails sent but also messages through LinkedIn. Recruitment messages were kept short and to the point with detailed information of how to participate in the study and access the survey (see Appendix C). The survey was created and managed through the website Qualtrics, allowing participants anonymity (see Appendix D). Follow up emails were sent every 4 to 7 days starting from January 15 to the survey's close on February 14, 2015.

Once target sample size was reached on February 14, 2015, data was downloaded from Qualtrics and exported to Microsoft Excel. Data was cleaned and organized. Accuracy of data was visually checked. Demographic information and calculated variable scores were then exported to IBM SPSS. Several initial statistics were run as recommended by Tabachnick & Fidell (2013) to check through basic assumptions needed in SEM analysis. The decision to replace missing data using maximum likelihood was determined due to the sample size (Tabachnick & Fidell, 2013) and discussed in more detail in Chapter 4. Once data was cleaned, SEM analysis was performed in AMOS.

## **Data Analysis**

To organize data and assist in coding procedures and analysis, SPSS was used to transfer the survey data, clean, and code/recode the data set. Visual inspection of the data was performed before running descriptive statistics and frequencies. SEM, path analysis was used in AMOS software. SEM is an analytic method designed to evaluate the viability of causal models, which are drawn in the form of path diagrams (Jaccard & Jacoby, 2010). For the study's analysis, first, scale reliabilities were checked with resulting Cronbach alphas. Then the observed variables were calculated in SPSS and transferred into the AMOS path analysis model. Model fit was then assessed and results gleaned.

## CHAPTER 4. RESULTS AND ANALYSIS

Chapter 4 contains the following sections: (a) assessment of basic assumptions; (b) sample; (c) model testing results of path analysis; and finally, (d) testing of research hypotheses.

### Assessment of Basic Assumptions

As with any statistical analysis method, basic assumptions and practical issues were assessed before hypotheses testing occurred. The review of sample size and missing data, normality and outliers, linearity, multicollinearity and singularity, and residuals were performed as recommended before SEM analysis (Tabachnick & Fidell, 2013). Many of the basic assumptions helped to inform and illuminate sample description.

First, a review of sample size and data informed how to handle any missing data. A total of 163 participants responded to the online survey using Qualtrics by February 14, 2015. The data were downloaded from Qualtrics to Excel. After a visual inspection of the data in Excel, 28 responses were found to be completely unanswered and were deleted. Thus, the study had 135 usable survey responses. Due to the smaller sample size, missing data were replaced with maximum likelihood estimates. In total, there were 67 missing data items out of 9,720 total items for 135 responses (72 survey items x 135 usable response). This was approximately 1% missing data. After the data were visually inspected, cleaned, and organized, the data were then uploaded in IBM SPSS.

Second, multivariate normality and outliers were evaluated using IBM SPSS. Descriptive statistics and scatterplots were run and reviewed for outliers for each item of the latent variables and observed variables. No outliers were detected from the

scatterplots, so no responses were deleted. In addition, skewness and kurtosis of both descriptive demographic variables and measured variables were also examined. Skewness of some variables were detected and reported in the sample description within this chapter in more detail. Overall, multivariate normality was determined for the measured variables in the model.

Third, linearity for measured variables was assessed for successful intelligence and career success. Judging from the scatterplot, they showed a distinct linear relationship. In addition, AMOS reports linear relationships.

Fourth, multicollinearity and singularity were also considered. It was found that the measured variables of successful intelligence and emotional intelligence were highly correlated with a Pearson's correlation of .844, thus suggesting multicollinearity. Singularity issues are aborted in many SEM programs, including AMOS with warning messages. Singularity was not found other than in successful intelligence.

Finally, residuals should be small and centered around zero. The frequency distribution of the residuals covariances should be symmetrical (Tabachnick & Fidell, 2013). Residuals in the context of SEM are residual covariances, not residual scores, as in other statistical techniques. Residuals were assessed in AMOS as automatic diagnostics and the model was successfully run, suggesting little concern for large residuals.

## **Descriptions of the Study Sample**

### **Demographic Descriptions**

Descriptive statistics of the data was conducted to understand the demographic characteristics of the study's sample. First, frequency tables were analyzed for the categorical demographic variables. Gender of the participants was 34 (25.9%) male, 93

(68.9%) female, and 8 (5.2%) rather not say. Ethnicity of the participants was 99 (73.3%) White, 5 (3.7%) Black, 26 (19.3%) Asian/Pacific Islander, 3 (2.3%), Hispanic/Latino, and 2 (1.4%) rather not say. The job positions or cross-functional position of the participants was 14 (10.4%) Designer, 26 (19.3%) Product Development, 7 (5.1%) Buyer, 18 (13.3%) Merchandiser, 6 (4.5%) Technical Designer, 33 (24.5%) Production, 4 (3.0%) Sourcing, 7 (5.1%) Research and Development, and 20 (14.8%) other, which included marketing, sales, factory/vendor owner, sewing operator, and quality assurance. Finally, work locations of the participants was 90 (66.6%) North America, 7 (5.2%) Central America, 8 (5.9%) South America, 7 (5.2%) Europe, 16 (11.9%) Asia, 7 (5.2%) rather not say or specifically wrote in Russia, India, and Switzerland. Table 4.1 shows categorical demographic information in details.

Table 4.1

*Demographic Characteristics of Participants (n=135)*

Variable	<i>n</i>	Percent
<b>Gender</b>		
Male	34	25.9%
Female	93	68.9%
Rather not say	8	5.2%
	<i>135</i>	<i>100%</i>
<b>Ethnicity</b>		
White	99	73.3%
Black	5	3.7%
Asian/Pacific Islander	26	19.3%
Latino	3	2.3%
Rather not say	2	1.4%
	<i>135</i>	<i>100%</i>
<b>Job Position</b>		
Designer	14	10.4%
Product Development	26	19.3%
Buyer	7	5.1%
Merchandiser	18	13.3%
Tech Designer	6	4.5%
Production	33	24.5%
Sourcing	4	3.0%
Research & Development	7	5.1%
Other	20	14.8%
	<i>135</i>	<i>100%</i>
<b>Work Location</b>		
North America	90	66.6%
Central American	7	5.2%
South America	8	5.9%
Europe	7	5.2%
Asia	16	11.9%
Africa	0	0%
Rather not say	7	5.2%
	<i>135</i>	<i>100%</i>

Next, descriptive means, standard deviations, and skew were analyzed for the continuous demographic characteristic variables. Age of participants ranged from 18 to

71 with the mean age between 37 and 38 year old. The average annual income with bonus and other compensation for the participants was \$94,736, however, the income ranged from \$9,990 to over \$300,000. Years of the participants working in the apparel and textile industry ranged from less than one year to 51 years, with an average of 14.4 years in the industry. Years working for current employer ranged from less than a year to 31 years, with an average of 6.87 years with their current employer. Table 4.2 shows demographic information in detail.

Table 4.2

*Demographic Characteristics of Participants (n=135)*

Variable	<i>M</i>	<i>SD</i>
Age	37.8	12.5
Income	\$94,736	\$67,583.4
Years in industry	14.4	12.5
Years with current employer	6.87	6.2

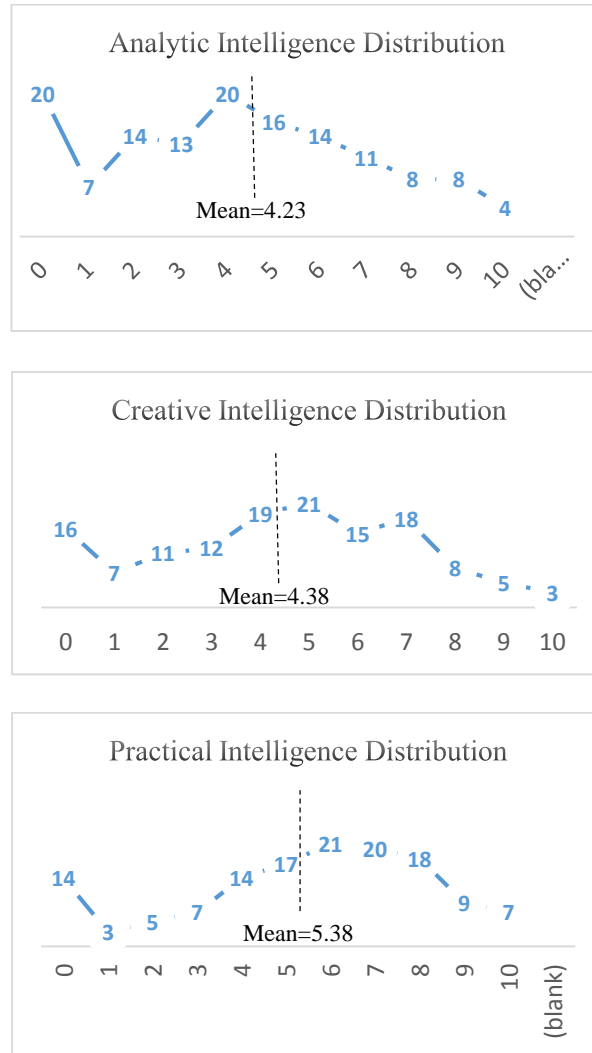
The skewness detected in the study’s sample was expected and relatively in line with the global apparel supply chain’s demographics. Women do make up a larger number of supply chain members both globally and domestically (Dicken, 2011). Skewness in work location and ethnicity was also not surprising. This survey was launched in the U.S., though recruitment email urged participants to pass it along to partners working globally in the supply chain. The U.S. does most of the product development and design for large retailers, while Asia performs much of the sourcing and production operations along the supply chain (Dicken, 2011).

## **Study's Variables Description**

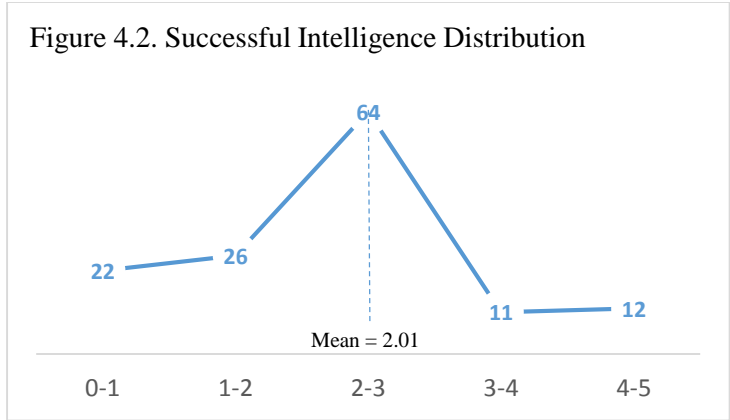
### **Successful intelligence.**

Successful intelligence (SI) is the balance of analytic, creative, and practical intelligence. To measure successful intelligence, analytic, creative, and practical intelligence must first be measured. Analytic, creative, and practical intelligence are measured on a scale from 0 to 10. Analytic intelligence had a mean score of 4.23, creative intelligence had a mean score of 4.38, and practical intelligence had a mean score of 5.38. Interestingly, participants scored lowest in analytic intelligence and scored highest in practical intelligence. Figure 4.1 illustrates the sample's distribution of analytic, creative, and practical intelligence.

Figure 4.1. Distributions of Sample's Analytic, Creative, and Practical Intelligences

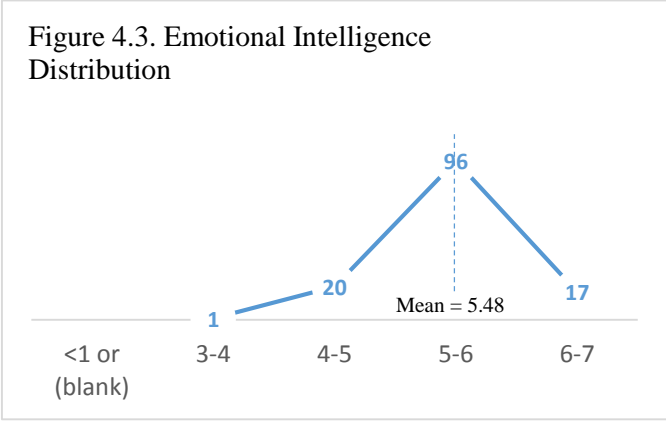


Successful intelligence was calculated by the difference between analytic and creative scores, plus the difference between analytic and practical scores, plus the difference between creative and practical scores, using the absolute value. This resulted in a scale from 0 (high successful intelligence) to 20 (low successful intelligence). Finally, the summed score was then divided by 3, making the SI score range from 0 to 6.67. Overall, the study's sample had a mean successful intelligence score of 2.01, which was a high score.



**Emotional intelligence.**

Emotional intelligence (EI) was measured with 16 items on a 7-point Likert scale (0-strongly disagree to 7-strongly agree). The mean was 5.48, with a standard deviation of .50. Scale reliability for emotional intelligence was also conducted using the study’s data, which gleaned a Cronbach alpha of .812. Figure 4.3 illustrates the distribution of the sample’s emotional intelligence. Overall, the study’s participants reported a relatively high emotional intelligence.



**Job satisfaction.**

Job satisfaction (JS) was measured with 12 items on a 7-point Likert scale (0-strongly disagree to 7-strongly agree). The mean was 5.18, with a standard deviation of

.79. Scale reliability for job satisfaction was also conducted using the study's data, which gleaned a Cronbach alpha of .877. Figure 4.4 illustrates the sample's self-reported job satisfaction, which again was a high job satisfaction score.

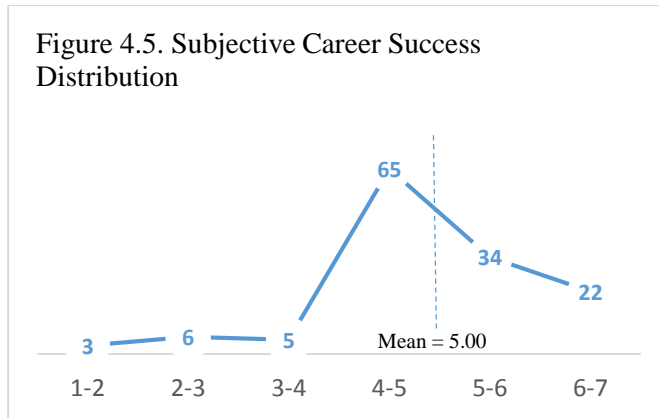


### **Career success.**

Career success (CS) was measured by combining the objective and subjective dimensions. The objective dimension of career success was measured with 3 items, including income, number of promotions at current employer, and number of promotions in overall career. The three items were summed together, averaged, and standardized. The mean was .01, with a standard deviation of .66. In both the preliminary test and full survey, subjective career success showed low scale reliability. Scale reliability for objective career success was conducted using the study's data, which gleaned a Cronbach alpha of .41. Thus, objective career success was eliminated from the final SEM analysis and only subjective career success was used in the model.

The subjective dimension of career success was measured with 5 items on a 7-point Likert scale (0-strongly disagree to 7-strongly agree). The mean was 5.0 with a standard deviation of 1.05. Scale reliability for subjective career success using the study's

data gleaned a Cronbach alpha of .92. Figure 4.5 illustrates the sample's subjective career success distribution, which was high.



**Perceived cross-functional team success description.**

Perceived cross-functional team success (TS) was measured with 6 items on a 7-point Likert scale (0-strongly disagree to 7-strongly agree). The mean was 5.18, with a standard deviation of .77. Scale reliability for perceived team success was also conducted using the study's data, which gleaned a Cronbach alpha of .857. Figure 4.6 is the sample's distribution for perceived team success, which was high.

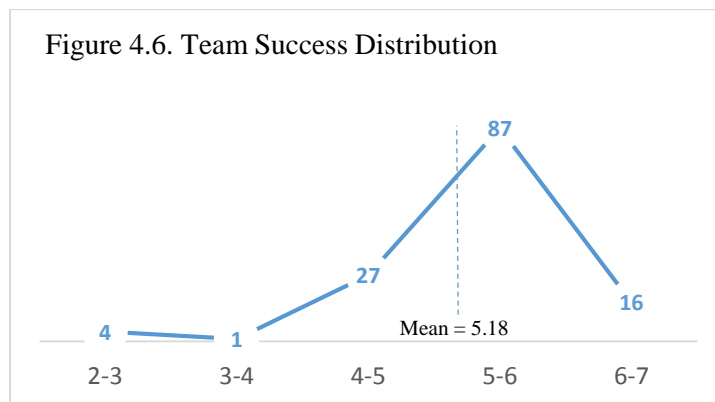


Table 4.3 details each variable's overall scale characteristics for the study's 135 participants with means, standard deviations, and alphas.

Table 4.3

*Overall Scale Characteristics of Participants (n=135)*

Scale	<i>M</i>	SD	Cronbach <i>α</i>
Successful Intelligence	2.01	1.01	.650
Emotional Intelligence	5.48	.50	.812
Job Satisfaction	5.18	.79	.877
Subjective Career Success	5.00	1.05	.920
Objective Career Success	.01	.69	.412
Perceived CF Team Success	5.18	.77	.857

In addition, successful intelligence and emotional intelligence was computed by job position. Though not a hypothesis for this study, it was reported to better understand the nature of the cross-functional team. Table 4.4 illustrates the mean differences of successful intelligence and emotional intelligence by job position. The study's sample size per job category was too small to statistically compare means across job positions. However, some differences were detectible by visual assessment. Successful intelligence was a 0-6.67 scale, where 0 is high successful intelligence (balance of analytic, creative and practical) and 6.67 was low successful intelligence (great differences between analytic, creative and practical). Emotional intelligence was based on a 7-point Likert scale, with 1 as low emotional intelligence and 7 as high emotional intelligence.

Table 4.4

*Successful Intelligence and Emotional Intelligence by Job Position (n=135)*

Job Position	<i>N</i>	SI Mean	EI Mean
Designer	14	1.50	5.65
Product Development	26	2.08	5.42
Buyer	7	2.17	5.36
Merchandiser	18	1.80	5.62
Tech Designer	6	1.78	5.00
Production	33	2.58	5.53
Sourcing	4	2.34	5.53

### Model Testing

#### Path Analysis

After assessing basic assumption, first the data was analyzed using structural regression model. For this type of SEM analysis, there are two steps, a measurement model phase and then a structural phrase (Anderson & Gerbing, 1988). The measurement model phase estimates through confirmatory factor analysis with all variables covarying until both model fit and parsimony has to be achieved (Anderson & Gerbing, 1998). However, the study's measurement model fit was not achieved with a parsimonious model. That is mostly due to a sample size of 135, which was too small to analyze the 39 indicators and 129 parameters of the original measurement model ( $\chi^2(731, N = 135) = 2.86, p < .001, CFI = .59, RMSEA = .118$ ). Therefore, path analysis was then used to analyze the study's data as recommended by Kline (2011).

Path analysis is an approach to modeling explanatory relationships between observed variables. Thus, no latent variables and indicating items are used in path

analysis (Wang, 2014). For path analysis, each variable was calculated, means were figured and used for analysis (Wang, 2014). Recommended by Kline (2011), maximum likelihood estimation was employed to estimate the model and account for missing values.

Path analysis is closely related to multiple regression, but path analysis allows for multiple outcome variables in addition to outcome variables that can also be explanatory (Kline, 2011). The explanatory variable, successful intelligence, was assumed to have no measurement error. The outcome variables, emotional intelligence, job satisfaction, subjective career success, and perceived team success contain errors of measurement that are subsumed in the residual terms of the model equation. During the analysis of scale reliabilities, objective career success was found to have a Cronbach alpha of .412. This indicates low scale reliability, therefore only subjective career success was used in the path analysis.

After the model was specified and estimated, goodness-of-fit was assessed. In SEM, path analysis, there are several indicators of model fit. First, a good fitting model is sometimes indicated by a non-significant  $\chi^2$  (Bentler, 1995). The study's path model's goodness of fit was  $\chi^2_{(d.f.4;N=135)} = 1.49, p = .222$ , other measures of model fit were also analyzed for this study. The CFI and RMSEA are frequently reported fit indices (Tabachnick & Fidell, 2013).

The comparative fit index (CFI; Bentler, 1988) also assesses fit relative to other models. The CFI employs the non-central  $\chi^2$  distribution with non-centrality parameters. CFI values greater than .95 are often indicative of good-fitting models (Hu & Bentler,

1999). The CFI is normed to the 0-1 range and does a good job of estimating model fit even in small samples (Bentler, 1988). The CFI for the study's structural model was .982.

The root mean square error of approximation (RMSEA; Browne & Cudeck, 1993) estimates the lack of fit in a model compared to a perfect or saturated model. Values of .06 or less indicate a good-fitting model relative to the model degrees of freedom (Hu & Bentler, 1999). Values larger than .10 are indicative of poor-fitting models (Browne & Cudeck, 1993). The RMSEA for the study's structural model was .056.

The path coefficient is a standardized regression coefficient or beta showing the direct effect of an explanatory variable on an outcome variable in the path model. The path analytic equation is the outcome variable = the sum of the path coefficient (casual variable) + disturbance (Kline, 2011). In each equation, only the direct priors of the outcome variable are being used as the dependents are considered. The path coefficients are thus the standardized partial regression coefficients of each outcome variable on its priors. It is a partial weight controlling for other priors for the given outcome variable. The study's model had the following path equations:

$$\begin{aligned}EI &= .02(SI) + e1 \\ JS &= .34(EI) + e2 \\ CS &= .34(JS) + .20(EI) + e3 \\ TS &= .49(JS) + .11 (CS) + e4\end{aligned}$$

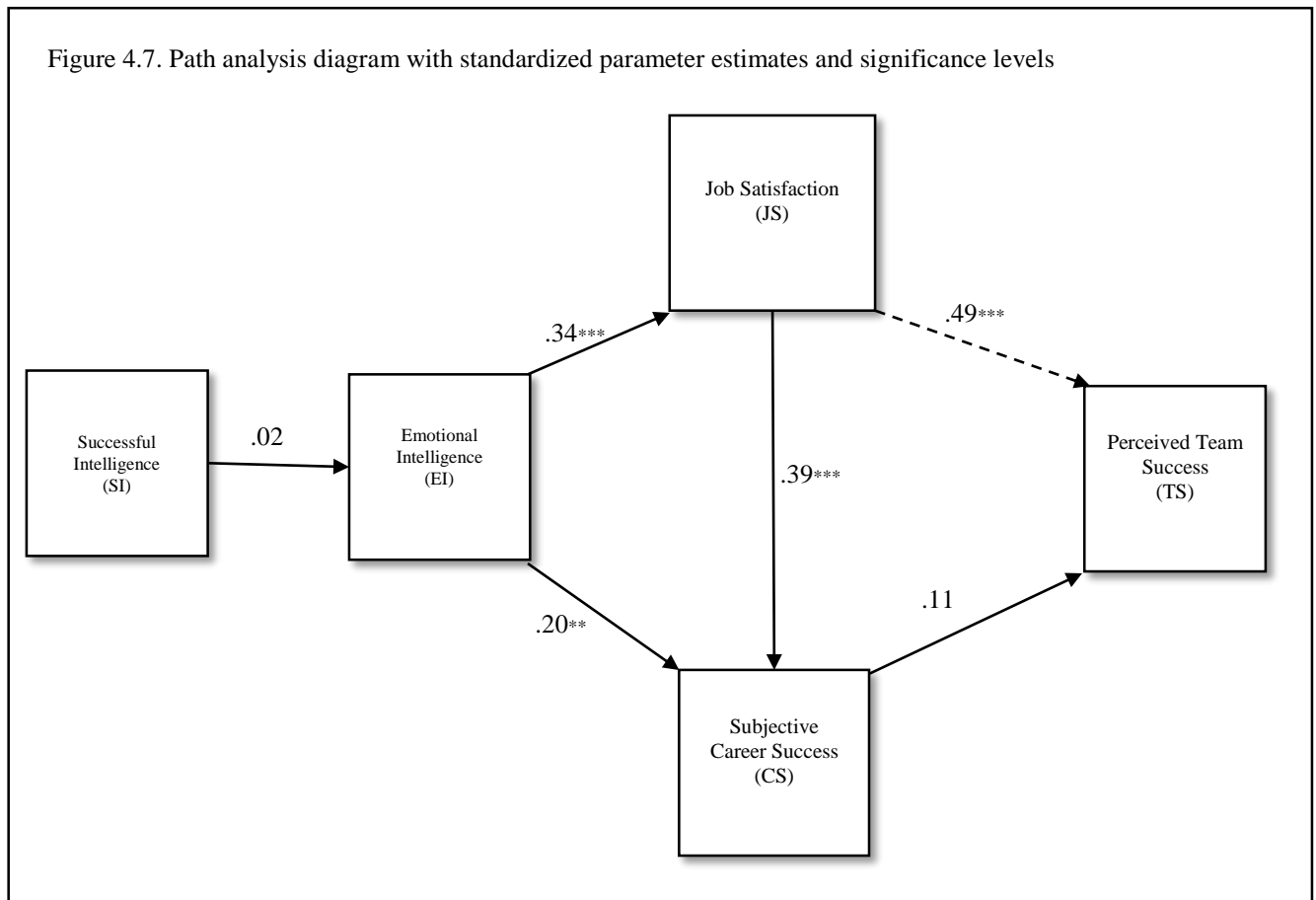
Table 4.5 displays correlations, measure means, and standard deviations reported from the study's path analysis model. Figure 4.7 shows the results of the path analysis in a path diagram with parameter estimates and significant levels. Table 4.6 details the path analysis standardized path estimates, t-values, and significant levels, along with model fit

indices for the path analysis. (See Appendix E for path analysis model used in AMOS along with model fit output).

Table 4.5  
Correlations, means, and standard deviations of observed variables (n=135)

Variable	SI	EI	JS	CS	TS
SI	1.00				
EI	.02	1.00			
JS	.07	.34***	1.00		
CS	.01	.33**	.46***	1.00	
TS	-.01	.34	.54***	.33	1.00
Mean	2.01	5.48	5.18	5.00	5.18
SD	1.01	.50	.79	1.05	.77

Note. \*\*\* is significant at  $p < .001$ ; \*\* is significant at  $p < .05$



Note. \*\*\* is significant at  $p < .001$ ; \*\* is significant at  $p < .05$ ; dotted path line is additional path suggested in modification indices.

Table 4.6

*Path Analysis Model Parameter Estimates, t-Values, and Significance Levels (n=135)*

Paths in the Model	Standardized Parameter Estimates	t-Value	Probability
SI → EI	.02	.20	.843
EI → Job Satisfaction	.34	4.22	< .001
Job Satisfaction → Sub Career Success	.40	4.89	< .001
EI → Sub Career Success	.20	2.50	.012
Sub Career Success → Team Success	.11	1.35	.177
<b>Job Satisfaction → Team Success</b>	<b>.49</b>	<b>5.97</b>	<b>&lt; .001</b>
Goodness-of-Fit Indices			
$\chi^2_{(d.f.4;N=135)} = 1.49, p = .222$			
CFI= .982			
RMSEA= .056			
TLI= .956			

### Testing of Research Hypotheses

Based on the results of the path analysis model, most of the study's research hypotheses were supported. Each hypothesis is further discussed in detail.

#### Hypothesis 1

Hypothesis 1 (H1), which stated that apparel supply chain members' successful intelligence positively affects emotional intelligence, was not supported. In the path analysis, the path from successful intelligence to emotional intelligence had a path coefficient = .02, *t*-value = .20, *p* = .843. Further, a correlation analysis was run between measured variable successful intelligence and emotional intelligence with a Pearson's Correlation = .844. Though statistically highly correlated, past literature has defined these two constructs quite differently. Successful intelligence being the balance of analytic,

creative, and practical intelligence (Sternberg, 1999) and emotional intelligence being the ability to recognize the meanings of emotions and relationships to reason and solve problems (Mayer et al., 1997). Successful intelligence is considered a skill (Sternberg, 1999), where emotional intelligence strengthens individuals' abilities during interpersonal situations (Goleman, 2001). Past studies had shown a positive relationship between high successful intelligence and high emotional intelligence (Bar-on, 1997; Goleman, 1995). However, the results of this study are contrary to current literature.

### **Hypothesis 2**

Hypothesis 2 (H2), which stated that apparel supply chain members' emotional intelligence positively affects job satisfaction, was well supported. In the path analysis model the path from emotional intelligence to job satisfaction had a path coefficient = .34,  $t$ -value = 4.22,  $p < .001$ . This result was expected, following previous research by Goleman (2001), Rubin (1999), Weiss (2002), and Giles (2001). Within the context of the global apparel supply chain, the higher their emotional intelligence the more likely it is that supply chain members will be satisfied with their job. Results suggest that supply chain members need to develop the ability to identify, use, understand, and manage not only their own emotions but also others'. This could lead to happiness and satisfaction in their supply chain role.

### **Hypothesis 3**

Hypothesis 3 (H3), stating apparel supply chain members' job satisfaction positively affects career success, was well supported. In the path analysis model, the path from job satisfaction to career success had a path coefficient = .39,  $t$ -value = 4.89,  $p <$

.001. These results were expected and aligned with previous literature from Schneider and Snyder (1975), Judge (1998), and Price (2001). Job satisfaction helps employees achieve success not only at their current job but also in their careers. Supply chain members' job satisfaction leads to improved well-being in the work environment and higher work quality (Price, 2001), thus career success is more achievable.

When focusing on career success in this study, subjective and objective measures of career success were analyzed together. However, scale reliability checks of these separate dimensions yielded interesting results. Subjective career success yielded a Cronbach alpha .92, where objective career success yielded .412, and an overall career success Cronbach alpha of .30. Compared to Judge's (1998) scale reliability of .83. Because of the scale unreliability for this study's sample, objective career success was eliminated from the Path model. This may suggest an inaccuracy in the current measure of objective career success. There may be other measures beyond income and promotions, which could be explored in future research.

#### **Hypothesis 4**

Hypothesis 4 (H4), which stated that apparel supply chain members' emotional intelligence positively affects career success, was well supported. In the path analysis model, the path from emotional intelligence to career success had a path coefficient = .20.  $t$ -value = 2.50,  $p < .001$ . As past literature suggested (Goleman, 1995; Mayer & Salovey, 1997), this result was expected. Emotionally intelligent supply chain members are able to identify, use, understand, and manage their own and others' emotions to not only be satisfied in their job roles but also in their careers. Support for this has insightful impact

on the work environment. Organizations need to foster emotional intelligence development in supply chain members.

### **Hypothesis 5**

Hypothesis 5 (H5), which stated that apparel supply chain members' career success positively affects perceived cross-functional team success, was not supported. In the path analysis model's path was not supported from career success to perceived cross-functional team success and yielded a path coefficient = .11,  $t$ -value = 1.35,  $p$  = .177.

From the review of literature, this result was unexpected. Previous research by James and colleagues (1990) has shown that successful individuals positively impact team performance. When supply chain members have achieved career success, they positively impact the success of their cross-functional teams. However, a possible explanation of this outcome could be the construct of career success. Previous literature, defined the construct of career success as objective and subjective career success (Judge et al., 1998). However, in study, the measure of objective career success was not reliable and only subjective career success was used in the analysis. This could have impacted the relationship of career success with team success.

### **Post Hoc**

In post hoc analysis, a path between job satisfaction and perceived cross-functional team success were suggested for better fitting model indices. In the path analysis model, the path coefficient = .49,  $t$ -value = 5.97,  $p$  < .001. Though this path was not at first hypothesized, job satisfaction and team success does mimic past literature and theory. Past research has investigated job satisfaction as a predictor of organizational

outcomes such as employee turnover (Harter et al. 2002), financial success (Ryan, Schmit, & Johnson, 1996) and employee attitudes (Denison, 1990).

### Summary of Hypotheses Tests

Table 4.10 shows the summary of the research hypotheses tests. Out of the five hypotheses, four were statistically supported both in terms of significance and the direction of the relationship. In both the measurement model analysis and the path analysis, the additional path between job satisfaction and perceived team success was found to be statistically significant and a positive directional relationship.

Table 4.7

#### *Summary of Hypotheses Tests*

Hypotheses	Results
<b>H1:</b> Successful Intelligence → Emotional Intelligence	Not Supported
<b>H2:</b> Emotional Intelligence → Job Satisfaction	Supported
<b>H3:</b> Job Satisfaction → Subjective Career Success	Supported
<b>H4:</b> Emotional Intelligence → Subjective Career Success	Supported
<b>H5:</b> Subjective Career Success → Perceived Team Success	Not Supported
<b>Post Hoc Path:</b> Job Satisfaction → Perceived Team Success	Supported

## **CHAPTER 5. CONCLUSIONS**

Chapter 5 contains the following sections: (a) summary of the study, (b) contributions and implications, and (c) limitations and scope of future research.

### **Summary of the Study**

The global apparel supply chain has been transformed by many factors including globalization and fragmentation resulting in a hyper-dynamic market full of uncertainty and volatility (Dyer & Ha-Brookshire, 2008). Supply chain management has been a strategy to organize the relationships within organizations and across supply chains (Chen & Paulraj, 2004). In managing global supply chains, cross-functional teams have become increasingly important in organizations to improve innovation and coordination and to reduce time spent on new product development and fulfillment (Denison, Hart, & Kahn, 1996). These cross-functional teams have links to multiple subsets throughout the global supply chain (Galbraith, 1994). Cross-functional teams have become a critical aspect of the success of today's apparel organizations working within the global supply chain.

This research study was designed to investigate the relationships between individual employees' success and cross-functional teams' success within the global apparel supply chain. Borrowing from multiple perspectives from psychology, sociology, and organizational literature, this research specifically investigates the relationships between individuals' successful intelligence and emotional intelligence and his or her job satisfaction and career success, which are critical to cross-functional team success within the global apparel supply chain context. The study investigated the global supply chain at

the individual level of the supply chain member and how it affects cross-functional team success. The fragmented, hyper-dynamic, and global apparel industry may create a unique work environment where cross-functional teams need to collaborate and innovate on short timelines (Dicken, 2010).

Therefore the study sought to investigate the relationships between successful intelligence and emotional intelligence in terms of job satisfaction and career success of the individual and how that may affect the perceived cross-functional team success. The study hypothesized the following:

**Hypothesis 1:** Apparel supply chain members' high successful intelligence (a balanced analytic, creative, and practical intelligence) positively affects emotional intelligence.

**Hypothesis 2:** Apparel supply chain members' emotional intelligence positively affects job satisfaction.

**Hypothesis 3:** Apparel supply chain members' job satisfaction positively affects career success.

**Hypothesis 4:** Apparel supply chain members' emotional intelligence positively affects career success.

**Hypothesis 5:** Apparel supply chain members' career success affects cross-functional teams' perceived success.

To test the above hypotheses, the study conducted an online survey using existing successful intelligence, emotional intelligence, job satisfaction, career success, and team success scales, totaling a 72-item survey. Using the snowball sampling technique,

targeting supply chain members working in the global apparel industry, 135 usable survey responses were collected using Qualtrics.

The study's analysis resulted in several major findings. First, successful intelligence was not a significant variable in the model analysis. Thus, hypothesis 1 was not supported. This is a contrasting result from the previous literature that positively linked successful intelligence with managerial success (Sternberg, 1999), along with successful intelligence predicting academic GPA and SAT scores (Sternberg, 1997). More important, the findings showed the high correlation between successful intelligence and emotional intelligence, which could lead to new research opportunities.

Second, objective career success measures of income and promotions were not reliable, and therefore not used in this study's analysis. Subjective career success measures were reliable and found to have a positive relationship with cross-functional team success. In addition, subjective career success was found to have a mediating effect on emotional intelligence and cross-functional team success. This study's findings start to challenge traditional concepts of career success and indicate that income and promotions may not be appropriate measures of this concept.

Third, results showed a positive relationship between job satisfaction and cross-functional team success. Though emotional intelligence and cross-functional team success had a modest relationship, job satisfaction was found to be a mediating variable between these two constructs. This was a new finding that added to the literature and needs to be explored and tested further. Job satisfaction had more of an influence on cross-functional team success than career success, which was a major finding. This

suggested that perhaps career success is not as important to team success and that job satisfaction needs to be focused on and nurtured within organizations.

Fourth, results showed a link between individual success and team success, which was a major finding. Organizations focus a lot of resources on process and not as much on training and developing the individual, especially during harsh economic times. Findings suggest that successful teams depend on successful individuals and perhaps organizational efforts should be reallocated appropriately.

### **Contributions and Implications**

This study makes several important contributions to the body of knowledge of cross-functional team success within the global apparel supply chain. This section discusses the study's contributions and implications from the perspective of theory development, human resource operations, and education.

#### **Theoretical Contributions and Implications**

First, the grounding theories for this study were compiled from organizational, psychology, and business literature giving a multi-dimensional perspective of employee and team success. Previous organizational and psychological research has predominantly focused on qualitative observational and interview data, where business literature has focus on quantitative data from a high-level standpoint. This study brought concepts that are typically investigated through qualitative research such as successful intelligence and emotional intelligence and brought them into the quantitative realm. Cianciolo and Sternberg's (2004) study showed through qualitative interviews how successful intelligence is linked to business managerial success, specifically with business entrepreneurship. This study was able to test the SI of apparel supply chain members and

empirically tested if this relationship exists. However, in this study, SI did not have significant impact on other the other variables in the model. Perhaps the nature of apparel managerial success may be dependent on other variables or factors that were not captured in this study. Therefore, the findings offer new opportunities to assess how SI can be developed and can affect individual apparel supply chain member's career success and cross-functional team's success.

Second, this study investigated the supply chain at the individual level and found that emotional intelligence, job satisfaction, and subjective career success have a positive relationship with cross-functional team success. Therefore, individual success needs to be fostered and developed within the organization and across the supply chain through emotional intelligence, job satisfaction, and subjective career success. Previous literature has focused on high-level success or tangible measures and has lacked empirical research linking the individual's emotional intelligence and the performance of the larger supply chain. This study added to the breadth of research showing the vital need for individual success in a successful supply chain. Barney's (1991) resource-based theory and Grant's (1996) knowledge-based theory evaluate the organization at the employee level and suggest focusing on the individual. Additionally, Mentzer (2004) and Chen and Paulraj (2003) describe the supply chain as a network of relationships between organizations that work together for the benefit of all parties within the supply chain, however, a discussion of the supply chain members is lacking within the discussion. This study has an impact theoretically supporting the relationship between individual apparel supply chain members' success and their cross-functional team's success.

Third, cross-functional teams have been an important practice of organizing teams for the innovation of new products, specifically in the apparel industry. Several past researchers such as Ha-Brookshire and Hawley (2013) and Kunz (1995) have conceptualized and defined these work groups. However, much of this research has been focused on process and how these groups fit into the success of the supply chain. However, this study fills in the gap by examining the relationship between an individual's success and the cross-functional team's success. This research indicates that team success relies on the success of the individual member. Therefore, we argue that cross-functional teams need to be managed not only at the group level but also the individual level. Further development in cross-functional team literature needs to be explored, however, this research suggests that particular keys to successful cross-functional teams are linked to job satisfaction and emotional intelligence. This study gives insight into the unique apparel industry's cross-functional teams that are fragmented across the globe, and how emotional intelligence and job satisfaction contribute to team success.

Fourth, successful intelligence and emotional intelligence were found to be highly correlated, which was contrary to previous literature. Both successful intelligence and emotional intelligence have been separate constructs and are measured using two very separate scales. However, this study showed an 84% correlation between these two constructs. A possible explanation for this finding could be that both SI and EI have been defined (Mayer & Salovey, 1996; Sternberg, 1997) and explored qualitatively, however, research testing these constructs empirically has been lacking in the literature. Further, quantitative research is needed to both objectively define these constructs, create a reliable scale measuring the constructs, and test relationships to other concepts. This

finding opens a new avenue of researching successful and emotional intelligence. The current scales to measure both constructs may need to be revised or even redeveloped. Further, the study's sample was comprised of apparel supply chain members. Previous literature had not investigated this unique population. The apparel industry has unique characteristics compared with other industries (Dickens, 2011) and therefore other mediating factors may be affecting the relationship between successful and emotional intelligence constructs.

Fifth, the post hoc finding of job satisfaction having a more significant relationship with cross-functional team success, than career success, contributes to the organizational and business literature. Specifically, the mediating effect of job satisfaction between emotional intelligence and cross-functional team success adds to the body of research. Previous literature had supported job satisfaction as a predictor variable for job involvement (Brown & Leight, 1996), and job performance (Pritchard & Karasick, 1973). However, job satisfaction's relationship with team success had been limited to financial performance and customer (Schneider & Bowen, 1985). However, previous literature was not investigating the global apparel supply chain. The study's results suggest that for apparel supply chain members' job satisfaction has a stronger relationship to cross-functional team success, than subjective career success. This study's finding supports more empirical testing of job satisfaction as a predictor of cross-functional team success in the apparel industry. Specifically in the dimensions of innovation, group communication, and on-time task completion, which are key measurements of cross-functional team success in the hyper-dynamic apparel industry.

## **Human Resource Contributions and Implications**

First, emotional intelligence had previously been explored qualitatively and research had been lacking investigating EI empirically. The study's results support the relationship between emotional intelligence, job satisfaction, subjective career success, and cross-functional team success. Organizations' human resource departments need to facilitate and develop work environments that support emotionally intelligent employees. The global apparel supply chain is highly competitive in terms of resources and aggressive timelines (Dyer & Ha-Brookshire, 2008) making human interactions tense. For the success of the global apparel supply chain, cross-functional teams need to optimize positive interactions and practices that go beyond the hyper-dynamic nature to a more emotionally developed environment. Emotional intelligence aids in the success of the apparel supply chain and plays a vital role that should be nurtured within work environments. Therefore, developing and fostering emotional intelligence in a work environment should be a priority for apparel organizations.

Second, successful intelligence and emotional intelligence was reviewed by job position. Supply chain members did have different successful intelligence and emotional intelligence scores across the different job positions. Designers had the highest successful intelligence and production had the lowest successful intelligence. Also, designers had the highest emotional intelligence and technical designers had the lowest emotional intelligence. Potentially these differences in successful and emotional intelligence could cause conflicts and miscommunication within the cross-functional team and organizational environment. Supply chain organizations could work to develop and facilitate successful and emotional intelligence supply chain members.

Third, previous literature had linked the dimensions of objective and subjective measures of career success to create the concept of overall career success. However, the scale reliability for objective career success was not reliable in this study and consequently was not used in the study's analysis. Objective career success has been measured based on income and promotions with a current employer and throughout a career. However, the study's results suggests there may be other important measures, not only for objective career success, but also overall career success when specifically examining the global apparel supply chain. Organizations have depended on the notion that money keeps employees happy. Salary and promotions may initially help with recruitment, however, they have not been shown to necessarily help employees be satisfied with their job or success within their team. Previous literature investigated objective and subjective career success in traditional business organizations (Judge et al., 2001). However, objective career success scale was not reliable on with apparel supply chain members, suggesting the construct of career success may be defined differently in the global apparel supply chain. Apparel organizations need to be less reliant on fulfilling the bottom line on a paycheck and also look at other factors that could help motivate and retrain employees.

Fourth, in post hoc analysis, job satisfaction was found to have a positive effect on cross-functional team success. Previous literature (Judge et al., 1997) had concluded that career success was a mediating variable between job satisfaction and career success, which was not supported in this study. Instead for apparel supply chain members, job satisfaction had a positive significant relationship on cross-functional team success not career success. This finding can be very helpful for managers, human resource

departments, and apparel organizations that may want to start focusing attention on their employees' current job satisfaction. Results indicate that if employees are not feeling satisfied in their job, it can have a negative effect on cross-functional team success and in turn, the global supply chain. Job satisfaction is again very separate from monetary motivations, which has been a widely practiced motivation tool (Arthur et al., 2005; Judge et al., 1994). In contrast to previous literature, apparel supply chain members may not be motivated by objective measures and results suggest they are motivated by feeling satisfied with their job. To ensure cross-functional team success, apparel organizations need to focus on motivating employees by giving clear job roles and expectations, providing development within job roles, and offering the appropriate resources to successfully carrying out job functions.

### **Education Contributions and Implications**

First, the study's results show that emotional intelligence is an important aspect of success in a job, career, and team. Academic units and educators need to incorporate emotional intelligence into their curriculum. Emotionally intelligent students may not only work better in teams and in their future organization but also in school and their personal life (Goleman, 2001). When students can not only identify and regulate their own emotions but also manage others' emotions, they will be better prepared to handle any environment, especially a hyper-dynamic work environment like the global apparel supply chain.

Second, the results suggest the need to teach cross-functional team dynamics early to students who plan to go into the global apparel supply chain. With many innovative and creative jobs, employees are being organized into diverse teams (Ha-Brookshire &

Hawley, 2013), not only within the organization but also across the supply chain.

Students need to learn how to work as a group, comprised of diverse members, such as design, product development, and merchandising emphasis, to accomplish shared goals and objectives. Commonly these cross-functional teams are tasked-based and temporary (Denison, Hart, & Kahn, 1996), which can easily be mimicked in the classroom. Group projects, presentations, and assignments can be utilized to teach students how to succeed in their environment by completing tasks and managing conflict that may arise within their group.

Third, the study's finding that objective career success did not have a relationship to team success in this study could be informative to educators and future supply chain members. Research had focused on objective career measures, such as income and promotions to predict career success (Arthur et al., 2005). However, this study's results showed that subjective measures of career success had a positive relationship with cross-functional team success. Educators may want to advise students to not just set goals that are monetarily measured, but develop their own individual appreciation and evaluation of their future career in the apparel industry. As Van Maanen (1977) found, subjective career success is a personal measure that encompasses several personal dimensions for an individual. Professional development may want to help students define those personal dimensions before going into the apparel industry to ensure career longevity in the apparel industry.

### **Limitations and Scope of Future Research**

As with any research, this study has certain limitations, thus leading to future research opportunities. First, the study's sample was comprised of participants who

reported high emotional intelligence and job satisfaction and thus the sample was skewed. Though the scores of EI and job satisfaction were used to describe the sample and was not a hypothesis, this could have affected the results. Previous literature showed that emotionally intelligent employees were more satisfied in their jobs, leading to success in their work environment and career (Kafetsios and Zampetakis's, 2008). Future research may aim for a normal distribution of these variables. Additionally, there could be value in testing the model with supply chain members with low EI or job satisfaction scores to understand the relationship with team success.

Second, emotional intelligence is a concept that is still difficult to measure. Since Mayer and Salovey (1990) developed the EI four-branch model, researchers have been trying to measure the concept both quantitatively and qualitatively. This study measured EI empirically, however, and relied on participants' self-awareness. A limitation with any survey is that the participants self-report and lower internal validity. Future research could aim to measure EI using other data collection methods. Much of EI is displayed within an environment and interaction with others. Both participant observation and experimental designs could elicit more insightful data and results.

Third, in analyzing successful and emotional intelligence by job position, there was a limitation due to sample size. This study's sample size was 135. When divided by the seven different job positions identified in the study, there was not data to statistically analyze and compare means. Future research, could collect more data, focusing on getting an equal distribution of supply chain members' job position to more deeply investigate this finding.

Fourth, the study found a post hoc path relationship between job satisfaction and cross-functional team success. Past research had found that job satisfaction resulted in many emotions in the work environment, including joy, which contributed to more successful outcomes in work groups (Fredrickson, 1998). However, future research may need to continue to provide research to fill in this literature gap. Global apparel supply chain members are a unique population (Dickens, 2011) and may be motivated differently than traditional business organizations. Interestingly, this study supports that job satisfaction has a higher effect on team success than subjective career success on team success. Future research may want to examine the relationships between these variables more closely, as previous literature has suggested that career success has a mediating effect between job satisfaction and team success. This study does not support that result for apparel supply chain members.

Fifth, though previous literature had measured career success in two dimensions (objective and subjective career success) (Judge et al., 1997), this study found the objective career success scale to be unreliable and therefore it was not used in the SEM analysis. This finding suggests that apparel supply chain members may not define income and promotions as a measure of career success. Future research needs to understand and create a measure to more accurately encompass the concept of career success for apparel supply chain members. Reexamining these concepts from the viewpoint of the apparel supply chain member may help in conceptualizing and recreating a more accurate career success scale for the apparel industry.

Sixth, the variable successful intelligence was not found to be significant in the hypothesized model. However, Sternberg (1999) had suggested a balanced intelligence in

analytic, creative, and practical leads to managerial success in the work environment. This study did use a modified SI scale that had been used to measure academic success (1997) and that may have limited the results. However, successful intelligence may be difficult to capture in the apparel industry. Future research may need to review the full SI scale and reduce it to a more accurate and manageable scale for the global apparel supply chain. Also, SI research has predominantly been qualitative, and more research needs to be done to empirically test and support the importance of SI in the global supply chain and work environment.

Seventh, the sample did not focus on demographic characteristics, specifically regional and cultural differences. The sample was global, however, cultural differences do exist. Future research could add to the supply chain literature on global differences and development of EI, job satisfaction, career success, and team success.

Finally, certain limitations existed due to the research design. The study's sample relied on snowball sampling, which may not be representative of the global supply chain population. Future research could aim to gather a larger number of participants, in addition to utilizing a randomized sampling technique. Potential future opportunities could partner with a specific organization within the supply chain, such as a defined factory, corporate office, or other, gain access to the organization's employee list, and then use random sampling to test the model.

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**APPENDIX A.**

**Preliminary Test's Institutional Review Board Approval,  
Recruitment Materials, and Consent**



**Campus Institutional Review Board**  
University of Missouri-Columbia

485 McReynolds Hall  
Columbia, MO 65211-1150  
PHONE: (573) 882-9585  
FAX: (573) 884-0663

November 25, 2014

Principal Investigator: McAndrews, Laura Ellen  
Department: Textile and Apparel Mgmt

Your Application to project entitled *The impact of Textile and Apparel educators' multiple intelligence on their job satisfaction and career success* was reviewed and approved by the MU Campus Institutional Review Board according to terms and conditions described below:

IRB Project Number	1214461
Initial Application Approval Date	November 25, 2014
IRB Expiration Date	November 25, 2015
Level of Review	Exempt
Project Status	Active - Open to Enrollment
Regulation	45 CFR 46.101b(2)
Risk Level	Minimal Risk

The principal investigator (PI) is responsible for all aspects and conduct of this study. The PI must comply with the following conditions of the approval:

1. No subjects may be involved in any study procedure prior to the IRB approval date or after the expiration date.
2. All unanticipated problems, serious adverse events, and deviations must be reported to the IRB within 5 days.
3. All modifications must be IRB approved by submitting the Exempt Amendment prior to implementation unless they are intended to reduce risk.
4. All recruitment materials and methods must be approved by the IRB prior to being used.
5. The Annual Exempt Form must be submitted to the IRB for review and approval at least 30 days prior to the project expiration date.
6. Maintain all research records for a period of seven years from the project completion date.
7. Utilize the IRB stamped document informing subjects of the research and other approved research documents located within the document storage section of eIRB.

If you have any questions, please contact the Campus IRB at 573-882-9585 or [umcresearchcirb@missouri.edu](mailto:umcresearchcirb@missouri.edu).

Thank you,

Charles Borduin, PhD  
Campus IRB Chair

**The impact of Textile and Apparel educators' multiple intelligence  
on their job satisfaction and career success**

We are conducting a study researching ITAA educators' multiple intelligence and their relationship to job satisfaction and career success. We know each of you would have great insight in this topic and would be so grateful if you would be willing to take a short survey.

Below is the link to the survey. All responses and results will be anonymous. Please click the link to take the survey.

By completing the survey, you agree that you understand the procedures and any risks and benefits involved in this research. You are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice; your participation is entirely voluntary. Your privacy will be protected, as all the information strictly anonymous. If you have any questions concerning your rights as a participant, you may contact Campus Institutional Review Board at 573-882-9585 and reference the Project # 1214461. If you have any questions regarding the research itself, you may contact Laura Mc Andrews at [lemq63@mail.missouri.edu](mailto:lemq63@mail.missouri.edu) and/or Dr. Jung Ha-Brookshire at [habrookshirej@missouri.edu](mailto:habrookshirej@missouri.edu).

I am so thankful for your time and participation in helping me collect data and furthering the knowledge in our industry.

Thank you in advance for your time!

**Campus IRB Use Only**

Approval Date: 11/25/2014

IRB Project Number: 1214461

## **APPENDIX B.**

### **Preliminary Test's Survey Instrument**

Q1 The below statements are a list of activities. Read each statement. If the statement expresses an activity you enjoy or like to do, click the box next to the statement. If the statement is sometimes true, sometimes false, leave it blank.

- Analyzing characters when I'm reading or listening to a story (1)
- Designing new things (2)
- Taking things apart and fixing them (3)
- Comparing and contrasting points of view (4)
- Coming up with ideas (5)
- Learning through hand-on activities (6)
- Criticizing my own ideas and others' work (7)
- Using my imagination (8)
- Putting into practice things I learned (9)
- Thinking clearly and analytically (10)
- Thinking of alternative solutions (11)
- Working with people in teams or groups (12)
- Solving logical problems (13)
- Noticing things others often ignore (14)
- Resolving conflicts (15)
- Evaluating my own and others' point of view (16)
- Thinking in pictures and images (17)
- Advising friends on their problems (18)
- Explaining difficult ideas or problems to others (19)
- Supposing things were different (20)
- Convincing someone to do something (21)
- Making inferences and deriving conclusions (22)
- Drawing (23)
- Learning by interacting with others (24)
- Sorting and classifying (25)
- Inventing new words, games, approaches (26)
- Applying my knowledge (27)
- Using graphic organizers or images to organize your thoughts (28)
- Composing (29)
- Adapting to new situations (30)

Q2 The below statements describes situations and experiences that you may be exposed to at some part of your life. Be as honest as possible when answering.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I have a good sense of why I have certain feelings most of the time (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have trouble understanding of my own emotions (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I really understand what I feel (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always know whether or not I am happy (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always know my friends' emotions from their behavior (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a good observer of others' emotions (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am sensitive to the feelings and emotions of others (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confused by the emotions of people around me (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always set goals for myself and then try my best to achieve them (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always tell myself I am a competent person (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have trouble motivating myself (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would always encourage myself to try my best (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to control my temper and handle difficulties rationally (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I struggle controlling my own emotions (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can always calm down quickly when I am very angry (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have good control of my own emotions (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3 Some jobs are more interesting and satisfying than others. We want to know how people feel about different jobs. The following are statements about jobs. You are to choose the phrase which describes how you feel about your present job. There are no right or wrong answers. We would like your honest opinion on each one of the statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I know what is expected of me at work (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have the materials and equipment I need to do my work right (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At work, I have the opportunity to do what I do best every day (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last seven days, I have received recognition or praise for doing good work (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor, or someone at work, seems to care about me as a person (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is someone at work who encourages my development (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At work, my opinions seem to count (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The mission/purpose of my organization makes me feel my job is important (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My associates (fellow employees) are committed to doing quality work (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a best friend at work (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last six months, someone at work has talked to me about my progress (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This last year, I have had opportunities at work to learn and grow (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4 The below statements refer to your overall opinions and/or feelings about your career. Read each statement and answer honestly.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I am satisfied with the success I have achieved in my career (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the progress I have made toward meeting my overall career goals (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the progress I have made toward meeting my goals for income (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the progress I have made toward meeting my goals for advancement (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the progress I have made toward meeting my goals for the development of new skills (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10 We are trying to understand how people feel about their work teams or groups. For the following statements, think about the teams you work with most of the time at work. This could refer to your department, college, and/or university.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
My Team works effectively together (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the quality of work my team achieves (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My team is open to hearing new ideas for all members to create new products (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team tasks are completed on time (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My team adheres to given budget and costing goals (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My team achieves work excellence (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5 What is your age?

- Choose from drop down

Q6 What gender do you identify with most?

- Male (1)
- Female (2)
- Other (3)

Q14 How would you identify your cultural ethnicity?

- Asian/Pacific Islanders (1)
- African American (2)
- Latino (4)
- Caucasian (5)
- Other (6) \_\_\_\_\_

Q11 How many years have you been working in academia?

Q12 How many year (if any) did you work in the apparel and/or textile industry?

Q13 What is your current job position?

- Department Chair (1)
- Full Professor (2)
- Associate Professor (3)
- Assistant Professor (4)
- Non-Tenure Instructor (5)
- Other (6) \_\_\_\_\_

Q15 What is your approximate annual income (including bonuses and other incentives)?

- \$0-9,999 (1)
- \$10,000-19,999 (2)
- \$20,000-29,999 (3)
- \$30,000-39,999 (4)
- \$40,000-49,999 (5)
- 50,000-59,999 (6)
- \$60,000-69,999 (7)
- \$70,000-79,999 (8)
- \$80,000-89,999 (9)
- \$90,000-99,999 (10)
- \$100,000-120,000 (11)
- Other (12) \_\_\_\_\_

Q16 How many position advancements have you had with your current employer?

- Choose from drop down

Q17 How many promotions have you had during your entire career?

- Choose from drop down

**APPENDIX C.**

**Full Study's Institutional Review Board Approval, Recruitment Materials, and  
Consent Forms**



**Institutional Review Board**  
University of Missouri-Columbia

190 Galena Hall; Dc074.00  
Columbia, MO 65212  
573-882-3181  
irb@missouri.edu

January 9, 2015

Principal Investigator: Laura Ellen McAndrews  
Department: Textile and Apparel Mgmt

Your Exempt Application to project entitled The impact of multiple intelligences on job satisfaction and career success in the apparel and textile industry was reviewed and approved by the MU Institutional Review Board according to terms and conditions described below:

IRB Project Number	1214694
Approval Date of this Review	January 09, 2015
IRB Expiration Date	January 09, 2016
Level of Review	Exempt
Project Status	Active - Open to Enrollment
Risk Level	Minimal Risk

The principal investigator (PI) is responsible for all aspects and conduct of this study. The PI must comply with the following conditions of the approval:

1. No subjects may be involved in any study procedure prior to the IRB approval date or after the expiration date.
2. All unanticipated problems, adverse events, and deviations must be reported to the IRB within 5 days.
3. All changes must be IRB approved prior to implementation unless they are intended to reduce immediate risk.
4. All recruitment materials and methods must be approved by the IRB prior to being used.
5. The Annual Exempt Form must be submitted to the IRB for review and approval at least 30 days prior to the project expiration date. If the study is complete, the Completion/Withdrawal Form may be submitted in lieu of the Annual Exempt Form
6. Maintain all research records for a period of seven years from the project completion date.
7. Utilize the IRB stamped consent documents and other approved research documents located within the document storage section of eIRB. These documents are highlighted green.

If you have any questions, please contact the IRB at 573-882-3181 or irb@missouri.edu.

Thank you,  
MU Institutional Review Board

Date:

Dear XX,

I am writing to you in regards to my dissertation study. As many of you know, I am working towards my Ph.D. in the Department of Textile and Apparel Management at the University of Missouri and I need your help in two ways. First, I am hoping you would be able to take part in my research study, which is trying to understand people's abilities working in the fashion and apparel industry and how these abilities could affect your job satisfaction and overall success in your career. I know each of you would have great insight in this topic and I would be so grateful if you would be willing to take a short survey.

The second way I need your help is to forward on my research survey to other people working in the fashion and apparel industry. I understand that you and others working in the industry are very busy and your time is valuable, however the success and quality of my study is dependent on your help.

Below is the link to my survey. All responses and results are completely anonymous. Please click the link to take the survey and please forward on this email and/or link to anyone working in the fashion and apparel industry here in the U.S. or overseas.

By completing the survey, you agree that you understand the procedures and any risks and benefits involved in this research study. You are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice; your participation is entirely voluntary. Your privacy will be protected because you will not be identified by name as a participant in this project. Your privacy will be protected, as all the information strictly anonymous. If you have any questions concerning your rights as a participant, you may contact Campus Institutional Review Board at 573-882-9585 and reference Project #1214694. If you have any questions regarding the research itself, you may contact Laura Mc Andrews at [lemq63@mail.missouri.edu](mailto:lemq63@mail.missouri.edu) and/or Dr. Ha-Brookshire at [habrookshirej@missouri.edu](mailto:habrookshirej@missouri.edu).

I am so thankful for your time and participation in helping me collect data for this research study and furthering the knowledge in our industry.

Thank you in advance for your time!  
Laura

**The impact of multiple intelligences  
on job satisfaction and career success  
in the apparel and textile industry**

We are conducting a research study investigating multiple intelligence and their relationship to job satisfaction and career success in the apparel and textile industry. We know each of you would have great insight in this topic and would be so grateful if you would be willing to take a short 10-15 minute survey.

By checking the below box, you agree that you understand the procedures and any risks and benefits involved in this research. You are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice; your participation is entirely voluntary with no risks. Your privacy will be protected, as all the information strictly anonymous. All participants must be 18 years of age or older to participate. If you have any questions concerning your rights as a participant, you may contact Campus Institutional Review Board at 573-882-9585 and reference the Project # 1214694. If you have any questions regarding the research itself, you may contact Laura Mc Andrews at [lemq63@mail.missouri.edu](mailto:lemq63@mail.missouri.edu) and/or Dr. Jung Ha-Brookshire at [habrookshirej@missouri.edu](mailto:habrookshirej@missouri.edu).

We are so thankful for your time and participation in helping collect data and furthering the knowledge in our industry. Your help will be benefiting how we educate and train future apparel and textile workers.

Thank you in advance for your time!

**APPENDIX D.**

**Full Study's Survey**

We are conducting a research study investigating multiple intelligence and their relationship to job satisfaction and career success in the apparel and textile industry. We know each of you would have great insight in this topic and would be so grateful if you would be willing to take a short 10-15 minute survey. By checking the below box, you agree that you understand the procedures and any risks and benefits involved in this research. You are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice; your participation is entirely voluntary with no risks. Your privacy will be protected, as all the information strictly anonymous. All participants must be 18 years of age or older to participate. If you have any questions concerning your rights as a participant, you may contact Campus Institutional Review Board at 573-882-9585 and reference the Project # 1214694. If you have any questions regarding the research itself, you may contact Laura Mc Andrews at lem63@mail.missouri.edu and/or Dr. Jung Ha-Brookshire at habrookshirej@missouri.edu. We are so thankful for your time and participation in helping collect data and furthering the knowledge in our industry. Your help will be benefiting how we educate and train future apparel and textile employees. Thank you in advance for your time!

By checking, I agree to the above terms and will continue to participate.

Q1 The below statements are a list of activities. Read each statement. If the statement expresses an activity you enjoy or like to do, click the box next to the statement. If the statement is sometimes true, sometimes false, leave it blank.

- Analyzing characters when I'm reading or listening to a story (1)
- Designing new things (2)
- Taking things apart and fixing them (3)
- Comparing and contrasting points of view (4)
- Coming up with ideas (5)
- Learning through hand-on activities (6)
- Criticizing my own ideas and others' work (7)
- Using my imagination (8)
- Putting into practice things I learned (9)
- Thinking clearly and analytically (10)
- Thinking of alternative solutions (11)
- Working with people in teams or groups (12)
- Solving logical problems (13)
- Noticing things others often ignore (14)
- Resolving conflicts (15)
- Evaluating my own and others' point of view (16)
- Thinking in pictures and images (17)
- Advising friends on their problems (18)
- Explaining difficult ideas or problems to others (19)
- Supposing things were different (20)
- Convincing someone to do something (21)
- Making inferences and deriving conclusions (22)
- Drawing (23)
- Learning by interacting with others (24)
- Sorting and classifying (25)
- Inventing new words, games, approaches (26)
- Applying my knowledge (27)
- Using graphic organizers or images to organize your thoughts (28)
- Composing (29)
- Adapting to new situations (30)

Q2 The below statements describe situations and experiences that you may be exposed to at some part of your life. Be as honest as possible when answering.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I have a good sense of why I have certain feelings most of the time. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have trouble understanding of my own emotions. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I really understand what I feel. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always know whether or not I am happy. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always know my friends' emotions from their behavior. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a good observer of others' emotions. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am sensitive to the feelings and emotions of others. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confused by the emotions of people around me. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always set goals for myself and then try my best to achieve them. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always tell myself I am a competent person. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have trouble motivating myself. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would always encourage myself to try my best. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to control my temper and handle difficulties rationally. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I struggle controlling my own emotions. (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can always calm down quickly when I am very angry. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have good control of my own emotions. (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3 Some jobs are more interesting and satisfying than others. We want to know how people feel about different jobs. The following are statements about jobs. You are to choose the phrase which describes how you feel about your present job. There are no right or wrong answers. We would like your honest opinion on each one of the statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I know what is expected of me at work. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have the materials and equipment I need to do my work right. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At work, I have the opportunity to do what I do best every day. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I never receive recognition or praise for doing good work. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor, or someone at work, seems to care about me as a person. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is someone at work who encourages my development. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At work, my opinions seem to count. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The mission/purpose of my organization makes me feel my job is important. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My associates (fellow employees) are committed to doing quality work. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have no close friends at work. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last six months, someone at work has talked to me about my progress. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the last year, I have had opportunities at work to learn and grow. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4 Apart from your current job and/or position, we now want you to reflect on your overall career you have had to date. The below statements refer to your overall opinions and/or feelings about your career. Read each statement and answer honestly.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I am satisfied with the success I have achieved in my career. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the progress I have made toward meeting my overall career goals. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the progress I have made toward meeting my goals for income. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the progress I have made toward meeting my goals for advancement. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the progress I have made toward meeting my goals for the development of new skills. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5 We are trying to understand how people feel about their work teams or groups. For the following statements, think about the teams you work with most of the time at work. This could refer to your cross-functional team or product category team.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neutral (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
My team works effectively together. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am often dissatisfied with the quality of work my team achieves. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My team is open to hearing new ideas from all members to create new products. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team tasks are completed on time. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My team adheres to given budget and costing goals. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My team achieves work excellence. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following demographic questions help give us a better picture of who works in the apparel and textile industry. Please help to answer the below questions as accurately and honestly as possible. Again, all response are completely anonymous.

Q6 What is your age?

- Choose from drop down

Q7 What gender do you identify with most?

- Male (1)
- Female (2)
- Other (3)
- Rather not say (4)

Q8 How would you identify your ethnicity?

- Asian/Pacific Islanders (1)
- Black or African American (2)
- Hispanic or Latino (4)
- White or Caucasian (5)
- Native American or American Indian (7)
- Rather not say (8)
- Other (Please Specify) (6) \_\_\_\_\_

Q9 Where is your primary work location (by region)?

- North America (1)
- Central America and Caribbean (2)
- South America (3)
- Europe (4)
- Asia (5)
- Africa (6)
- Australia and Oceania (7)
- Rather not say (9)
- Other (Please Specify) (8) \_\_\_\_\_

Q10 How many years have you been working in the textile and/or apparel industry?

- Choose from drop down

Q11 In general, which job function best describes your current position?

- Designer (1)
- Product Development (2)
- Buyer (3)
- Merchandiser (4)
- Technical Designer (5)
- Production (9)
- Sourcing (10)
- Research and Development (fabric, trim, etc) (7)
- Other (Please Specify) (6) \_\_\_\_\_

Q12 In US Dollars (\$), what is your approximate annual income (including bonuses and other incentives)?

- Choose from drop down

Q13 How many years have you worked for your current employer?

- Choose from drop down

Q14 How many position advancements have you had with your current employer?

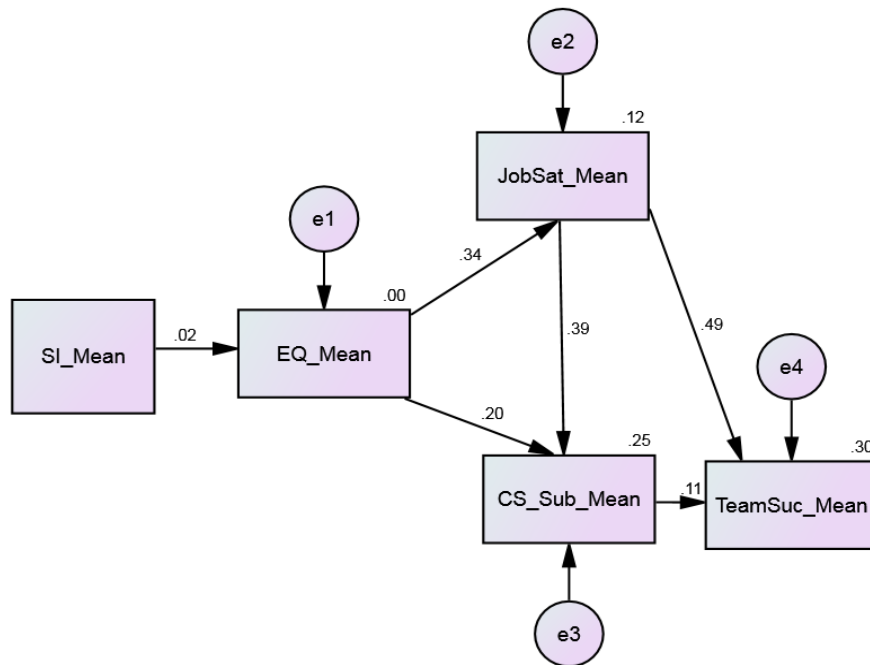
- Choose from drop down

Q15 How many promotions have you had during your entire career?  
 Choose from drop down

## **APPENDIX E.**

### **Path Analysis AMOS Output**

## Path Analysis Model in Amos with Model Fit Output



The model is recursive.  
Sample size = 135

### Variable Summary (Group number 1)

#### Your model contains the following variables (Group number 1)

Observed, endogenous variables  
JobSat\_Mean  
EQ\_Mean  
CS\_Sub\_Mean  
TeamSuc\_Mean  
Observed, exogenous variables  
SI\_Mean

Unobserved, exogenous variables  
 e2  
 e3  
 e4  
 e1

**Variable counts (Group number 1)**

Number of variables in your model: 9  
 Number of observed variables: 5  
 Number of unobserved variables: 4  
 Number of exogenous variables: 5  
 Number of endogenous variables: 4

**Parameter Summary (Group number 1)**

	Weights	Covariances	Variances	Means	Intercepts	Total
Fixed	4	0	0	0	0	4
Labeled	0	0	0	0	0	0
Unlabeled	6	0	5	1	4	16
Total	10	0	5	1	4	20

**Sample Moments (Group number 1)**

**Sample Covariances (Group number 1)**

	SI_Mean	EQ_Mean	JobSat_Mean	CS_Sub_Mean	TeamSuc_Mean
SI_Mean	1.020				
EQ_Mean	.009	.248			
JobSat_Mean	.058	.134	.621		
CS_Sub_Mean	.006	.175	.382	1.114	
TeamSuc_Mean	-.011	.132	.328	.273	.601

Condition number = 7.997

Eigenvalues

1.552 1.023 .564 .271 .194

Determinant of sample covariance matrix = .047

**Sample Correlations (Group number 1)**

	SI_Mean	EQ_Mean	JobSat_Mean	CS_Sub_Mean	TeamSuc_Mean
SI_Mean	1.000				
EQ_Mean	.017	1.000			
JobSat_Mean	.073	.342	1.000		
CS_Sub_Mean	.006	.334	.459	1.000	
TeamSuc_Mean	-.014	.342	.537	.333	1.000

Condition number = 5.123

Eigenvalues

2.184 1.005 .715 .669 .426

**Sample Means (Group number 1)**

	SI_Mean	EQ_Mean	JobSat_Mean	CS_Sub_Mean	TeamSuc_Mean
	2.011	5.482	5.178	5.004	5.176

**Maximum Likelihood Estimates**

**Regression Weights: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
EQ_Mean <--- SI_Mean	.008	.043	.198	.843	
JobSat_Mean <--- EQ_Mean	.542	.129	4.217	***	
CS_Sub_Mean <--- JobSat_Mean	.523	.107	4.893	***	
CS_Sub_Mean <--- EQ_Mean	.424	.169	2.504	.012	
TeamSuc_Mean <--- CS_Sub_Mean	.081	.060	1.350	.177	
TeamSuc_Mean <--- JobSat_Mean	.478	.080	5.965	***	

**Standardized Regression Weights: (Group number 1 - Default model)**

	Estimate
EQ_Mean <--- SI_Mean	.017
JobSat_Mean <--- EQ_Mean	.342
CS_Sub_Mean <--- JobSat_Mean	.391
CS_Sub_Mean <--- EQ_Mean	.200
TeamSuc_Mean <--- CS_Sub_Mean	.110
TeamSuc_Mean <--- JobSat_Mean	.486

**Model Fit Summary**

**CMIN**

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	16	5.711	4	.222	1.428
Saturated model	20	.000	0		
Independence model	10	107.613	10	.000	10.761

**Baseline Comparisons**

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.947	.867	.983	.956	.982
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

**Parsimony-Adjusted Measures**

Model	PRATIO	PNFI	PCFI
Default model	.400	.379	.393
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

**NCP**

Model	NCP	LO 90	HI 90
Default model	1.711	.000	12.306
Saturated model	.000	.000	.000
Independence model	97.613	67.940	134.747

**FMIN**

Model	FMIN	F0	LO 90	HI 90
Default model	.043	.013	.000	.092
Saturated model	.000	.000	.000	.000
Independence model	.803	.728	.507	1.006

**RMSEA**

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.056	.000	.152	.374
Independence model	.270	.225	.317	.000

**AIC**

Model	AIC	BCC	BIC	CAIC
Default model	37.711	39.211		
Saturated model	40.000	41.875		
Independence model	127.613	128.551		

**ECVI**

Model	ECVI	LO 90	HI 90	MECVI
Default model	.281	.269	.360	.293
Saturated model	.299	.299	.299	.313
Independence model	.952	.731	1.229	.959

**HOELTER**

Model	HOELTER	HOELTER
	.05	.01
Default model	223	312
Independence model	23	29

## VITA

Laura Mc Andrews was born in Sioux City, on January 22<sup>nd</sup>, 1980. She attend primary school in both Iowa and Kansas, before graduating from Shawnee Mission Northwest High School in 1998. Laura earned her B.S. degree in 2001 from Kansas State University majoring in Apparel and Textile Merchandising. She then moved to New York City and received her A.A.S. degree in Fashion Design from Parson's School of Design. From 2002 to 2010, she worked in product development and design for brands such as Ralph Lauren Children's Wear, The Gap, and Anthropologie.

After nine years working in the New York and Philadelphia fashion industry, Laura discovered a new passion for teaching and mentoring and thought this could be better utilized in higher education. She then quit her job and decided to go to graduate school at the University of Missouri with the intention of achieving both her M.S. and Ph.D. so she could eventually become a professor at a University.

While here five years at the University of Missouri, Laura has been involved in several passions outside her academic department. Since 2011, she has been the Lead of the Yoga and Pilate's area at Mizzou's Rec Facility, teaching both yoga and Pilates. She has served on Truman's Closet executive board as PR chair, as well as, Vice President and President of the Graduate Student Association in Textile and Apparel Management. Additionally, Laura is very proud to have been a part of the Graduate Leadership Program, working and learning from other Ph.D students across the Missouri system.

Finally, Laura is thrilled to have accepted an Assistant Professor position at the University of Georgia starting in August 2015. She will be the Apparel Design and Development professor in the Textile, Merchandising, and Interior Design department with the College of Family Consumer Sciences.