

MCMURRY, SUMMER V., Ph.D. Quantifying the Qualities of Team Players Using the Lencioni Framework of Humble, Hungry, and Smart: Considerations for Team Science and Interprofessional Collaborative Practice in Health Organizations and Academic Programs. (2019)

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The purpose of this study was to explore and quantify 3 qualities of team players using Patrick Lencioni's framework for the Ideal Team Player by examining drive or motivation to achieve (hungry), emotional intelligence and interpersonal relationship skills (smart), and humility (humble). The relationship between the 3 qualities and team ratings of participant leadership effectiveness and competence, as well as likelihood for career derailment and career-stalling problems, were also examined.

This was an exploratory, correlational design that involved secondary data analyses of a large dataset using a 5-step hierarchical regression analysis. Deidentified participant data were collected through random selection by means of a data request from the Center for Creative Leadership's participant database.

The results showed that while Hungry was a statistically significant predictor of Boss Ratings of a team member/manager's effectiveness and the Team's ratings of Competence, Smart and Humble were not. While there was statistical significance for Hungry, there were not for Humble and Smart, indicating some limitations to the study design.

In practice, the results of the study provide a valuable framework for improving teamwork through team development interventions applied at the individual and the group level and can be applied to Interprofessional Education and Collaborative Practice at the pre- and in-service level.

This is the first study to explore humility, emotional intelligence, drive, and motivation together in relation to performance ratings and to translate the findings into practical application for the healthcare industry.

Keywords: IPE/IPP, Teamwork, Team Interventions, Team Science, Big Five Personality, Humility, Motivation, Emotional Intelligence, job performance, contextual performance

QUANTIFYING THE QUALITIES OF TEAM PLAYERS USING THE LENCIONI
FRAMEWORK OF HUMBLE, HUNGRY, AND SMART: CONSIDERATIONS
FOR TEAM SCIENCE AND INTERPROFESSIONAL COLLABORATIVE
PRACTICE IN HEALTH ORGANIZATIONS AND
ACADEMIC PROGRAMS

by

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Approved by

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To the MacsFive Crew . . . I love you. Infinity.
You're my favorites.

APPROVAL PAGE

This dissertation, written by Summer V. McMurry, has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro.

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PREFACE

My journey to team science research came through many years of building and developing interprofessional collaborative practice teams. As a Speech-Language Pathologist, I have been afforded many opportunities to observe, work as a part of, and troubleshoot the obstacles teams face in various settings. Over the years of building a multi-specialty healthcare company, my role has shifted from clinical practitioner to professional team developer. My clinical skills have been the scaffolding for my developer skills in unexpected overlap.

As most research starts, my interest in this topic came through looking for practical solutions to real-world challenges. My research has been informed by my experience and inspired by my team. There is a significant impact that strong teams can have on the quality of healthcare and the wellbeing of the providers within a health organization. Dysfunctional teams can impair both. Creating effective teams is difficult. Maintaining and developing them consistently is arduous. It takes persistence, resilience, and grit!

A growing company is ever-evolving and adapting, as is the healthcare industry climate in general. As the size of an organization grows above the 100-person mark, more standardization and systematizing of processes is needed. In 2014-2015, our company had reached that point, and we were looking for solutions to improve our team cohesion and collaboration. At the time, our organization was operating in a more silo-structured manner, like individual spokes on a bicycle wheel, rather than as a truly collaborative

team of professionals. The recruitment, selection, development, and retention of employees had become quite a challenge as we outgrew old systems and processes. We focused our efforts on organizational structure, leadership, environment/culture, team, and individual interventions that could bring our team into a more collaborative practice model.

We had instinctively tried a number of team interventions that we hoped would work. For example, I knew that for our team to become more cohesive, the team members needed to spend more time together to build relationships of trust. Much of our work was home- and community-based, allowing sparse opportunities for clinicians to connect and communicate. So we created smaller regional teams structured as professional learning communities meant to provide this opportunity. We also began to establish community outreach clinics that would become anchor points for each of the regional teams. That was the beginning of our positive change toward collaborative care. Another intervention was targeted toward our leadership team in which we had selected a number of books we would read together and discuss weekly at our leadership meetings. When we came upon the framework from Patrick Lencioni's book *The Ideal Team Player*, it resonated with us and changed our perspective on the way that we address the issues of organizational values, culture, and team composition.

We are a healthcare team striving for interprofessionalism at its highest, most excellent level. The children and families we serve have complex challenges, from feeding and swallowing disorders, cleft lip and palate, autism, and augmentative and

alternative communication needs, to a number of physical, psychological, socioeconomic, social-emotional challenges and trauma. The work we do is extremely complex. There are many moving parts. So we need a team that works effectively together to care for our patients and to support one another in our efforts.

I was given the opportunity to lead teams very early in my career in community organizations and then in my own company. This has given me many years to implement interventions, succeed with some, make mistakes with others, and to learn from every one of them. Composing effective teams continues to baffle us at times. There are still many questions that remain unanswered. Many variables affect our success, but we are getting better at it every day!

When I enrolled in the IDEALL-CSD Ph.D. program in 2016, I was a part of Dr. Billy T. Ogletree's advanced seminar on AAC. As a mentor to me over the last 20 years, I have been influenced a great deal by his research in Interprofessional Education and Collaborative Practice (IPE/IPP) and provider-caregiver partnerships. During that seminar, he shared a manuscript with me prior to its publication in a 2017 ASHA Interprofessional Collaborative Practice forum. He described some of the qualities that effective IPP teams should possess, but recognized the reality that the qualities are difficult to teach and measure. This was a launching point for me. I wondered if qualities of team members could be quantified, and if so, what considerations might they bring to how we implement IPE/IPP. I decided I would try.

At the time I read Dr. Ogletree's manuscript, I had been introduced to Interprofessional Education and Collaborative Practice research, but was unaware that there was an entire broad field of research called Team Science. Once I discovered it, I knew it was an area where I could help solve real-world problems and apply them. It could produce a lifetime of research opportunities to solve real challenges in the healthcare industry, while also being applicable to any organization that needs teamwork to solve complex issues. That is where this journey began. The exciting part is that by improving teamwork we can improve the quality of care for our patients and the quality of life for our teammates. If applied at the pre-service and in-service levels, it can bring about systemic change for the greater good.

In this research project, I explore and begin to refine the model for quantifying the qualities of team players. I make several leaps that could prove to be an exciting launch point at the intersection of Interprofessional Collaborative Practice, Team Science, and Communication Sciences and Disorders research.

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CHAPTER I

INTRODUCTION

Statement of the Problem and Purpose of the Study

Teamwork is essential to solving the complex problems of today. Yet, putting an effective team together is challenging. There are many barriers to teamwork across industries, but for teams in industries such as the military, aviation, and healthcare, the stakes are high when teams do not work well together. Failure to work together can sabotage the mission, endanger human lives, and compromise patient care. Putting together the right team for the task at hand is vital for success. However, this is easier said than done.

The challenge has sparked an entire field of research in personnel psychology and team science where researchers are working to understand what makes teams and the individuals on those teams effective. These scientists examine areas such as organizational climate and culture for teamwork, organization and team structure, barriers to teamwork, qualities of effective teams, team interventions, and team composition with the idea that understanding these components of teamwork will ultimately help build high performance, collaborative teams.

Work in the science of teams has pushed forward efforts in the development of teamwork interventions. Team interventions can be effective at improving teamwork and can be implemented at multiple points within the organization. Interventions can be team-

or group-oriented as well as administered at the individual level through coaching for performance management. To develop team member selection criteria as well as team interventions that are effective, it is important to understand what qualities teams and team members should possess to be most effective at their taskwork and teamwork. The individual qualities are referred to in team science literature as team composition and will be the primary focus of this study (Aguinis, 2013).

Effective teaming is also vital to quality healthcare, yet not all teams are effective. The current healthcare climate's call for interprofessional education and collaborative practice increases the need to educate pre-professional practitioners to operate on inter-professional teams and requires practitioners to provide higher quality of care with fewer resources. More than ever before in the history of healthcare, teamwork is an essential skill. The healthcare industry has much to learn from Team Science, and Team Science has much to learn from the healthcare industry.

The role of leadership in organizations is invaluable, and, according to Clifton and Harter (2019), the managers hold the key to worker engagement and ultimately, their effectiveness on the team. If this is true, then we need to understand not only what environment and factors contribute to teamwork, but also what qualities are needed for a person to be seen as effective and competent by their team. Effectiveness and competence build trust on teams, and trust is foundational to knowledge sharing and positive interpersonal interactions that contribute to collaboration on teams.

The qualities contributing to effective teams have yet to be clearly identified and described. This study explores a framework for developing Teamwork interventions

using Patrick Lencioni's framework for an Ideal Team Player of Humble, Hungry, and Smart. Direction for general industry and healthcare industry team science pre-service learning, hiring practices, and leadership expectations and training are explored. Findings are translated to team work in the healthcare and other industries, as well as the role of the speech-language pathologist (SLP) in team science as members of the interprofessional collaborative practice team.

Initially, this researcher set out to answer the questions: "*What qualities are important to teamwork?*"; "*What are the characteristics that effective, high performance teams share?*"; and "*What individual level characteristics make an ideal team player?*" This doctoral dissertation project examines one theory or framework behind what makes an ideal team player in an effort to contribute to the body of team science literature. The design of the study is correlational and exploratory. It quantifies the qualities of team players to determine if a single variable and/or combination of the variable personality traits, virtues, or characteristics of "humble," "hungry," and "smart" are associated with, predictive of, or can provide explanation for boss and team perceptions of a manager-leader-teammate effectiveness and competence. Pearson correlation and hierarchical regression analyses are the statistical measures utilized for the primary research questions. Independent samples *t*-tests are also utilized for follow-up in the discussion. Using Lencioni's Ideal Team Player virtues, two guiding questions emerged. Do Hungry, Humble, and Smart have a relationship with or predict boss and team ratings of effectiveness and competence or likelihood to derail or demonstrate problems that could

stall their career? Is there one virtue that is more predictive than the others, or is it the combination of all three?

Results inform the discussion and can be translated into practical applications for furthering the study of team science, including interprofessional education and collaborative practice (IPE/IPP) at the pre-service and in-service professional levels in the healthcare industry. It may provide direction for the selection, building, and development of collaborative practice teams in healthcare and other industry, and may further the development of team interventions that build and sustain collaborative organizational cultures. Finally, it may create a launch point for a series of future related research studies in team science and IPE/IPP.

CHAPTER II

LITERATURE REVIEW

History of Team Building

People have been working together when complex problems arise throughout history. From the earliest history, people formed groups, tribes, villages, and societies, working together as a means of survival, meeting the basic human needs of food, shelter, protection, and social connection.

Interest in the idea of “teaming” has been studied extensively for the last 100 years, as researchers began to look at how people work together. Much of this interest in how people work together was stimulated by the industrial age as work became more complex and efficiency became important to the production process. The advent of the assembly line brought about division of responsibility, cost effectiveness, productivity, and the ability to do more with fewer resources. Technological advances provided automation, bringing with it work that has more of a cognitive load than a physical demand.

The emergence of the team idea can be traced back to the late 1920s and early 1930s with the now classic Hawthorne Studies. These studies involved a series of research activities designed to examine in-depth what happened to a group of workers under various conditions. After much analysis, the researchers agreed that the most significant factor was the building of a sense of group identity, a feeling of social support

and cohesion that came with increased worker interaction. Elton Mayo (1933), one of the original researchers, pointed out certain critical conditions which were identified for developing an effective work team:

- The manager or chief observer had a personal interest in each person's achievement.
- He took pride in the record of the group.
- He helped the group work together to set its own conditions of work.
- He faithfully posted the feedback on performance.
- The group took pride in its own achievements and had the satisfaction of outsiders showing interest in what they did.
- The group did not feel they were being pressured to change.
- Before changes were made, the group was consulted.
- The group developed a sense of confidence and candor. (as cited in J. L. Dyer, 1984)

These research findings spurred companies to seriously consider the idea of grouping their employees into effective work teams, and to this day, they are still important considerations for human resources developers (J. L. Dyer, 1984). These early studies sparked creativity and innovation in the way that teams were set up. Along with these innovations, the field of team science research was born.

The importance of teamwork has been recognized in many major industries from military, aviation, technology, space exploration and more recently, education and healthcare. Team science initially became more of a national focus, and the study of

teamwork an implied mandate, in 1988, during the Persian Gulf War. A tragedy occurred when the U.S. military mistook a commercial airliner for an Iranian fighter jet and accidentally ensued fire on the airliner. Two hundred ninety people lost their lives due to an error caused by poor communication among the military team. Investigations pointed to failed communication and breakdown in teamwork processes. Another incident from aviation occurred when a U.S. commercial airliner crashed after running out of fuel. Follow-up investigations showed that the pilot ignored team communications regarding the plane's status. Once again, poor teamwork, specifically communication failures was to blame. Following these incidents that made national headlines, team scientists began to observe U.S. Navy teams. Through their observations, Morgan et al. (1986) identified two broad categories of knowledge and skills: Taskwork and Teamwork. By 1995, McIntyre and Salas had described the importance of both taskwork and teamwork which launched a number of theories around team effectiveness. By the 2000s, team research began to solve real-world problems with team training and included industries such as NASA, the military, and aviation. By this time, the team idea had also emerged in education and healthcare (Bisbey, Reyes, Taylor, & Salas, 2019).

As major world crises such as war and infectious epidemics have threatened the populations and created more complexity, it has become apparent that there is an even greater advantage to working together. Over the last 50 years, we have realized that teams are the best way to solve complex issues. This enlightenment ignited team science research, and the fields of psychology, business, human resources, and others became involved in team science. Innovations in teaming have fueled the examination of

teamwork. Researchers continue to discover and define the most effective ways to lead, interact, and be a team player.

Innovations in Teaming in Education and Healthcare

In the 1950s, Whitehouse (1951) called for educators to work on a collaborative approach to education. Garrett (1955) posed the idea of human services professionals working collaboratively in the provision of healthcare (J. A. Dyer, 2003). On July 30, 1965, Lyndon B. Johnson signed the Social Security Act, creating Medicare and Medicaid, and with it, the birth of a national health insurance program. With his signature, the provision of healthcare began to evolve. It transformed from the independently practicing, cash-pay physicians of the 40s, 50s, and early 60s to the government-funded hospitals of the 70s and 80s, to hospital systems in the 90s and 2000s, to the government-private partnership hospital conglomerates of today. Physicians found themselves working among multiple and diverse specialists, allied health professionals, administrators, and support staff. With government dollars now funding healthcare, efficiency in the care of our nation's elderly, children, and lower income individuals became a national focus for legislators and policy makers. On November 29, 1975, President Gerald Ford signed the Education for All Handicapped Children Act, which is now known as the Individuals with Disabilities Education Act (IDEA). This further catapulted education and healthcare toward collaboration (Katsiyannis, Yell, & Bradley, 2001).

Working on teams naturally became a reality as developing systems of care in healthcare and education emerged (Berkowitz, 2005). Today's practitioners are likely to

be employees of a hospital system behemoth, a medium to large medical organization, or a multi-specialty group practice. Those who are independent, still find themselves with a team of diverse professionals. The climate in healthcare has changed dramatically in a very short period of time, and with it has created some fantastic barriers in the pursuit of collaborative care.

Through the 1960s, 1970s, and 1980s, three approaches to teams or “teaming” evolved in healthcare and education beyond the Gestalt theories of working together. Teams were labeled by the way they were structured and worked together, and could be classified along a continuum of collaboration as either as multidisciplinary, interdisciplinary, or transdisciplinary. J. A. Dyer (2003) explains Garrett’s (1955) definitions of these three team types.

Multi-disciplinary teams were built for efficiency. This team model included the concept of a “gatekeeper” who determined which other disciplines are invited to participate in an independent, discipline specific team. Each team member performed separate assessments, planning, and interventions with little coordination. Roles were separated, and teams were less collaborative in nature. While team members may have worked for the same organization, members typically stayed in their lane. This model could be visualized as “silos under the same umbrella” or more illustratively as “spokes on the wheel” with the physician at the hub. In this model, the physician gatekeeper may know all of the providers on the care team, but the other members may not interact with one another or be aware of the other members on the team. Remnants of this idea still remain in today’s healthcare culture, particularly with one aspect of the Primary Medical

Home (PMH) concept where the physician is the gatekeeper for all care (Cronholm et al., 2013; Hing & National Center for U.S. Health Statistics, 2017; Lauerer, Marenakos, Gaffney, Ketron, & Huncik, 2018). With the PMH model, however, there is a responsibility of coordination for a particular patient, so in that regard, it leans more toward the interdisciplinary model in theory.

The interdisciplinary and transdisciplinary teams were more collaborative by design. Interdisciplinary teams were more collaborative in that the members each knew their role and worked alongside one another. What makes the interdisciplinary team different is that “it expands the multidisciplinary process through collaborative communication rather than shared communication” (J. A. Dyer, 2003, p. 186).

The transdisciplinary team was more about “role release” and crossover of responsibilities. J. A. Dyer (2003) points out that the transdisciplinary team involves blurring boundaries, implies cross training, and sharing of knowledge, skills, and responsibilities in the delivery of health and education services. It also requires “devaluing of turf issues and trusting relationships among team members” (p. 187). It is easy to see how this requirement of relinquished turf and building of trust among team members could pose a challenge with a history of silos and hierarchies.

For the last 30 years, starting in the early 1990s to the present day, the trend in the discussion surrounding healthcare and education teams has a new name. Current team-based literature is focused on interprofessionalism, giving rise to Interprofessional Education and Collaborative Practice (IPECP). This new label brings with it an ideal that is beyond what was once described as interdisciplinary practice. While team structure is

still important, no longer is the focus on how the team is structured, but an overarching expectation of how a team should be. Collaborative Practice is now a way to be and an outcome for which to strive. Today's label for the collaborative healthcare team model is Interprofessional Collaborative Practice. Acronyms used for this new label are IPCP or IPP. IPP's educational counterpart, and the preferred approach to educating future and current healthcare professionals, is labeled Interprofessional Education, or IPE.

The global idea of IPP is that through establishing highly effective interprofessional collaborative practice teams, a sustainability and vitality effect are created where the synergy of working together provides a higher quality of care and efficiency than working alone. With IPP, health and education teams will perform at the highest level of effectiveness. When all healthcare providers and educators are "on the same page" or "rowing in the same direction" with regard to a patient or student, the quality of the care and education should be better.

Interprofessional Education and Collaborative Practice (IPECP)

Interprofessional Education and Collaborative Practice (IPECP) has been well researched for the last 3 decades. *The Journal of Interprofessional Care* was founded in 1992 and has provided ongoing research and guidance on IPECP in the healthcare field. Supported by the IOM, Kohn, Corrigan, and Donaldson (2000) called for collaborative practice in *To Err is Human*. This paper implored the healthcare community to prevent adverse patient events through teamwork, citing that a large percentage of adverse patient care errors were preventable, caused by failed communication and ineffective handoffs between members of care teams (Kohn et al., 2000). The push for teamwork in healthcare

was now made a priority for policymakers. The campaign toward teamwork solutions for patient safety and quality of care revealed gaps in research and practice and demonstrated the need for guidance if the pursuit of collaborative care was to become a reality.

In 2010, the World Health Organization (WHO) published guidance in their framework for IPECP recognizing that “IPECP is an innovative strategy that will play an important role in mitigating the global health workforce crisis” (p. 7). WHO (2010) also provided definitions of the two components of IPECP being *education* and *practice*. IPE (*education*) is meant to generate a collaborative practice-ready workforce by providing opportunities for “students from two or more professions (to) learn about, from and with each other to enable effective collaboration and improve health outcomes” (p. 7). IPCP (*practice*) is directed toward in-service professionals and

happen(s) when multiple health workers from different professional backgrounds work together with patients, families, care givers, and communities to deliver the highest quality of care. It allows health workers to engage any individual whose skills can help achieve local health goals. (WHO, 2010, p. 7).

The American Speech Language and Hearing Association (ASHA) has more recently adopted the acronyms of IPE/IPP to reference Interprofessional Education and Interprofessional Practice, respectively (ASHA, 2015). IPE and IPP will be used for this project to differentiate practice from education.

Healthcare Reform in the United States and IPE/IPP. The Patient Protection and Affordable Care Act of 2010 (ACA) challenged the U.S. healthcare system to adopt a more integrated, value-based, cost-effective and efficient way of providing high-quality healthcare (Aldhizer & Juras, 2015; healthcare.gov, 2019). At the state level, legislators,

policymakers, hospital systems, providers, and insurance companies are presently working toward this with massive efforts to transform the systems into the practical ideals of the ACA. North Carolina is implementing reform through Medicaid managed care across all recipients and providers through phases starting in November 2019 through February 2020 (healthcare.gov, 2019; NC Department of Health and Human Services, 2019). Many other states have already made this transition. The principles of IPP are vital to the success of these transformations as national and state level reform aligns its thinking with the World Health Organization's ideas of collaborative practice and integrated care (WHO, 2010).

In 2011, the Interprofessional Education Collaborative (IPEC) developed Core Competencies for IPP (Interprofessional Collaborative, 2016). This document includes the domains of Values/Ethics, Roles and Responsibilities, Interprofessional Communication, and Teams and Teamwork. These core competencies are the framework for pre-professional and professional "basic skills" for practicing inter-professionally. The majority of IPE/IPP research addresses hospital, primary care, and nursing, however as awareness of IPE/IPP increases through initiatives, other allied health and education professions are following suit. There is an ever-increasing number of professions such as those in special education, speech-language pathology, occupational therapy, physical therapy, psychology and behavioral health that have recognized the value of IPE/IPP and are adding their own ideas and research to the body of literature (Cassady, 2013; A. Johnson, 2016; Ogletree, 2017; Ogletree et al., 2017; Rosen et al., 2018; Rowe & Manilall, 2016; Ryan, 2017).

A. Johnson (2016) summarized the competencies of IPE/IPP as outlined by the IOM's (2001) document.

- Value/Ethics involves team members “working with individuals of other professions to maintain a climate of mutual respect and shared values” (p. 19).
- Roles/Responsibilities involves team members “using the knowledge of one’s own role and those of other professions to appropriately assess and address the health care needs of patients and populations served” (p. 21).
- Interprofessional Communication involves team members “communicating with patients, families, communities, and other health professionals in a responsive and responsible manner that supports a team approach to the maintenance of health and the treatment of disease” (p. 23).
- Teams and Teamwork involves team members “applying relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan and deliver patient- and population-centered care that is safe, timely, efficient, effective, and equitable” (p. 25).

A. Johnson (2016) points out that communication in IPP refers to the characteristics of effective interactions and that it should be a key matter in collaborative practice being that it is a known barrier.

Professional communication is certainly key to successful IPP implementation to portray open, clear ideals. “To effectively communicate as a team, we must know ourselves and develop trust and respect while maintaining confidentiality and sensitivity to differences or preferences” (A. Johnson, 2016, p. 61). A. Johnson also states, “In an

IPP team atmosphere, members voluntarily participate in establishing mutual goals that reflect equality in members' contributions, resources, authority, and accountability” (Hillier, Civetta, & Pridham, 2010, as cited in A. Johnson, 2016, p. 61).

Correa, Jones, Chase Thomas, and Voelker Morsink (2005) provide guidance for communicating professionally acknowledging that it requires that we purposefully plan and personalize our statements. Teammates want to know that others highly value their input, insights, and expertise. Setting up a team culture where teammates value one another sets a foundation for future positive interactions.

A number of other factors contribute to the challenges of effective interprofessional teaming. A. Johnson (2016) points out that some personalities are simply better at getting along in a team than others, and acknowledges that conflict can impact effective IPP, if teams do not handle it well. “Personality traits such as empathy, positive self-concept, and willingness to learn from others influence whether a professional relationship can effectively develop when resistance may initially be present” (A. Johnson, 2016, p. 63). For a workplace to embrace IPP, it needs a perspective on teamwork and communication where the individuals in the organization are open to learning about and from others, demonstrating mutual trust and respect, and improving interactive communication. Humility, which will be discussed later in this review, contributes to an individual's willingness or openness to learn from others and to respect the value that others bring to the team, making it a valuable quality to examine in team composition.

IPP/IPE is Ideal, But is it Effective? It seems sensible that working interprofessional teams should provide the highest quality care and produce the greatest impact on population health. Initiatives, position statements, and core competencies have been developed and a significant amount of resources and efforts are being invested into driving change in healthcare delivery from silos into interprofessional teams. The big question is “Is it effective?”

An article by Lutfiyya, Brandt, Delaney, Pechacek, and Cerra (2016) examined the current state of IPE/IPP in relation to U.S. Healthcare reform with the aim of setting an agenda for IPE/IPP research and directions for measuring the impact of IPE/IPP on health and education outcomes. Gilbert (2013) wondered if IPE/IPP makes a difference to healthcare. This is one of the most frequently asked questions about IPE/IPP.

According to Lutfiyya et al. (2016), the verdict is still out. Their article reports mixed reviews, but it does show support of teams in the healthcare delivery system. A study by Cronholm et al. (2013) supports the model of the Primary Medical Home (PMH). This model places the primary physician as leading the team related to a particular patient and coordinating care of other providers on the team. The model further supports collaborative practice. Salas and colleagues (2008) also provide an example of successes showing that team training does improve team performance.

In contrast, Lutfiyya et al. (2016) also show that there are studies that reveal a lack of consistency in the effectiveness or positive impact of collaborative practice. Gilman et al. (2011) shows that often times success or effectiveness is context-specific. However, most studies are showing the positive impact on patients when there is

effective collaboration among care providers. Context-specific effectiveness of IPP supports the idea that creating a collaborative friendly culture could be an effective intervention for teamwork.

Shah, Forsythe, and Murray (2018) demonstrated the effectiveness of interprofessional care on patients with Heart Failure (HF). This systematic review reported that interprofessional team medical interventions with team emphasis on medication adherence, patient education, follow-up care, and improved communication have been studied and found to be helpful in reducing hospital readmissions for patients with HF. The authors determined that after implementation of the ACA and financial penalties for hospital readmissions, that this was a proper metric to measure in relation to interprofessional care. They observed that most research on HF readmissions found positive correlations between interprofessional care and reduced readmissions. The reduced readmissions metric was directly proportional to healthcare savings, improved patient provider relationships, and patient satisfaction.

Barriers to Collaborative Care. IPP is clearly the gold standard to which healthcare providers must aspire. However, from a practical standpoint, implementing it effectively is daunting. The reality is that it is challenging to work interprofessionally, and there are numerous, persistent barriers to collaborative practice. Why is collaboration so difficult to achieve?

A New Zealand meta-analysis by Weller, Boyd, and Cumin (2014) identified that the primary barrier to collaborative care was the challenge to communicate effectively for

proper information sharing. This makes sense, as the essence of collaboration is communication and interaction among workers on the same team.

There are many variables that can affect information sharing, communication, and teamwork among team members. The literature points to silo-oriented pre-service training, professional identities, individual and group psychological factors, and organizational structure and culture that perpetuates hierarchical mindsets and workplace stress.

Silo-oriented training and professional identities. Weller et al. (2014) explain that discipline-specific training programs continue to teach silo-oriented knowledge, skills, and practical applications, despite the push toward IPP. Professional identity development in pre-service provider training programs can create professional allegiances leading to tension that makes communication difficult. Additionally, certain types of individuals, personality-wise, are attracted to certain professions. This points to the psychological factors related to team composition.

Individual and group psychological barriers. Psychological factors can certainly affect team composition and team dynamics. Team composition research shows that individual personality differences of team members, when not considered at team selection, can create team dynamics challenges (Morgeson, Reider, & Campion, 2005). Pairing personality variability with the ‘tribal’ phenomenon of professional identities and a hierarchical mentality among team members, it is easy to see how this could affect communication and interpersonal relationship development on a team. Let’s face it, egos get in the way. When an individual team member sees themselves as more important than

the other team members, team dynamics are compromised, communications are less effective, respect may be lost, and team trust can be at stake. Psychological safety (trust) is needed for a member to feel safe to speak up when a member sees that something is wrong and is crucial for truly effective teamwork (Rosenbaum, 2019).

Perpetuated hierarchical mindsets embedded in organizational structure and culture. Hierarchical mindsets can also be perpetuated by the organizational barriers of culture and structure. For example, physical geography can separate team members. The distal location of patients and providers within the hospital, community, or educational settings decreases the opportunity for face-to-face interaction. Organizational culture is created by the leaders and individuals of the group. The culture of the work environment provides the backdrop for team effectiveness. Organizational mindsets are contagious, and can create positive supports for or barriers to collaboration. The persistence of antiquated hierarchical perspectives and interactions in healthcare organizations (Paliedelis et al., 2013) can certainly challenge teamwork and create a lean toward a hierarchical, leader-follower culture (Marquet, 2012, 2013). These factors can make information sharing difficult for care teams.

Information sharing challenges as a theme. Weller et al. (2014) found that there is an overarching theme in each of these barriers, and that is in how they affect communication among providers on a team. That is why “improving effective communication among clinical staff was a primary goal of the Joint Commission International’s effort to improve collaboration in patient care” (p. 150). It reported that ineffective communication among care teams was the primary cause of preventable errors

that affect patient safety and contribute to ineffective teamwork. Similar challenges have been reported in other studies. While the reasons for the challenges in collaboration barriers are vast and varied, communication challenges are among the most cited (Boshoff & Stewart, 2012; DiCicco-Bloom & DiCicco-Bloom, 2016; Dussault & Franceschini, 2006; Foronda, MacWilliams, & McArthur, 2016; J. Johnson, 2017; Kvarnström, 2008; Lauerer et al., 2018; Paliadelis et al., 2013; Pellegrini, 2017).

Systemic barriers to teamwork. Additional to ineffective communication among team members, there are other systemic barriers to collaborative care. Clements, Dault, and Priest (2007) report that the key challenge at hand is the implementation of effective teamwork in healthy workplaces across Canada. Barriers to teamwork reported by these researchers include lack of time to bring people together to reflect and change, insufficient interprofessional education, persistence of professional silos, systems of payment that do not reward collaboration, few links between collaborative practice and individual goals, and absence of efforts to capture evidence for success and communicate this success to key stakeholders (Clements et al., 2007). These are the realities of implementing collaborative care in the United States as well. Healthcare in the United States continues to change, evolve, and become more integrated, and requires practitioners to be more efficient and effective while doing more with less (Aldhizer & Juras, 2015; healthcare.gov, 2019). This can be stressful for team members in their collaboration efforts.

Workplace stress and workforce shortages. Another barrier to collaborative practice is workplace stress. Workplace stress can lead to compassion fatigue and burnout

in our healthcare providers which can lead to workforce shortages. Workforce shortages then perpetuate workplace stress into a downward spiral. Healthcare literature indicates that the workforce is indeed facing a shortage (Dussault & Franceschini, 2006; Hartsfield, 2001; WHO, 2010) and workplace stress that leads to compassion fatigue and provider burnout is on the rise (Maslach & Schaufeli, 2017; Shanafelt et al., 2009; Shanafelt, Swensen, Woody, Levin, & Lillie, 2018; Sorenson et al., 2016).

Workforce shortages can perpetuate the challenge of managing workload and can stifle the ability to build, grow, and develop teams that collaborate effectively, leaving a crisis in its wake. There are many contributing variables to workplace stress and provider burnout across the literature (Sorensen, 2016). A literature review by Humphries et al. (2014) cites that reduced retention rates, high turnover, heavy workloads, low staffing levels, and staff shortages create difficult work environments, threaten quality of care, and contribute to provider burnout.

In trying to understand the impact that stress, burnout, and turnover can have on a team and its ability to collaborate, it is important to note that part of a team's ability to become high-performing is its length of time together to work through the four stages of team development—Forming, Storming, Norming, and Performing (Tuckman, 1965). High turnover certainly affects a team being together long enough to get through the four stages. Turnover is disruptive to the team development process and keeps a team in the infancy stage of forming perpetually. Therefore, it cannot reach the stage of Performing. It is no wonder that developing high-performing teams is so difficult. With these barriers

in mind, workforce retention should be at the forefront of all organizations that provide healthcare to our nation if we are to stay ahead of a crisis-level shortage.

The barriers to teamwork in healthcare are real. They are so vast, deep-rooted, variable, and dependent on the setting and team, that they make the outcome of truly effective collaborative practice seem unattainable. However, there is hope in applying team science interventions to improve teamwork. Teamwork can increase resilience and decrease burnout in our workforce. Interventions focused on helping teams overcome these barriers can be effective.

Team Science: Using Team Interventions as a Strategy for Overcoming Barriers to Collaborative Practice

While there are many barriers to collaborative practice, teamwork is the outcome for which we are striving. As simple as it may seem, organizations wanting to improve their collaboration should focus on teamwork interventions. Interventions aimed at teamwork should improve team composition, teamwork characteristics, and provide support for collaboration.

Teamwork is cited in organizational and leadership literature by a number of authors as an essential component of high performance in organizations (Aguinis, 2013; Collins, 2011; Coyle, 2017; Lencioni, 2002, 2005, 2016). In the team science literature, the application of team interventions is used as a way to improve teamwork. It is practical to focus on teamwork to produce better teamwork skills, reduce barriers, and make effective collaborative practice a reality. The good news is that principles of teamwork applied to other industries can also be applied to healthcare teams to meet the challenge that current barriers present. Some ideas are presented in the literature that follows.

Salas and Rosen (2012) discuss that using the science of teamwork can transform healthcare. Teamwork training has been a focus in healthcare since 2000 when, endorsed by the Institute of Medicine (IOM), Kohn et al. (2000) produced a report called *To Err is Human*. This report advocated for the improvement of pervasive communication problems in healthcare delivery systems and suggested teamwork training could alleviate preventable errors in patient care. At the time of the report, there were limited studies on the effectiveness of teamwork training on patient outcomes; however, this has changed in the last 2 decades since that initial report. There is now a body of evidence that team interventions work in improving collaboration and patient outcomes.

Xyrichis and Lowton (2008) attribute successful teamwork in primary care teams to organizational support for teamwork, size of teams, and diversity of occupation on teams as primary variables. Interventions aimed at improving these areas could make a difference. One strategy for team intervention posed by Marquet (2013) could help in flattening the steep organizational hierarchical mentalities by transforming a leader-follower culture into a leader-leader culture. A mindset borrowed from the military, in the leader-leader culture, all individuals in the organization are considered leaders, regardless of position or title. Fostering collective ownership of the teamwork culture can support the team that is working toward better collaboration. This mindset is certainly needed in collaborative healthcare teams, particularly in breaking down the hierarchical barriers. While some interventions are aimed at transforming organizational culture and mindsets and creating a shared mental model among members of the organization and team, some interventions reported are directed to teams in specific settings.

A Columbian study by Amaya-Arias, Idarraga, Giraldo, and Gómez (2015) focused on a teamwork intervention for improving teamwork among operating room providers. The results showed a significant difference in collaboration factors pre-post intervention. The improvements in working more collaboratively also resulted in better patient outcomes.

An article by Ryan (2017) discusses a team intervention approach meant to improve teamwork and applied the ideas to a framework of working with a rheumatology team. Ryan uses a seminal work by Tuckman (1965) to discuss the stages of team development to walk the reader through a series of questions about where their personal team falls along the continuum. Tuckman's (1965) model includes the four development stages of Forming, Storming, Norming, and Performing. Teams must traverse through the first three stages prior to reaching the performing stage together where high performance occurs. Ryan (2017) also discusses the attributes required for effective teamwork. These include Leadership, a shared mental model or approach, the 3 Rs (respect, reward, and recognition; McCabe, 2006), and team training.

Ryan states that "Leadership in healthcare should not be viewed as fixed, but rather as 'co-produced', with leaders and team members working together to achieve agreed upon goals (Carsten and Uhl-Bien, 2013)" (p. 55).

Leadership style . . . is central to improving the effectiveness of the team [and those] who are transformational, empowering and communicate positive support and encouragement to the individual team members have the greatest impact on building and sustaining effective teams (Wu et al., 2010). (Ryan, 2017, p. 55)

This sounds very much like Marquet's (2012, 2013) idea of setting up the leader-leader culture.

Ryan also states that shared mental models are important to team effectiveness, with the following personal attributes being contributory to the shared mental model. Ryan states that "a shared mental approach enables recognition of the needs of other team members, enabling individuals to identify changes in the clinical situation and adapt their responses to achieve the desired goals" (p. 56). Ryan cites information sharing as essential for developing a shared mental model, referencing Weller et al. (2014). Interestingly, as the theme shows across the literature, communication and information sharing are among the biggest barriers reported in collaborative teams.

Ryan (2017) concludes that there are significant challenges to working in groups and teams where different personalities and levels of self-awareness can affect team cohesion. She advocates for team interventions that enhance awareness of the different behavioral patterns of team members. She also suggests that interventions directed at effective leadership and creating shared mental approaches among team members is essential and an effective way to improve teamwork for healthcare teams. Interventions aimed at self-awareness and creating a shared mental model should improve team cohesiveness, and in turn, should enhance patient care and team satisfaction.

Team Resilience

Resilience among teams is also an important factor in the sustainability of teams. Clements et al. (2007) report a strong evidence base for being adaptable and able to respond to changing conditions as characteristics of effective healthcare teams.

Additionally, having faith in their ability to solve problems, being positive about their activities, and having trust in each other are factors. Effective healthcare teams produce high quality results such as improved patient outcomes and cohesion, competency, and stability for the team itself. According to Maslach (2017), creating a sense of community and support is essential to boosting resilience, ameliorating workplace stress, and increasing retention. In a literature review that examined compassion fatigue and related concepts that lead to provider burnout, Sorenson et al. (2016) support the idea that “managers should aim to create a professional environment that promotes teamwork and positive working relationships” (p. 462).

Team intervention typically is aimed at in-service professional teams and is more “rehabilitative” in nature toward teams that are already in practice together but may have some dysfunction. But what about team intervention that takes a more preventative “habilitative” approach?

Interprofessional Education (IPE) as a Preventative Approach to Team Intervention

Providers are challenged daily to create higher quality care, and working as a collaborative team will continue to be essential for success. One of the simplest paths to systemic improvement in care and collaboration in a health system is to start with intervention targeted at pre-service training programs through interprofessional education (IPE). Current pre-service health professional programs utilize different IPE models (Rowe & Manilall, 2016). However, graduation from an accredited pre-service program using IPE is not a guarantee that one will be an effective team player on an IPP team.

Most pre-service programs offer varying degrees of IPE (i.e. co-instruction to limited joint disciplinary exposure), yet it is inconsistent in its depth and models. As discussed earlier, silo mindsets are still largely rampant in organizations and in higher education. Weller et al. (2014) found that “education for health professionals remains largely discipline-specific with minimal interaction between healthcare disciplines” (p. 150). A hierarchical “pecking order” with the physician at the top and the other allied health professionals (i.e., nurses, therapists, behavioral health practitioners) and mid-level medical practitioners (i.e., physician assistants, nurse practitioners) below persists (Paliadelis et al., 2013). Fostering these mindsets and attitudes is neither conducive to producing team players, nor are they positive models for truly effective teamwork. Currently, explicit training and coaching on the science of teamwork and of being a team player and a collaborator does not appear to be a formal part of all IPE training, although some programs are beginning to implement different models that facilitates pre-professional practice of interprofessional communication and teamwork.

Bridges et al. (2011) examined three different universities’ IPE program models. These included a didactic program, a community-based experience, and interprofessional-simulation experience in the curriculum. Each of those programs involve learning about and with other collaborating disciplines. Lie, Forest, Walsh, Banzali, and Lohenry (2016) examined student-run clinics and generated a framework for an IPE model that included team-building activities, but it is not evident if explicit instruction on specific qualities of team players or certain team-oriented communication and behaviors were part of the curriculum for either study.

A meta-analysis by Gurarya and Barr (2018) indicated that IPE is effective across various health disciplines in improving collaborative team work. The authors examined studies on IPE interventions to determine if there were significant effects of the IPE activities on students' attitudes, knowledge, and skills in IPP practice. The 12 studies selected for this meta-analysis included articles that examined topics such as the influence of professional identity formation on attitudes towards collaboration, effectiveness of interprofessional education by on-field training, interprofessional communication, interdisciplinary research models interactive education, faculty development in IPE, simulation-based operating room team training, exposure and attitudes toward IPE comparing an integrated clerkship versus rotation-based clerkship students, community-focused IPP for cultural competence, understanding interprofessional relationships, and the use of a multi-professional evidence-based practice course.

Their conclusion was that the IPE interventions in these studies reported significant improvements in pre- and post-status scores after embedding the IPE module in various medical fields as determined by enhanced acquisition of knowledge, skills, and attitudes of learners. But while there are standard competencies for IPE, programs continue to be varied and inconsistent in their implementation at the pre-service program level. Standard requirements for implementing IPE across different professional disciplines regarding how programs implement IPE do not currently exist. There is still work to be done in this arena. Explicit training in teamwork and the characteristics of team players at the pre-service level could be effective.

Salas and Rosen (2012) state that the evidence supports that

teamwork training works: it can improve the teamwork behaviors of staff members in a variety of domains, it can improve patient outcomes and quality of care. It is a concept whose time has come and an imperative for the thousands of patients experiencing preventable harm each year. (p. 257)

They go on to say that

Changing teamwork behavior means changing patterns of communication and interaction among staff members. These behaviors are rooted not only in knowledge, skill, and attitude competencies, but in social norms and expectations reinforced during education and experiences working in an industry with a largely hierarchical culture that does not always reinforce open and assertive communication. (p. 258)

Salas and Rosen challenge that leadership is key in organizations for building effective teamwork because “addressing the interconnectedness of team member behaviors with organizational culture, history, regulatory concerns, policies, procedures, and a host of other contextual issues” (p. 258) is needed. Ultimately, leaders must use team science to set up the vision and values that are consistent for teamwork to become the norm. This also means communicating what is expected with regard to social norms in organizations, how team members should behave, and what qualities they should exude when working on teams. Salas and Rosen (2012) challenge the reader that in order for long-term change to occur, “teamwork training concepts must be integrated throughout all aspects of the healthcare industry, including the full continuum of healthcare education, from basic to ongoing and continuing education programs” (p. 259). They also recommend that teamwork competence must also move from education

to licensure, certification, and accreditation bodies across the healthcare industry. With that in mind, we look to team science to see what works and where we might focus those efforts.

The Challenge

It is apparent that we need a way to practice interprofessionally that preserves our healthcare workforce. In light of this research, leaders in organizations must pay attention to overcoming the barriers to collaborative practice and focus on creating an organizational culture that supports collaboration. By focusing on the overarching organizational culture, group/team, leadership and qualities of the individuals on those teams, effective collaborative practice will become the norm.

With the knowledge that we need a better way, is there a formula that can be plugged into the healthcare arena to increase vitality and sustainability and improve the way that teams work together? If there is a way, it must be found and applied to our healthcare teams. Leaders must be able to identify the qualities they need on their teams and select members that are teamwork-oriented. For those whose current teams are struggling with teamwork, leaders must be able to coach their people to it. But how do they coach it and what should they teach? Team science may provide an avenue to improving teamwork on collaborative practice teams.

We know from team science, IPP, and IPE research that interventions targeted at in-service teams and pre-service professionals can be effective at improving patient care and knowledge, skills, and attitudes toward collaboration. If teamwork interventions are a

means for improving teamwork and the effectiveness of teams, we now need to examine what we know about effective teams in order to develop those interventions.

The Foundation of Effective Teams

Organizational psychology and human resource scholars have spent decades researching organizations, teams, leaders, and individuals to understand the qualities or characteristics that make them successful. A topic that is extant in the literature is the identification of attributes that make teams dysfunctional and those that contribute to team effectiveness.

When it comes to a mainstream staple reading on teamwork, there is no text more popular among the organizational culture literature than that of Patrick Lencioni's (2002) book, *The Five Dysfunctions of a Team*. An advocate of effective teamwork, business consultant, and teamwork influencer, Lencioni (2005) states that "Teamwork remains the one sustainable competitive advantage that has been largely untapped" (p. 3). He goes on to say that "teamwork is almost always lacking within organizations that fail, and often present within those that succeed" (p. 3).

His framework postulates that there are five flaws that cause teams to be dysfunctional: absence of trust, fear of conflict, lack of commitment, avoidance of accountability, and inattention to results (Lencioni, 2002, 2005). Lencioni states that establishing trust is of the highest importance, as it sets the foundation for overcoming the other dysfunctions. From the literature reviewed thus far in this project from team science and IPP arenas, it would appear that Lencioni is correct in his assessment of the five dysfunctions. Particularly with trust, the psychological safety of the team could be

seen as the foundation of team trust that fosters effective communication, positive interpersonal relationships, and cohesion between team members (Coyle, 2017; Rosenbaum, 2019). There must be a certain ability to be vulnerable with one another if members are to learn from one another. Trust in the team and psychological safety go hand-in-hand in combating the dysfunction of fear of conflict. If there is trust in the safety, then fear of conflict will be minimized—if not extinguished altogether. The reciprocals of the last three dysfunctions—commitment, accountability, and attention to results—will all fall into place once trust and confidence that the team is a safe place to disagree and to be honest about one’s shortcomings are established.

McIntyre and Salas (1995) identified four essentials of teamwork. Those essentials were performance monitoring, closed-loop communication, feedback, and backing up behaviors. While the first three are self-explanatory, backing up behaviors may need more definition. Backing up behavior is defined as the degree to which team members help one another perform their role. They suggest that the skill of backing up a teammate is “at the heart of teamwork, for it makes the team truly operate as more than the sum of its parts” (p. 26). Backing up behavior has a relationship to the Big Five personality. In a study by Porter et al. (2003), they examined backup behavior in relation to personality and legitimacy of need for help on the task at hand. They found strong interaction effects for personality traits of extraversion and conscientiousness interacted with legitimacy of need for help. When need for help was high, individuals with extraversion and conscientiousness came to the rescue. However, individuals low in Emotional stability (high neuroticism) would not provide backup regardless of the

legitimacy of need of their teammate. Similarly, individuals low in extraversion were less likely to provide backup behavior even when it was highly appropriate to provide it. Clearly, personality factors are important in team composition where teamwork is needed.

Salas, Sims, and Burke (2005) ask the question, “Is there a Big Five in Teamwork?” They found that the core components of teamwork include team leadership, mutual performance monitoring, backup behavior, adaptability, and team orientation. They shared that the five components supported coordinating mechanisms needed in teamwork such as shared mental models, closed loop communication, and mutual trust. They also discussed that these components vary in their importance over the life of a team and a team task.

It is obvious that the more complex the task work, or in healthcare, the diagnosis, the more there is a need for a collaborative team. But how do we know what makes a healthcare team an effective team? Recent researchers point to the qualities and characteristics of these teams. In a forum on interprofessional collaborative practice of the American Speech Language and Hearing Association (ASHA), Ogletree (2017) suggests that interprofessional collaborative practice teams should exhibit behaviors such as “*continuous interaction and knowledge sharing while seeking to optimize patient participation in care*” with “*providers totally invested in a collaborative process that improves care in an integrated and cohesive fashion*” (p. 159). Ogletree (2017) goes on to acknowledge that

these are difficult qualities to teach or measure. They involve effective communication, a sense of professional inquiry, a security in one's knowledge base and level of competence, the ability to engage others in problem-solving, and an abiding level of concern for others, including the patient. Even when these qualities are present, IPCP requires more—a workplace and fellow like-minded team members open to and supportive of collaboration. Finally, in a truly collaborative setting, there is a certain vitality evident that emerges from prepared and willing professionals who support each other in the pursuit of optimal care. As the field refines methods for identifying and measuring core qualities of interprofessionalism and their relationship to each other and to socially valid outcomes, the research base concerning these important issues will continue to grow. In addition, the next generation of IPCP research must investigate the team-related vitality and collective synergy that emanates from a truly productive and collaborative team. Such research will demonstrate IPCP's advantages while informing IPE at the preprofessional and practicing professional level. (p. 159)

Other researchers share similar ideas and sentiment about teamwork in IPP (Foronda, MacWilliams, & McArthur, 2016; Lauerer et al., 2018; Lavelle, 2010; Mohanty & Mohanty, 2018; Paliadelis et al., 2013).

Not specific to the healthcare team, Salas, Shuffler, Thayer, Bedwell, and Lazzara (2015) provide a heuristic of critical considerations for effective teamwork in any organization and defines team and teamwork to provide a common language for the discussion.

A *team* is defined as “a distinguishable set of two or more people who interact, dynamically, interdependently, and adaptively toward a common and valued goal/objective/mission” (Salas, Dickinson, Converse, & Tannenbaum, 1992, p. 4) with the primary components being multiple individuals, interdependencies, and shared goal. The authors state that teams must successfully perform both taskwork and teamwork.

Taskwork is the specific task or set of activities in which the individuals engage to achieve the team's goal. When measuring effectiveness, Aguinis (2013) refers to the measurement of task work as task performance measurement.

Teamwork can be defined as “shared *behaviors* (what team members do), *attitudes* (what team members feel or believe), and *cognitions* (what team members think or know)” that are necessary for the team to achieve its goals (Morgan, Salas, & Glickman, 1994). The performance measurement of teamwork falls under that of Aguinis's (2013) description of contextual performance.

It is common for an organization to adopt a particular framework to describe its values or to define expectations of an individual's performance and to utilize their human resources department to implement at a practical level. Aguinis (2013) explains that individual performance can be measured in two arenas. These two arenas line up with Morgan, Salas, and Glickman's (1994) definitions of the type of work individuals on teams perform. Task work and team work can be measured through task performance and contextual performance, respectively.

Task performance is the task of doing the job (i.e., a therapy visit, or by producing a product). In healthcare, productivity is the measure of task performance quantity and is a well-known metric with which health providers are familiar in most settings. Task performance quality is another metric (i.e., Did we achieve the outcome in therapy that we intended in the way that we wanted to achieve it?). Two ways quality can be measured are through outcomes and patient satisfaction surveys. Organizations spend a great deal of time focused on task performance.

The area that organizations spend less time focusing on is contextual performance, but it could be a key to unlocking effective collaborative teamwork. Contextual performance behaviors are those behaviors that positively contribute to the organizational culture and should be linked to the organization's core mission, values, and strategic plan. Often synonymous with the term Organizational Citizenship Behaviors (OCB), contextual performance behaviors are behaviors that contribute to creating positive work environments where teams thrive and work well together. Often, these behaviors are seen as optional rather than essential in performance management. Human resources professionals who create and maintain performance management systems would see benefit to the organization as a whole if the measures used to rate the individuals in the organization include those contextual measures of performance (Aguinis, 2013). Clifton and Harter (2019) suggest that the process of performance management must be transformed from a traditional management/boss culture to a performance development/coach culture. This transformation in how managers engage their employees in both task and contextual performance will unlock the strengths and human potential in each team member. According to Clifton's famous Gallup polls, this is exactly the type of transformation in work culture that millennial workers desire (Clifton & Harter, 2019).

Salas et al. (2015) emphasize that both taskwork and teamwork must be present for teams to be successful. They agree with Aguinis (2013) in their assessment that most organizations focus on task work when it comes to performance improvement. A focus on productivity comes to mind. However, organizations, do not often focus performance

improvement efforts on teamwork or the contextual performance of the individual on the team. Aguinis (2013), Salas et al. (2015), and Ryan (2017) all agree that this approach is flawed, because even highly skilled and competent individuals engaged in taskwork can still cause the team to fail to meet objectives without teamwork.

Salas et al. (2015) examined a sample of team effectiveness reviews over the past 18 years and developed a heuristic of the critical considerations for teams to engage in effective teamwork. Their review identified six critical considerations or core processes for teamwork and collaboration, and three influencing conditions that can impact those conditions. The six processes are cooperation, conflict, coordination, communication, coaching, cognition. The three influencing conditions are composition, context, and culture. Each of these considerations is defined as follows:

- *Cooperation*—the motivational drivers of teamwork and the attitudes, beliefs, and feelings of the team that drive behavioral action.
- *Conflict*—the perceived incompatibilities in the interests, beliefs, or views held by one or more team members.
- *Coordination*—the enactment of behavioral and cognitive mechanisms necessary to perform a task and transform team resources into outcomes.
- *Communication*—the reciprocal process of team members' sending and receiving information that forms and re-forms a team's attitudes, behaviors, and cognitions.
- *Coaching*—the enactment of leadership behaviors to establish goals and set direction that leads to the successful accomplishment of these goals.

- *Cognition*—the shared understanding among team members that is developed as a result of team member interactions including knowledge of roles and responsibilities, team mission objectives and norms, and familiarity with teammate knowledge, skills, and abilities.
- *Composition*—the individual factors relevant to team performance, what constitutes a good team member, what is the best configuration of team member knowledge, skills, and attitudes (KSAs); what role diversity plays in team effectiveness.
- *Context*—the situational characteristics or events that influence the occurrence and meaning of behavior, as well as the manner in which various factors impact team outcomes.
- *Culture*—the assumptions about human relationships with each other and their environment that are shared among an identifiable group of people and manifests in individuals' values, beliefs, norms for social behavior, and artifacts.

As is a common theme in the teamwork literature, Salas et al. (2015) also cite the importance of effective team communication across industries including aviation, military, and healthcare in the reduction of errors (Helmreich, Merrit, & Wilhelm, 1999). They cite Mesmer-Magnus and DeChurch's (2009) meta-analysis of 72 studies, which found "that information sharing in teams positively and significantly predicts team performance, particularly in terms of sharing unique information" (p. 607).

Communication is an obvious target for intervention in teamwork. Salas et al. (2015)

warn that organizations and teams should not ignore the impact of composition, context, and culture on the degree to which teams can successfully engage in teamwork.

From this research on teamwork and teams, we know that effective teams improve quality and that they share characteristics. Ultimately, teams work. And they are needed across industries and settings. If effective teams are desired, and positive team interventions are to be applied to our teams, regardless of the industry and the team structure, there must first be an understanding of what makes an ideal team player. Knowing this provides direction for selecting team members and coaching them to effectiveness. Clifton and Harter (2019) point to the manager with regard to the responsibility for fostering teamwork and maintaining a positive organizational culture where employees and teamwork can thrive. One could even argue that if the manager demonstrates team player qualities, then so will the team.

In this dissertation project, team composition with regard to characteristics related to personality traits (Salas et al., 2015) was examined in the relationships to the team's perception of team member effectiveness and competence. These ideas have inspired this research focus and suggest that the qualities in the Lencioni Framework for Teams and Team Players are related to team player and team success. So what do we know about team players?

The Composition of Teams: Attributes of Team Players

As Salas et al. (2015) describe, composition of teams involves the characteristics of individuals on a team and has been studied in the teamwork literature for the last 50 years. Many authors have found attributes, qualities, characteristics, and virtues that

individuals should possess that contribute positively to teamwork. Yet there is still no consensus on what makes a team player a good one, and as Ogletree (2017) shared, this is truly difficult to measure.

Ryan (2017) cites Molyneux (2001) as she lists that team members need to possess the ability to delegate, compromise, approachability, awareness of one's strengths and limitations, decisiveness, effective organizational skills, empathy, openness to learning, patience, and tolerance.

A literature review by Legat (2007) found traits that were relevant to teamwork. Those included assertive behavior, cooperative attitude, courage to disagree, self-directed learning, encourages others, facilitates participation, interpersonal relationships, positive attitude, good judgement, reflective practice, self-confidence, respect for others, sense of humor, teamwork experience, and tolerance of stress.

Contemporary writers such as John Maxwell and Patrick Lencioni have written and taught extensively on the topic of teamwork and team players (Maxwell, 2011, 2013). However, while these authors are the experts on what makes teams and team-players function or fall into dysfunction, they have yet to conduct empirical studies to prove their specific theories. Collins (2001), however, applied empirical research to his study of leaders—CEOs specifically—showing that leaders who transcend to take their companies from *Good to Great* have the paradoxical combination of personal humility and professional will. He describes that they are ambitious, but for their company (team) rather than for themselves with a “plow horse” rather than “show horse” type of diligence. They attribute much of their success to good luck rather than personal

greatness, and when things go poorly, they blame themselves, taking full responsibility (p. 38).

Ultimately, we need to find a way to identify variables that make team players and help them to better work together. Research suggests that there are personality factors or personal characteristics that make for a more ideal team player. Finding individuals with characteristics that cause that individual to slant toward more collaborative work would seem to be a priority for those responsible to build and develop teams.

Personnel psychology has examined the Big Five personality traits in relation to job performance for decades. More recently they have examined personality traits in relation to contextual performance or those qualities that affect teamwork. It is very common for Human Resources and Personnel Psychologists to utilize psychological assessments of personality and cognitive ability in their selection processes to determine best fit for a particular job. This is understandable and important in selecting team composition. In relation to team-based work, as Morgenson et al. (2005) noted, “Even though many organizations utilize teams to perform work, they still need to assess and select at the individual level. That is, organizations do not hire teams. They hire individuals and place them in teams” (p. 585). For this reason, the individual level personality factors will be used to examine Lencioni’s Framework.

The Lencioni Framework

Lencioni (2016) explains that the ideal team player possesses the following virtues of Humble, Hungry, and Smart. Lencioni describes them using the ideas discussed next. To help illustrate and solidify the picture of this ideal, think about someone on a

team you have been part of and recall your interactions with them. For most of us, we can recognize team players when we see them. They have the “it factor” that is often not easy to describe. Most likely, one can also pull up the memory of a team experience where a person was labeled as the antithesis of a team player. Lencioni describes both ideal team players and the not-so-ideal team players, describing the three qualities needed for a team player as humble, hungry, and smart. Individuals who are ideal team players possess all three virtues. Lencioni’s theory is that when one or more of the qualities are lacking, the individual is not considered ideal. See Appendix C for Lencioni’s framework for ideal and not-so-ideal team players.

Ideal Team Player Virtues

Humble. Lencioni (2016) states that

humility is the single greatest and most indispensable attribute of being a team player . . . (they) are humble, lack excessive ego or concerns about status. Humble people are quick to point out the contributions of others and slow to seek attention for their own. They share credit, emphasize team over self and define success collectively rather than individually. (p. 157)

Hungry. Lencioni (2016) identifies team players as being intrinsically motivated, driven individuals. They go “above and beyond” without being asked or prodded, and he has labeled this quality *hunger*. He states,

Ideal team players are hungry. They are always looking for more. More things to do. More to learn. More responsibility to take on. Hungry people almost never have to be pushed by a manager to work harder because they are self-motivated and diligent. They are constantly thinking about the next step and the next opportunity. And they loathe the idea that they might be perceived as slackers. (p. 159)

Smart. Smart in the context of team players does not refer to intellectual capacity.

Lencioni (2016) explains that smart can be thought of as emotional intelligence, but states that it is a bit simpler:

smart simply refers to a person’s common sense about people [and their] ability to be interpersonally appropriate and aware. Smart people tend to know what is happening in a group situation and how to deal with others in the most effective way. They ask good questions, listen to what others are saying, and stay engaged in conversations intently . . . [They] have good judgment and intuition around the subtleties of group dynamics and the impact of their words and actions. (p. 160)

Smart relates to the skills of comprehending, interpreting, and responding to non-verbal behavior, body language, and interpersonal relationship skills. It also includes regulating one’s emotional state in order to be an effective communicator with others.

The Connection of Humble, Hungry, and Smart in Teamwork

Lencioni (2016) emphasizes that it is the “required combination of all three” (p. 161) virtues that makes them powerful and unique rather than the individual attributes themselves. This is the theory that will be examined in the data analysis.

Humble: The Role of Humility in Teamwork

“This is true of humility: not thinking less of ourselves but thinking of ourselves *less*” (Warren, 2002, p. 265; emphasis in original). Lencioni (2016) weights this virtue above the others and describes a teammate who lacks humility as the most dangerous member in an organization. He explains that the combination of a lack of humility, paired with the presence of hunger and smart can result in a person who is opportunistic toward their own agenda and is known as the “skillful politician” (Lencioni, 2016, p. 170).

Lencioni further explains that this person can demonstrate false humility by creating the

appearance of humility. Both their drive to achieve and high-level people skills equip them to manipulate situations. Based on this perspective, humility is the anchor that keeps hunger and smarts “in-check,” or grounded.

Lencioni’s insight provides direction for training future and in-service professionals. Particularly in healthcare, where the team’s ability to learn from one another and work together harmoniously determines the quality of care for patients, humility is essential. Recent studies show that humility directly relates to positive patient health outcomes and provider-patient communication (Coulehan, 2011; Cousin et al., 2012), and humility in leadership improves team dynamics and performance (Owens & Hekman, 2016).

In a study by Ruberton et al. (2016), the researchers examined primary care physician-patient interactions. These interactions were rated for the physician’s humility and the effectiveness of the physician-patient communication. Results showed that physicians who demonstrated humility were perceived as more effective communicators. “Patients reported better health when their physicians behaved . . . humbly” (p. 1138). This supports the idea that interventions that could increase provider humility and bring awareness to verbal and non-verbal communication behaviors that exude humility could improve patient-provider communication, as well as perceived and actual quality of care and patient/caregiver compliance with care recommendations. If patients are the customers in healthcare organizations, then looking at applications for humility outside of healthcare could benefit customers from other organizations. These notions could provide direction for future research within healthcare and across other industries.

More generally, Nielsen and Marrone's (2018) article discusses the construct of humility in organizational and psychology research. The authors note that humility has been researched extensively as a construct since 2000, and attempt to define humility as a construct, based on a systematic review and meta-analysis of the literature. Across divergent fields of study, the consensus definition of humility was found to be made up of the following three components: a willingness to see one's self accurately, an appreciation of others, and teachability. These components indicate a proper perspective of oneself and the recognition and appreciation of knowledge and guidance beyond the self (Owens & Hekman, 2016). They also align with other team work and IPP scientists whose teamwork and collaborative tenets align with these components of humility (IOM, 2001; IPEC, 2016; McIntyre & Salas, 1995; Ogletree, 2017; Ryan, 2017; Salas et al., 2005; Salas et al., 2015).

Furthermore, Nielsen and Marrone's (2018) concept of humility captures "both a humble person's internal attitude and his/her relational approach, depending on the frame" (p. 808). They also identify humility as "self/individual and other/relational, involving an internal self-regulating capacity that fosters prosocial relating that results in intrapersonal and interpersonal well-being" (p. 809). Nielsen and Marrone (2018) also refer to different types of measurements of humility in the literature. They discuss how measures that use other-reported ratings may give insight into the relational/intrapersonal aspects or expressed humility, while self-reports provide insight into measurements of internal or "experienced"/intrapersonal humility. Interestingly, their article also suggests that much of what Lencioni says about the skillful politician having a lack of humility

with regard to the ideal team player could be correct. They discuss that when CEOs were given other reported measures of humility and those same CEOs were interviewed by the researchers, the ones with lower levels of humility were more likely to “feign humility” (Ou et al., 2014, p. 59). This is similar to what Lencioni calls the skillful politician who lacks humility but fakes it to manipulate situations in their favor. These studies align with Lencioni’s ideas of the positive and negative aspects of humility, or lack thereof. LaBouf et al. (2012) showed that humble people were more helpful than less humble people. This supports the idea that backup behavior, and therefore, humility, is vital to teamwork.

Hungry: The Role of Motivation in Teamwork

Human resources professionals are often puzzled with what motivates employees to perform at high levels and demonstrate organizational citizenship behaviors (Lavelle, 2010). In his mainstream best seller, *Drive*, Daniel Pink (2015) discusses theories of intrinsically and extrinsically motivated individuals. People who demonstrate drive are the ones who “get things done.” They execute their tasks with excellence and are motivated simply by the accomplishment of a job well done. Pink would describe these individuals as intrinsically motivated. Intrinsic motivation is the hunger to which Lencioni is referring in ideal team players. Intrinsic motivation is the key. Personality psychologists have examined personality traits that would affect intrinsic motivation as they relate to job performance since the 1930s when psychologists began to agree on a taxonomy for personality traits. Achievement orientation and dependability were found to be predictors of job performance as well as educational achievement by a number of researchers (Barrick & Mount, 1991). In their 1991 study of the Big Five personality

dimensions and job performance, Barrick and Mount (1991) predicted that conscientiousness which included volitional variables (such as hardworking, achievement oriented, and perseverance), dependability variables (such as careful, organized, responsible, thorough, and planful), and emotional stability/Neuroticism variables (anxious, depressed, angry, embarrassed, emotional, worried, and insecure) would predict job performance. They measured job performance across five occupational groups—professionals, police, managers, sales, and skilled/semi-skilled workers. They predicted that employees with conscientiousness would do better with work tasks in all jobs and that those with more neurotic characteristics would tend to be less successful than their more emotionally stable counterparts since those “traits tend to inhibit rather than facilitate the accomplishment of work tasks” (Barrick & Mount, 1991, p. 5). Their hypotheses were found to be most specific to job performance in the trait of conscientiousness and a large portion of the variance was attributed to it. “Those who exhibit traits associated with a strong sense of purpose, obligation, and persistence generally perform better than those who do not” (Barrick & Mount, 1991, p. 6). They found that for the professional fields, emotional stability, or the tendency to display neurotic traits such as worry, nervousness, emotional, and high strung are better performers in those professional jobs than in the other jobs studied. They warned that this was only based on five samples, so the results should be interpreted cautiously. In a study by Judge and Ilies (2002) the researchers examined three primary areas of motivation: goal setting, expectancy motivation, and self-efficacy motivation. The Big Five trait that

was the strongest positive correlation and a statistically significant predictor of motivation in all three areas was conscientiousness.

Lencioni's description of the "lovable slacker" is someone who lacks hunger or intrinsic motivation to complete tasks. He explains that this person is not ideal because while they are great with people; they do not pull their own weight when moving toward a collective goal. This results in others on the team assuming responsibility for the additional work, creating resentment frustration, and draining the energy and synergy from the team (Lencioni, 2016; Pink, 2015). Conscientiousness includes dependability, responsibility, perseverance, and drive. Those qualities are needed in the formulation of trust and are therefore foundational to teamwork.

Smart: The Role of Emotional Intelligence in Teamwork

Lencioni distinguishes the virtue of *smart* as "people smart" rather than academic intelligence. The ability to use interpersonal relationship skills is vital to healthy teams. As mentioned earlier, Lencioni relates the virtue of smart to emotional intelligence. Peterson and Seligman (2004) may classify Smart as social intelligence. Lencioni describes the teammate lacking in Smart as the "accidental mess-maker." This person may possess humility and hunger, but they are not able to manage their emotions and often do not have an awareness of how their words and actions affect others; they "create fires" for the leadership to extinguish and damage team relationships regularly. This makes smart a vital virtue of the team player and to the work environment around the team.

Since the 1990s, psychology researchers have debated the “elusive construct” of emotional intelligence (Davies et al., 1998; Schutte et al., 1998; Van der Zee, Thijs, & Schakel, 2002) and have been confounded at its contribution to workplace success. A study by Chang, Sy, and Choi (2012) found that emotional intelligence of groups affected the team dynamics and workgroup outcomes. Personality traits have been linked to emotional intelligence (Davies et al., 1998; Van der Zee et al., 2002) and are often referred to in five broad categories by the term “The Big Five.” These categories can be recalled using the acronym OCEAN which stands for openness, conscientiousness, extraversion, agreeableness, and neuroticism. Researchers are not always consistent in the labels given to the acronym, but the trait the labels represent are similar, well known, and used consistently throughout literature. In a study by Van der Zee et al. (2002), emotional intelligence was defined as “the ability to perceive one’s own and other’s emotions, to interpret their own emotions and the emotions of others, and to cope with the emotions of self and others effectively” (p. 105). Others have provided a similar definition (Salovey & Mayer, 1990). In their study, Van der Zee et al. (2002) examined the relationship between emotional intelligence, Big Five personality traits, and academic intelligence. Two important findings were that emotional intelligence was more strongly related to personality than to academic intelligence. Additionally, four of the Big Five traits were far more predictive of emotional intelligence than academic intelligence. The emotional intelligence factors most closely related to the Big Five personality traits descriptions were empathy corresponding with Agreeableness and Extraversion, emotional control with Emotional Stability, and autonomy with Intellect/Autonomy (Van

der Zee et al., 2002). In a study by Tov, Nai, and Lee (2016), researchers also connected extraversion and agreeableness to satisfaction with social relationships. These studies support the use of Big Five personality assessments to formulate the constructs of Humble, Hungry, and Smart.

Composing and Orchestrating Great Teams is Important

Ultimately, having an organizational culture that excels at collaboration and teamwork comes down to individuals, specifically the leaders and the teammates on those teams. The individuals carry a shared responsibility for teamwork and taskwork performance. As Ogletree (2017) pointed out, this requires individual and collective commitment to teamwork. This commitment must span boundaries, turfs, hierarchies, and reach every level of the organization. Organizational culture is the soil on which teams either thrive, merely survive, or ultimately fail.

Culture must be tended to consistently and regularly if the organization is going to grow, thrive, sustain, and carry out its mission and vision. It is with this understanding that we apply interventions to improve teamwork. Clifton and Harter (2019) state that ultimately, it all boils down to the managers in organizations. If we have managers who are team players, lead effectively, and create a culture where teams thrive, we will have organizations and teams that can collaborate effectively and perform at the highest level. Because of this understanding, managers were our target population for this study.

The literature has shown us that cooperation, management of conflict, coordination, communication, coaching, cognition, composition, context, and culture form the components of teamwork (Salas et al., 2015). It has also shown that the

essentials include team leadership, mutual performance monitoring, closed loop communication, feedback, adaptability, backup behavior, and team orientation (McIntyre & Salas, 1995; Salas et al., 2005). The literature also supports that team composition, or the individual characteristics of the individuals on teams, should not be ignored (Salas et al., 2015) and hints that Lencioni's virtues of Hungry, Smart, and Humble could be factors that make ideal team players. But the gap between basic science and applied science remains and offers room to grow these ideas.

As Salas et al. (2015) recommend, "given the abundance of teamwork research, translating this research into something practical for organizational leadership is of utmost importance" (p. 614). They also recommend that "organizational leaders think of team development interventions from a pre-, during, and post-performance framework (Gregory, Shuffler, DiasGranados, & Salas, 2012)" (p. 614). Salas et al. (2015) also point out that while composition has been examined for over 50 years, "there are still many remaining questions to be answered surrounding the complementarity of team members and what constitutes a 'dream team'" (p. 616). These are the types of questions this researcher wanted to address with the findings and future research related to this dissertation project. The Lencioni framework is one that claims to comprise the components of an Ideal Team Player and could provide practical applications to the composition of teams.

Summary

This chapter has reviewed the history of teams, established the need for teamwork in the complexity of modern work, acknowledged the value of teams in the healthcare

industry as a strategy for improving patient care quality and creating resiliency among healthcare workers. It has also identified current barriers to teamwork in healthcare, described Team Science and its interventions as a way to overcome those barriers and improve collaboration among health workers, and provided evidence that team intervention is effective. Finally, this chapter has identified several qualities held by effective collaborative teams, and identified knowledge, skills, and attitudes (KSA) and competencies needed for team players.

It has also explored a specific framework in the Lencioni model of Humble, Hungry, and Smart which could provide an approach to team intervention at the individual and the team, group, and organizational level, addressing the collaboration barrier of hierarchical thinking in the industry. This framework is one that is currently being utilized to improve teamwork in organizations, as Lencioni's consulting group, The Table Group, uses this in their efforts to help teams work more effectively together. This researcher has implemented team interventions around this framework, and while anecdotally it has been effective at identifying, selecting, and coaching providers to be team players and has influenced a culture of teamwork since its implementation, the results are merely anecdotal. And while researchers have spent decades studying specific qualities that predict effectiveness including humility, drive, and emotional intelligence, the combination of the three qualities together has not been empirically studied. Nor has there been exploration as to why teaching these qualities may work in the context of teamwork competencies, knowledge, skills, and attitudes.

It does seem that Lencioni's framework could be utilized in team science to help break down barriers to effective collaboration and communication, particularly in the healthcare industry, which is highly hierarchical. Efforts to find and develop team intervention frameworks are certainly prudent, as they provide structure to opportunities to coach and teach the knowledge, skills, and attitudes of teamwork, creating organizational cultures that support it.

The Lencioni Framework is one framework that could be used in the development of team interventions to improve teamwork. Interventions that can be used at the individual, team, group, and organizational levels could shape the culture of our healthcare systems, increase the likelihood of success in achieving collaborative practice outcomes, and ultimately, increase patient safety and quality of care across the industry.

Therefore, because teamwork is essential to quality healthcare, it is a worthwhile endeavor for leaders in healthcare and education to identify and examine frameworks that can be taught in order to change the culture of healthcare from hierarchical silos to a culture where teamwork is the norm.

In order to improve the quality of the care we provide through collaborative practice in a sustainable manner, graduate programs must step up in this effort as well, and must continue to focus on and find new ways to develop leaders in the field who can not only excel academically, but also work well with others and collaborate effectively.

The qualities from Lencioni's framework have been examined separately in teamwork research aimed at understanding how a team's individual level composition affects performance. However, to the knowledge of this researcher, the particular

combination of the three specific characteristics from Lencioni's framework have not been empirically examined.

This research is only the beginning of a series of studies that begins with quantifying the qualities of team players. In IPECP, we must train our future clinicians not only with the clinical knowledge, but also with the so-called "soft skills" of what is empirically proven to work in creating and developing teams that work well together. It starts with the building of skills that make ideal team players. This foundation will help teams to overcome dysfunction and work with synergy, which means they will be more effective with less effort and cost, and will improve the quality of our care.

Since these researchers have recognized and set forth the challenge for the next generation of organizational scholars and interprofessional education and collaborative practice researchers, it seems most appropriate to start with the individuals who make up the collaborative teams we desire. The hope, as leaders who build effective teams, is that we are able to select individuals who have the qualities of team players in order to fulfill the mission of our organizations. The hope, as educators, is that we train future leaders to be team players so that they are "team-ready" when they enter the workforce. The hope for employers, HR professionals, healthcare administrators, and the patients our teammates and future employees serve, is that they will benefit from our attention to the "soft skills" that make teamwork possible.

This study explored a framework that could point to what those quantifiable 'soft skills' of teamwork might be and will begin to quantify the qualities of team players.

CHAPTER III

METHODOLOGY

Research Design

This study attempts to quantify the qualities of team players as described by Patrick Lencioni's Framework of *The Ideal Team Player* (Lencioni, 2016). The study is a secondary analysis of a large dataset that includes participant assessment measures of personality and 360-degree feedback assessment data. This chapter describes the design of the study and a description of procedures used in collecting and analyzing the data. The Center for Creative Leadership (CCL) and Paradigm Personality Labs (PPL) have given permission to use the available data and assessment tools used in this study.

This is an explanatory and exploratory correlational study design that uses 5-step hierarchical linear regressions to determine if relationships exist between boss and team ratings of participants from the constructs of Humble, Hungry, and Smart. Gender, race/ethnicity, and career function are controlled for and explored for potential interactions.

Participants

The participants in the study were enrolled in one of CCL's leadership development programs between 2015 and 2018. Each participant was given a battery of assessments including but not limited to CCL's Leading Manager's 360 (LM-360) assessment, the WorkPlace Big Five 4.0 Profile (WPB5), and the Fundamentals of

Interpersonal Relationship Observations Behavior scale (FIRO-B). Initially, data from 2000 participants were randomly selected for the data extraction by one of CCL's research faculty and were provided to the primary researcher of this project. Datasets were provided from two separate groups of leaders: executive leaders and manager leaders. It was decided that the manager-leaders group was more appropriate for studying team players. This decision was based on the idea that individuals in middle management roles have more opportunity to closely engage with their team in the "dailies" and grants the positional ability to lead and engage in teamwork activities from "above and below" in the organization. Additionally, one of the primary linked personality assessments for the manager group, the WorkPlace Big-Five Profile 4.0 (WPB5), contained facet traits that could be used to measure of the qualities of Humble, Hungry, and Smart, making this group the best fit for the project over the executive leader group. The final dataset for statistical analyses included 1,000 participants from the manager-leader group.

Demographics of the Sample

Gender

The 1,000-participant sample included 392 females and 597 males representing 39.2% and 59.7% of the sample, respectively. According to the U.S. Equal Opportunity Employment Commission statistics website, this is representative of the 2017 U.S. National Aggregate of employees in first- and mid-level officials and managers (www1.eeoc.gov, 2017). Dichotomous variables were created for gender (coded Male=1, Female/Non-designated=2).

Race

Race representation in the sample included Caucasian (76%), African American (10.9%), Other (7%), Multiracial (4.4%), Hispanic (2.5%), American Indian or Alaskan Native (.2%), .2% Filipino or Guamian (.1%), Japanese (.1%), Chinese (.1%), and Other/Pacific Islander (.1%). According to the U.S. Equal Opportunity Employment Commission statistics website, this is representative of the 2017 U.S. National Aggregate of employees in first and mid-level officials and managers for Caucasians. The sample is slightly over-representative of the U.S. aggregate for multi-racial and African American and under-representative of Hispanic, Asian, and American Indian (www1.eeoc.gov, 2017). Dichotomous variables were created (coded Caucasian=1, non-Caucasian=0).

Organizational Career Function

The participants held 21 various career functions within their organizations. Dichotomous variables for Function were created (coded Health, Education, and Protective Services=1, Other Career Functions=0).

Organization Level

Participants were from the following levels within their organizations: First level managers (41.5%), middle managers (28.2%), executives (7.6%), other (7.3%) upper middle and hourly (6.8% and 5.2%, respectively), top (2.6%), and not relevant for the situation (.3%). Because all participants were in middle to upper management roles, the group was homogenous and no dichotomous variables were created for this analysis.

Organization Type

Participant work organization types were classified as Business Sector, Private Non-Profit Sector, and Public Sector and included the following industries: government (54.4%), aerospace and defense (18.3%), other (10%), consumer products (7%), manufacturing (1.6%), education (1.5%), utilities (1.1%), non-profit (1%), financial services and banking (.9%), health products and services (.6%), computer software and services (.4%), retail (.4%), energy (.3%), telecommunications (.3%), transportation (.2%), diversified services (.2%), and materials and construction (.1%). This variable was not utilized for this particular study; however, it is included here to denote the diversity of industry representation in the sample.

Ethical Standards

Participation in this study was voluntary, and subjects were not exposed to any unreasonable discomforts, risks, or violations of their human rights. IRB board approval was not required as this secondary study did not involve human subjects, merely de-identified participant data not collected by this researcher.

Data

Six assessments were originally chosen from the Center for Creative Leadership (CCL) database with individual level data due to data being identified as relevant to the researcher's categories of interest regarding leaders, teammates, teams, and organizations. The assessment measures used by CCL are reliable and valid (CCL, 2018). CCL's large database of participants provided the desired access to a large dataset to strengthen the power of the quantitative analyses. Originally, data were requested from

the U.S. and international data indicators; however, due to international data-sharing legalities in process at the U.S. federal level at the time of the researcher's request for data, CCL was only able to share U.S. data. U.S. data indicators provided a focused, yet broad view of leadership and teams in America while the individual participant demographic data—which includes gender, race/ethnic, age, organizational career function, organizational level, and organizational type—granted the ability to potentially examine deeper patterns and influencing factors on leaders, teams, and organizations and industries in this study or in future research studies.

Data Extraction

The Center for Creative Leadership (CCL) provided the investigator and faculty mentors with access to de-identified assessment data from their expansive database of participant data on leaders, managers, and those who aspire to lead who participated in their leadership program. Prior to individuals enrolling in a CCL program, a battery of assessments was given to each participant to determine baseline scores in order to provide the participants with self-understanding of their strengths and attributes, as well as to track the individual's growth across the duration of the individual's participation in the programs. Data were pulled from participants from the United States who had participated in one of the CCL's many leadership programs between the years of 2015 and 2018. Data were extracted from two groups of participants: an executive level leadership group and a mid-level manager group. One thousand participants per group were randomly selected during data extraction and linked via a blind identifier (ESI case number) by CCL staff before being provided to the investigator via SPSS format. For

each assessment, CCL provided questions and scales from each assessment, technical manuals, code book, and data dictionaries, with the exception of the Work Place Big Five 4.0 Professional Manual, which was provided by the developer, Paradigm Personality Labs.

Assessment Tools

The Use of Assessment Tools to Quantify Qualities of Team Players

Many organizations use assessments in human resources hiring processes, candidate selection, and performance management. Personality profiles and 360-degree feedback assessments are common types (Aguinis, 2013). The Center for Creative Leadership uses both types of assessments for participants in their programs. The original six assessments provided to the primary investigator were narrowed down to two for use in this study: The WorkPlace Big Five 4.0 Profile and the Leading Managers 360 assessment. Both instruments have received rigorous psychometric evaluation. These assessments will be described next.

Benchmarks Leading Managers 360 Degree-Feedback Assessment

A group of assessments called “360-Degree Feedback Assessments” or “360 Assessments” are used in many organizations as a part of performance management systems often implemented by human resources departments (Aguinis, 2013). These assessments rate an employee from the many perspectives of those that interact with them on a daily basis. Raters may include boss, supervisor, peers, subordinates, and customers. The CCL’s version of this type of assessment is called the *Benchmarks Leading Managers 360 Assessment (LM-360)* (CCL, 2018).

The Leading Manager's 360 feedback assessment was developed by and is used in numerous research projects of the Center for Creative Leadership. The 111-question survey assessment is divided into two sections: Competencies (Section 1) and Problems That Can Stall a Career (Section 2).

The LM-360 rating forms are scored using a Likert-type scale and scores represent the perceptions of those who work most closely with the participant. The rater uses a 1-5 scale to indicate the level at which the participant demonstrates the quality or that the statement is true about the participant. The LM-360 uses raters of boss, peers, subordinates, and self-ratings to assess the participant. Considering that the raters are teammates of the manager, the assumption was that LM-360 scores from peers, subordinates, and the participant's boss could provide an idea of the team's positive or negative perception of the manager/teammate in areas such as leader effectiveness, likelihood to derail, leadership competencies, and problems that can stall a career.

Reliability and Validity of the Leading Managers 360. According to the Technical Manual of the Leading Manager's 360,

the norm group consists of 2,744 leaders who attended CCL's (Open Enrollment) Leadership Development Program between January 2016 and February 2018. All leaders comprising the norm group indicated that they had responsibility for "managing managers or senior professional staff," which corresponds to the "leading managers" level in CCL's Leader Roadmap. (CCL, 2018, p. 4).

Cronbach's alpha was used to measure internal consistency reliability.

"Reliabilities for virtually all competencies and problems that can stall a career were at or above the generally accepted reliability minimum of .70. The reliability of the

competencies were generally the highest for Direct Reports, Peers, and All Observers” (CCL, 2018, p. 13). The All Observer alpha values were between .87 and .92 with an average of .89 for the Competencies (section 1). All Observer alpha values for Problems that can Stall a Career (section 2) were between .92 and .96 with an average of .936. For criterion-related validity, it was reported that

on average, managers who possessed higher levels of these competencies were perceived by their bosses to be more effective leaders and as less likely to derail in their leadership careers. Likewise, managers with lower scores on the problems that can stall careers were perceived by their bosses as being more effective and as being less likely to derail in their leadership careers. (p. 4)

Self-ratings were not very good predictors of boss-rated outcomes; therefore, self-ratings were excluded from the Team Rating index scores created for the analyses in this project (CCL, 2018).

The WorkPlace Big Five 4.0 Profile

The WorkPlace Big Five (WPB5) is a personality assessment that identifies five super-traits with 28 sub-traits or an individual’s tendency toward a particular set of behaviors. The assessment is an untimed 143-item (48-item for short form) self-report behavioral inventory that takes approximately 25 minutes (10 minutes for short form). Each question is answered on a scale indicating degrees between false, neutral, and true with ratings for analysis purposes being *Strongly False* (-2), *Moderately False* (-1), *Neutral* (0), *Moderately True* (+1), and *Strongly True* (+2). Higher scores suggest dominance of one set of behaviors that make up the trait. Moderate scores generally suggest a balance, while low scores represent a non-dominant tendency for that trait.

The Big Five can be remembered by the acronym OCEAN. ‘O’ stands for *Originality/Openness to Experience* and includes the sub-traits of imagination, complexity, change, and scope. ‘C’ stands for *Consolidation/Conscientiousness* and includes sub-traits of Perfectionism, Organization, Drive, Concentration, and Methodicalness. ‘E’ stands for *Extroversion/Sociability*, and includes sub-traits of Warmth, Sociability, Activity Mode, Taking Charge, Trust of Others, and Tact. ‘A’ represents *Accommodation/Agreeableness* and includes sub-traits of Others’ needs, Agreement, Humility, and Reserve. ‘N’ represents the *Need for Stability/Emotionality* (formerly ‘Neuroticism’ in some texts), and includes sub-traits of Worry, Intensity, Interpretation, and Rebound Time.

Dr. Howard, one of the developers of the WPB5, describes that the best way to understand these traits is to visualize a person who has two fuel tanks for a given trait dimension. “The size of the fuel tank represents the amount of energy a person has available to engage in the set of behaviors associated with that “fuel tank.” For example, someone who is low E (or E=-2) would have a small tank of ‘sociable energy’ and a very large tank for ‘solitary energy’ (Howard & Howard, 2017, p. 20). In most cases, directionality is consistent from model to model with the exception of the N trait. “When N is defined as ‘Emotional stability’, high N means calm and low N means reactive, but when it is defined as ‘Neuroticism’ or ‘Need for Stability’, then high N means reactive” (Howard & Howard, 2017, p. 9). The developer warns to be aware of the possible differences on N-trait when looking at other Big Five models (Howard, personal

communication, 2018; Howard & Howard, 2017). N is defined as Need for Stability in the Work Place Big Five 4.0.

Reliability and Validity of the Workplace Big-Five Profile. The WPB5 has been established as a valid and reliable measure of the five-factor model. The psychometric properties of the WPB5 are described in its Professional Manual (Howard & Howard, 2017).

For reliability, coefficient alphas for the super-traits were based on the 2009 norm group of 1,200 U.S. participants. For the construction of the 4th iteration of the WPB5, the developers used a U.S. norm group ($N=1200$) and completed an intercorrelation matrix of the five super-traits and 23 sub-traits using the raw scores. For each cluster of sub-traits belonging to one super-trait, the correlation alpha coefficient is between .5 and .8. Additionally, each sub-trait correlates with its parent super-trait at a higher level than it correlates with any other super-trait or sub-trait.

The coefficient alphas for the long form averaged .824, with O=.76, C=.87, E=.84, A=.80, and N=.85. Test-retest reliability with the mean correlation from first administration to second administration across all five super-traits was .88 with individual super-trait correlations ranging from .80 to .95.

The developers of the WPB5 were interested in one primary validity indicator: the degree to which the Big Five Super-traits and their sub-traits correlated with the NEO-PI-R. Validation studies of the WPB5 compared to the NEO-PI-R (Costa & McCrae, 1992) were conducted. The NEO-PI-R is considered the gold standard for Big Five and

personality measurements in general. Correlations of the WPB5 with the same factors from the NEO-PI-R are as follows: O=.55, C=.60, E=.73, A=.27, N=.61.

Constructing Humble, Hungry, Smart from the WPB5 4.0 Sub-trait Facet

Scores. WorkPlace Big Five (WPB5) facet sub-traits were used to create the constructs of Humble, Hungry, and Smart from Lencioni’s model. A review of the personality literature and personal conversations with the developer of WPB5, Dr. Howard, provided direction on which facet scores should be considered in the construction of the Humble, Hungry, and Smart virtues. Howard provided guidance for which facet scores might relate to Lencioni’s Model. Howard’s initial suggestions for Humility/Humble was to use A3 (and optionally A4). He suggested for Motivation to Achieve/Hunger to use A2 (also C3, and perhaps C1, E4) for Motivation to Achieve/Hunger. He suggested to use N1234 along with sub-traits from E and A for Emotional Intelligence/Smart. He also suggested creating a composite or index by averaging scores on multiple areas for each category (Howard, personal communication, July 26, 2018; Howard & Howard, 2017). His suggestions, reasoning, and this researcher’s final choice for the constructs are included in the following sections.

Humble-humility. In the WPB5, facet A3 is Humility. Low levels in this category can be damaging. High scorers in Humility do not wish to be singled out publicly for deeds well done, and genuinely feel that any credit must be shared with other parties. Low scores are the opposing descriptor “pride.” These individuals tend to want the limelight. This description aligns with Lencioni’s description of humility in the emphasis of team over self, and therefore is seen as more desirable on teams than low scorers in

Humility. Howard suggested using the items from Humility (A3) and Reserve (A4), explaining that both are positive indicators for agreeableness. Since there was a pure facet score in the WPB5 for humility, and because reserve (A4) had also been suggested for the Smart construct, it was decided that the pure score for Humility (A3) would be used for Humble.

Hungry-drive/motivation. Howard suggested using questions from Drive (C3), Agreement (A2) and Taking Charge (E4) as a measure of competitiveness in representing Hungry. A person high in E4 enjoys competition. Drive (C3) is the will to achieve and E4 from extroversion is taking charge and likes to lead. Because items from Agreement (A2) were also suggested for creating the Smart construct and there was a pure facet score for Drive (C3), only items from the pure facet score for Drive (C3) were used to measure Hungry.

Smart-emotional intelligence. Smart/Emotional Intelligence was more complex and required the construction of an index or composite score. Howard (personal communication, 2018) suggested using a combination of sub-traits from three super-traits N, E, and A. Those traits and their sub-traits are described next.

- Need for Stability/Emotionality (N) as a super-trait measures qualities of temperament, stability, optimistic versus pessimistic states, and resiliency. In some Big Five assessments, N stands for neuroticism, and includes the sub-traits of N1=Worry, N2=Intensity, N3=Interpretation, and N4=Rebound time needed following a stressful situation. Lower levels of the N facet level scores are associated with more emotional regulation and better interpersonal

relationship skills (Morgeson et al., 2005). Lower ratings for N traits are more desirable for team players and leaders. All of the N sub-traits were used in the construct of Smart. To account for the directionality, items were reverse scored where needed so that higher N scores were viewed as a positive rather than negative, and placed N on the same scale as the other items in Smart.

- Extroversion (E) as a super-trait deals with sensory stimulation. Howard and Howard (2017) explain that extroversion is “often equated with the desire to be around other people, and introversion, to be alone. However, the emphasis is misplaced” (p. 29). Introversion and extroversion should emphasize the way in which the individual needs to refuel their energy. “The lower the score, the less sensory stimulation-noise, bright lights, colors, smells, and touch, the individual can take before s/he needs to switch on the fuel tank for being still and quiet” (Howard & Howard, 2017, p. 28). Higher extroversion tends to refuel by social, stimulating activities, whereas lower extroversion tends to need to refuel with more solitary, calming activities. In relation to teamwork, Dr. Howard suggested combining E1=measures warmth and engagement, E5=trust, and E6=Tact for the construct of Smart. Individuals with higher E2=Sociability tend to prefer working on teams over solitary work. However, E2 was not used in the construct for Smart, as individuals considered to be introverts can also be team players. Introverts can often be situationally more extroverted, particularly in work settings that require it (Howard & Howard, 2017). Additionally, if extroversion is more considerate of how individuals

refuel their energy, that personality factor would not need to be included in order for individuals to have the emotional intelligence-type of Smart. Including sociability into the Smart construct could bias the analysis toward extraversion, excluding introverts from being positively associated with teamwork or team players. The final decision for the sub-traits of extroversion used for the Smart construct are described next.

- *Warmth*. Individuals with a higher scores in the sub-trait of Warmth (E1) “tend to express positive feelings to others” and “find it easy to give recognition to others” (Howard & Howard, 2017, p. 29). “Lower scorers tend to be hard to read . . . either verbally or non-verbally” (p. 30)
- *Trust of Others*. Trust (E5) is “how readily we believe that other people will do what they say” and “is an integral part of leading people” (Howard & Howard, 2017, p. 30). Lencioni agrees with the value of this sub-trait in working with teams, as he defines “lack of trust” as one of the five dysfunctions of a team as it affects how we interact with others (Lencioni, 2002). Trust is foundational to teamwork.
- *Tact*. Tact (E6) is associated with the definition of emotional intelligence as used by researchers Lencioni (2016) and Howard and Howard (2017). Tact “addresses the degree of care we take in being sensitive to the consequences our words might have on others. High scorers tend to disagree in a more tactful manner, are smooth at handling people, and facilitate discussions effectively, thereby inspiring others to feel safe to

contribute their information and opinions” (Howard & Howard, 2017, p. 30). Based on descriptions of the interactions needed for collaborative teams, this sub-trait certainly has value in the smart category.

- Accommodation (A) as a super-trait deals with dominance, and measures relationship moderation and the degree to which one focuses on others’ needs. Howard describes that individuals with a moderate score in A usually prefer an outcome of win-win in negotiations. The sub-traits of Accommodation (A) used for Smart are described below.
 - *Agreeableness (A2)*. A2 in particular, is the preference for harmony. “Midrange scorers on A2 tend to make good negotiators, in that they are comfortable hashing out both sets of needs until they can identify a strategy that will satisfy the needs of each part--a win-win.”
 - *Reserve/Assertiveness (A4)*. High scorers in A4 are more reserved, so they agree too readily with others, do not share their opinions as easily, and may not ask enough probing questions. Slightly lower A4 tends to be a quality of leadership. Very low levels of A4 are less reserved, more opinionated, and can be verbally overwhelming to others. Therefore, a moderate level of A4 may be more desirable for a team player in that they have a healthy balance of reserve and assertiveness.

Howard (personal communication, July 26, 2018) also reported that these categories correlate with high levels of leadership and suggested a review of Timothy Judge’s work. In particular, the entire category of Extroversion is correlated with

Leadership qualities (Howard & Howard, 2017; Judge, Bono, Ilies, & Gerhardt, 2002). Judge's core self-evaluation research was on a 14-item survey about emotional stability and its correlation to high leadership profiles (Judge, 2009; Judge & Bono, 2001). Howard correlated these qualities to the WPB5 during development (Bush & Howard, 2001; Howard, personal communication, July 26, 2018; Howard & Howard, 2017).

Other researchers have also examined the Big-Five personality traits or the Five Factor model in relation to emotional intelligence, which is similar to or at least a component of Lencioni's construct of 'people Smart.' A study by Van der Zee et al. (2002) that examined the relationship between intellectual capacity, emotional intelligence, and the Big Five personality traits results found no relationship between Intelligence quotient (IQ) and emotional intelligence quotient (EQ). But there was a relationship between EQ and certain Big Five personality traits. Through factor analysis, they found that there were three components of emotional intelligence: empathy, autonomy, and emotional control, and that the Big Five were predictive of emotional intelligence. The researchers found strong positive correlations between the three emotional intelligence dimensions, particularly with (E) Extraversion and (N) Need for Stability or Emotional Stability, but also with (A) Agreeableness. They report that "extraversion was very strongly related to social competence: this trait explained respectively 48% and 32% of variance in self- and other rated social competence" (p. 117). They go on to report that emotional intelligence explained the additional variance in social success, empathy and autonomy. This supports using (E) Extraversion as a component of the Smart virtue. A number of other studies have also associated

interpersonal behavior (extraversion and agreeableness) and emotional stability (neuroticism) and have found that A, E, and N super-traits are related to higher quality interpersonal relationship skills and effective leadership (Davies et al., 1998; Shutte et al., 1998; Van der Zee et al., 2002). These researchers also found that emotional intelligence was predictive of success academically and socially. This is consistent with Howard's recommendation on the construct components and supports the use of the WPB5 super-traits and sub-traits selected for the Smart construct.

Variables

Independent Variables

The WorkPlace Big Five Profile items scores were used to create the independent or predictor variables for the analyses. Initially, there was overlap in some of the facet scores recommended by Howard (personal communication, July 26, 2018) to make up the three constructs across Humble, Hungry, and Smart. For example, Howard suggested that facet trait Agreement (A2) be present in Humble and in Smart. This would have created a problem in the statistical analyses, since having a single facet level score in more than one construct would confound the results. Therefore, a more simplified facet structure was selected.

Since Humility had a pure sub-trait score, the decision was made to use the pure score over the composite for the Humble construct. A pure score was also available for C3-Drive to represent the Hungry construct, likewise, the pure sub-trait score was used.

The Smart construct was more complex, as there was no pure WPB5 score to capture the construct. For this reason, a composite score was created from sub-traits

within the super-traits N, E, and A based on theoretical and empirical evidence that these super-traits are positively associated with emotional intelligence (EQ).

Items from the following sub-traits were used for predictor variables for each construct to create the constructs of Humble, Hungry, and Smart (see Figure 1). Where appropriate, items were reverse-scored to maintain consistent directionality of items prior to computation of the index scores. See Appendix F for questions included in the constructs.

Humble	Hungry	Smart
<u>A-Accommodation</u>	<u>C-Consolidation or Conscientiousness</u>	<u>N Need for stability</u>
A3-Humility	C3: Drive	N1-Worry N2-Intensity N3-Interpretation N4-Rebound Time <u>E Extroversion</u> E1-Warmth E5-Trust of Others E6-Tact <u>A-Accommodation</u> A2-Agreement A4-Reserve

Figure 1. Sub-traits Used to Create Constructs of Humble, Hungry, and Smart.

Dependent Variables

The Leading Managers 360-Assessment (CCL, 2018) scaled scores were used as the dependent variables for measuring Boss ratings of Effectiveness and Boss Ratings of Likelihood to Derail. A composite score was created from multiple raters for the Team Competency Rating and Team Ratings of Career Stalling Behaviors.

According to the LM360 Technical Manual, “Self, direct report, peer, boss, superior, other, and all observer ratings were used for the LM360 competencies and problems that can stall a career, whereas only boss ratings were used to measure the leader effectiveness and likelihood to derail criteria” (CCL, 2018, p. 5). Since the norms were developed for the LM360 with this method, the dependent variables were created with that method in mind. Only the boss scores were used to determine the Boss Rating of Effectiveness and Boss Rating of Likelihood to Derail. Most participants only had one set of Boss ratings; however, if there were two Boss ratings presented, only the first baseline score was used, as the second, later dated score most likely could have been influenced by CCL’s leadership training and could have skewed the results for participants with more than one, if the scores had been averaged. Team Competency Ratings and Team Ratings for Career Stalling Problems used all rater scores with the exception of self-ratings and boss ratings, which were excluded from both Team rating composite scores. Four dependent-outcome variables (2 Boss and 2 Team) were created using the following method as illustrated in Figure 2.

<p><i>Boss Rating of Effectiveness.</i> The average of boss ratings composed the composite effectiveness score. Responses on items LM_S3-1-LM_S3-8 were used. Higher score means greater boss perceived effectiveness. Lower score means rated less boss perceived effective.</p>	<p><i>Team Perceived Leader Competency</i> score. The average of the scaled scores of all raters composed this composite Team rating. Responses on items LM_S01-LM_S15 were used. Higher score means a more positive rating.</p>
<p><i>Boss Rating of Likely to Derail.</i> The average of boss ratings composed the composite likely to derail score. Responses in Column LM_S3 items 9-11 were used. Higher score means more likely to derail. Low scores are more positive rating.</p>	<p><i>Team Perceived Leader Career Stalling Problems.</i> The average all of the scaled scores from all raters (excluding self & boss) composed a composite score. Responses for items LM_D01-LM_D05 were used and show the 5 problems that can stall a career. Lower scores are more positive. High scores should show a negative correlation to Humble, Hungry, Smart.</p>

Figure 2. Method of Creation of the Four Dependent-Outcome Variables.

Statistical Analyses

Four separate 5-step hierarchical linear regression analyses were run using IBM SPSS software to perform the statistical analyses. The Leading Manager 360-Assessment participant index scores for Boss Effectiveness Rating, Boss Rating of Likelihood to Derail, Team Competency Rating, and Team Ratings of Career Stalling Problems were regressed onto the constructs of Humble, Hungry, and Smart from the WPB5. To examine main effects, control variables of gender, race/ethnicity and organizational career function were entered into Step 1, Hungry in Step 2, Smart in Step 3, and Humble in Step 4. To examine the interactions between variables of interest, the interaction variables were entered in Step 5 of the regression.

A reliability analysis was completed on the items used for the four dependent variable composite scores and a base level $> .7$ of Cronbach's alpha was used as a minimum acceptable level of reliability was determined. For scale items used for Boss Ratings of Effectiveness and Likelihood to Derail, Cronbach's Alpha = .811 (Boss Effectiveness = .923; Boss Derail = .607). For scale items used for Team Competency Rating, Cronbach's Alpha = .961. For scale items used for Team Ratings of Career Stalling Problems, Cronbach's Alpha = .925.

Refining the Model and Testing Interactions

Initially, the model was a 3-step hierarchical regression with Hungry, Humble, and Smart entered into the first three steps with no control variables. Interactions between the independent variables were explored by multiplying Hungry by Smart, Hungry by Humble, and Humble by Smart and Hungry by Smart by Humble, adding them into the hierarchical regression in a fourth block following the full model. Examining the Pearson-r correlations of these interactions with the dependent variables determined which interactions would be kept and which would be excluded as the model was further refined. In the first round, no controls were entered, and some statistically significant interactions were observed for the interactions. However, when controls for gender and race/ethnicity were added, the effects of the interactions were no longer significant. These interactions were excluded due to no statistically significant correlations being found. In further examining the model, it was observed that when the control variables were entered in the model in the first step, this changed the significance of one of the predictor variables (Humble), causing it to no longer be significant. This led to examining

relationships between the controls and the predictor variables for possible interaction effects. Nine interaction variables were created from the products of gender, race, and career function with Hungry, Smart, and Humble. The final model was a 5-step hierarchical regression with gender, race/ethnicity, and organizational career function in the first step, Hungry in the second step, Smart in the third step, Humble in the fourth step, and the nine new interaction variables in the fifth step.

Hierarchical Regression

IBM SPSS was the statistical software package used to analyze the dataset. The following hierarchical regression analyses were completed to answer the hypotheses and research questions:

- Humble, Hungry, Smart regressed onto Boss Rating composite effectiveness score.
- Humble, Hungry, Smart regressed onto Boss Rating composite of likelihood to derail.
- Humble, Hungry Smart regressed onto Team Rating of Leader Competency score.
- Humble, Hungry, Smart regressed onto Team Rating of Leader Career Stalling Problems.

Independent Samples *t*-test

Independent samples *t*-tests were also run to examine mean differences between gender groups and race/ethnicity groups as they related to boss and team ratings. *T*-test grouping variables for gender were male (1), and female/non-designated (0). *T*-Test

grouping variables for race/ethnicity were Caucasian (1), and non-Caucasian (0). Testing variables for both *t*-tests were Boss Rating Effectiveness Score, Boss Rating Likelihood to derail score, Team rating of Leader Competency score, and Team rating of Leader Career Stalling Problems.

Hypotheses

The following hypotheses were posed:

Ho1: Humble, Hungry, and Smart will be positively associated with/predictive of boss ratings of leader effectiveness and likelihood to derail.

Ho2: Humble, Hungry, and Smart will be positively associated with/predictive of Team ratings of leader competence and problems that stall a career.

Ho3: Humble will explain most of the variance in all ratings from boss and team.

Summary

This study explored the constructs of Humble, Hungry, and Smart from the Lencioni Framework formulated from participant scores from the WorkPlace Big Five 4.0 Profile. Boss and Team ratings of the participants were examined in the form of scores from the CCL Benchmark Leading Managers 360-Assessment. Hierarchical linear regression analyses were used to test the model for statistically significant correlations and predictions with the hope of discovering relationships, answering the research questions and translating the results into practical applications for teams.

CHAPTER IV

RESULTS

Research Questions

Research Question 1

Do Humble, Hungry and Smart predict Boss Rating of Effectiveness? A 5-step hierarchical regression was run to determine if the addition of Hungry, Smart, and then Humble improved the prediction of Boss Rating of Effectiveness when controlling for gender, race/ethnicity, and career function. See Table 1 in Appendix G for full details on each regression model.

Assumptions. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.883. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than ± 3 standard deviations, no leverage values greater than 0.2, and values for Cook's distance above 1. There assumption of normality was met, as assessed by Q-Q Plot.

Predictions. The full model of Humble, Hungry, and Smart to predict Boss Ratings of Effectiveness (Model 4) was statistically significant ($F(5,766) = 3.514$, $p = .002$), accounting for 2.7% of the variance in Boss Effectiveness Ratings with

$R^2 = .027$. The addition of Hungry to the prediction of Boss Effectiveness Rating (Model 2) led to a statistically significant increase in R^2 . The addition of Smart (Model 3) and Humble (Model 4) to the prediction of Boss Effectiveness Rating did not lead to a statistically significant increase in R^2 . While Humble, Hungry, and Smart accounted for 2.7% of the variance in Boss Ratings of Effectiveness with $R^2 = .027$, it should be noted that Hungry accounted for 1% of the variance in the Boss Effectiveness Rating when accounting for the variance from the controls with change in $R^2 = .010$ (Model 2). Hungry was the only statistically significant predictor. Product variables for the control and independent variables were created and the statistically significant correlated interactions were added to the model in a fifth step to examine any potential interactions and their effect on Boss Effectiveness Ratings.

Correlations. While the addition of the interactions did not result in a statistically significant change in R^2 (Model 5), the Pearson-r correlations for the variables, gender, race, career function, Hungry, and the interactions of Race by Hungry, Gender by Hungry and Career Function by Humble all showed statistically significant correlations. See Table 5 in Appendix G for the correlation matrix.

Gender showed a negative correlation with Boss Effectiveness ($r = -.060$, $p = .048$), indicating that males were rated as less effective by their bosses than women in the sample. Race was positively correlated to Boss Effectiveness ($r = .061$, $p = .046$) indicating that Caucasians were rated more effective than their non-Caucasian counterparts. Career Function was positively correlated to Boss Effectiveness ($r = .093$, $p = .005$) indicating that Health, Education and Protective services (HEPS) were rated

more effective by their bosses than other industry (non-HEP) careers. Three interactions were statistically significantly correlated with Boss Effectiveness. Race by Hungry and Gender by Hungry were both positively correlated to Boss Effectiveness with ($r = .104$, $p = .002$) and ($r = .088$, $p = .007$), respectively. Career Function by Humble was negatively correlated with Boss Effectiveness scores ($r = -.063$, $p = .040$).

Research Question 2

Do Humble, Hungry, and Smart predict Boss Ratings of Likelihood to Derail? A 5-step hierarchical regression was run to determine if the addition of Hungry, Smart, and Humble improved the prediction of Boss Ratings of Likelihood to Derail when controlling for gender, race/ethnicity, and career function (Model 4). Because there were no statistically significant interactions in the Pearson-r Correlation, the interactions were excluded and the analysis was run again. Therefore, only the 4-step hierarchical regression was used and is shown here. See Table 2 in Appendix G for full details on each regression model.

Assumptions. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 2.020. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than ± 3 standard deviations, no leverage values greater than 0.2, and values for Cook's distance above 1. There assumption of normality was met, as assessed by Q-Q Plot.

Predictions. The full model of Humble, Hungry, and Smart to predict Boss Ratings of Likelihood to Derail (Model 4) was not statistically significant with $F(6,768) = .984, p = .435$. The addition of Hungry (Model 2) and Smart (Model 3) and Humble (Model 4) to the prediction of Boss Ratings of Likelihood to Derail did not lead to a statistically significant increase in R^2 . Humble, Hungry, And Smart only accounted for .08% of the variance in Boss Ratings of Likelihood to Derail with $R^2 = .008, p = .164$. There was not a statistically significant predictive relationship.

Correlations. There were no statistically significant correlations for Boss Ratings of Likelihood to Derail.

Research Question 3

Do Humble, Hungry, and Smart predict Team Rating of Competency? A 5-step hierarchical regression was run to determine if the addition of Hungry, Smart, and Humble improved the prediction of Team Ratings of Competency when controlling for gender, race/ethnicity, and career function. See Table 3 in Appendix G for full details on each regression model.

Assumptions. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.908. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than ± 3

standard deviations, no leverage values greater than 0.2, and values for Cook's distance above 1. There assumption of normality was met, as assessed by Q-Q Plot.

Predictions. The full model of Humble, Hungry, and Smart to predict Team Competency Ratings (Model 4) was statistically significant ($F(6, 901) = 3.163, p = .004$). The addition of Hungry to the prediction of Team Competency Rating (Model 2) did result in a statistically significant change in R^2 from the control variables with a change in $R^2 = .007, p = .011$. However, the addition of Smart (Model 3) and Humble (Model 4) to the prediction of Team Competency Rating did not lead to a statistically significant increase in R^2 . The results show that Hungry is the only statistically significant predictor of Team Competency Ratings when controlling for gender, race/ethnicity, and career function.

Overall, Humble, Hungry, and Smart accounted for 2.1% of the variance in Team Competency Rating, $R^2 = .021$. It should be noted that the addition of Hungry (Model 2) accounted for an additional .7% of the variance, with change in $R^2 = .007$. When taking out the variance accounted for by the control variables ($R^2 = .008$) for Team Competency Rating, Hungry accounted for 0.7%, Smart accounted for an additional .2%, and Humble accounted for .3% of the variance in Team Competency Ratings.

The addition of the nine interaction variables to the regression in Model 5, the product of gender, race, and career function with Hungry, Smart, and Humble, were neither statistically significantly correlated to Team Competency Ratings, nor did they result in a statistically significant change in R^2 . See Table 3 in Appendix H for details of the full model results.

Correlations. While there were no statistically significant predictions from the effects of the interaction variables, there were a few statistically significant correlations that included Hungry ($r = .083, p = .005$), race ($r = -.074, p = .012$), career function ($r = .059, p = .034$), race by Hungry ($r = .069, p = .017$), and gender by Hungry ($r = .075, p = .010$). See Table 5 in Appendix G for the correlation matrix.

Research Question 4

Do Humble, Hungry, and Smart predict Team ratings of Career Stalling Problems? A 5-step hierarchical regression was run to determine if the addition of Hungry, Smart, and Humble improved the prediction of Team Ratings of Career Stalling Problems when controlling for gender, race/ethnicity, and career function (Model 4). See Table 4 in Appendix G for full details on each regression model.

Assumptions. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.936. There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than ± 3 standard deviations, no leverage values greater than 0.2, and values for Cook's distance above 1. There assumption of normality was met, as assessed by Q-Q Plot.

Predictions. The full model of Humble, Hungry, and Smart to predict Team Ratings of Career Stalling Problems (Model 4) was statistically significant ($F(6,913) = 2.786, p = .011$). The addition of Hungry (Model 2), Smart (Model 3) and Humble

(Model 3) to the prediction of Team Ratings of Career Stalling Problems did not lead to a statistically significant increase in R^2 . Only the control variables showed a significant change in $R^2 = 0013$, $p = .006$.

Correlations. While there were no predictive relationships between Hungry, Smart, and Humble and Team Ratings of Career Stalling Problems, it should be noted that in the Pearson Product Moment correlation, there were two statistically significant correlations: Career function ($r = -.106$, $p = .001$) and gender by Hungry ($r = .068$, $p = .017$). See Table 5 in Appendix G for the correlation matrix.

Group Differences for the Dependent and Independent Variables

Boss and Team Ratings

Three independent-samples t -tests were run for the four dependent variables to compare groups and determine if there was a difference in the mean for gender, race/ethnicity, and career function.

Gender. The results did not show a statistically significant difference in the group means for any boss or team ratings for gender.

Race.

Team competency rating scores. There was a statistically significant difference in the mean scores for Team Competency scores between the Caucasian group and the Non-Caucasian group, $t(924) = -2.264$, $p = .024$. The Caucasian-group mean score ($M = 62.33$, $SD = 5.49$) was -1.01 , 95% CI $[-1.892, -.135]$, lower than the non-Caucasian ($M = 63.345$, $SD = 5.20$) group mean Team Competency score. There was not a significant effect size with Cohen's $d = .148$, $r = .074$. See Figure 3.

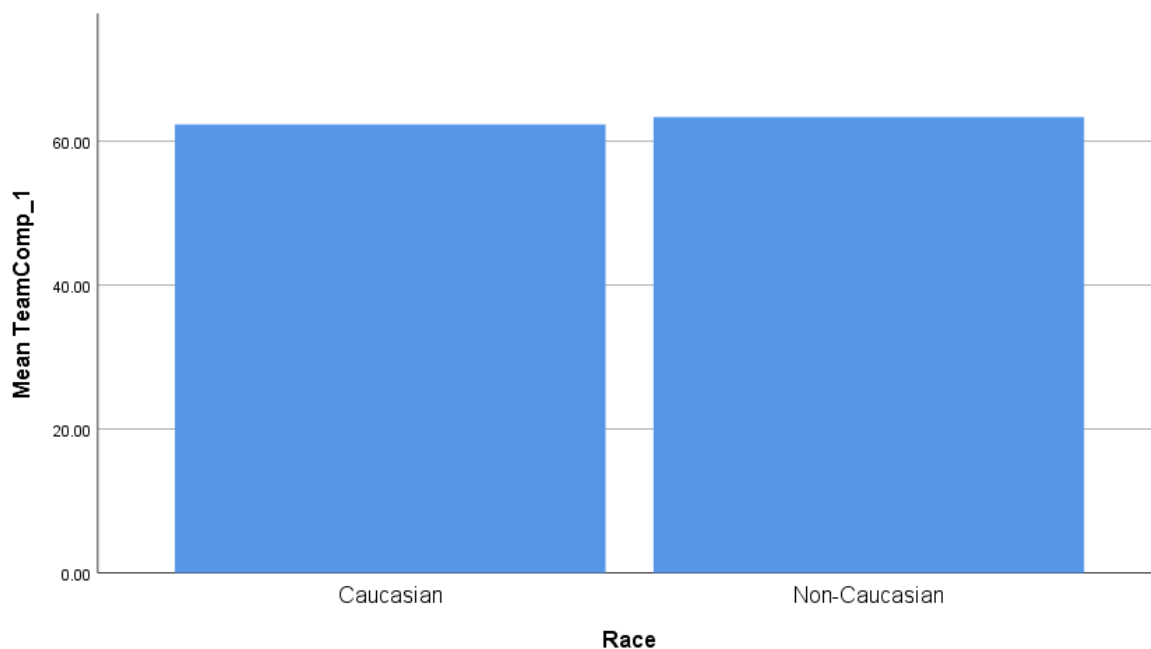


Figure 3. Mean Team Competency by Race.

Career Function. When comparing means for career function, an independent samples *t*-test was run for Healthcare, Education and Protective Services (HEPS-group) (1) versus non-HEPS group (0) as it related to boss and team ratings. There was a statistically significant difference in the mean Boss Rating of Effectiveness and Team ratings of Career Stalling Problems for the two groups.

Boss effectiveness rating. There was a statistically significant difference in mean scores for Boss Rating of Effectiveness scores between Healthcare, Education and Protective Services (HEPS) group and the Non-HEP group, $t(805) = 2.508, p = .012$. The HEPS-group mean score ($M = 35.11, SD = 3.238$) was higher than the non-HEPS group mean score ($M = 31.95, SD = 5.181$). HEPS-group mean score was 3.165, 95% CI [.689,

5.643] higher than Non-HEPS group scores. There was no significant effect size with Cohen's $d = .177$, $r = .088$. See Figure 4.

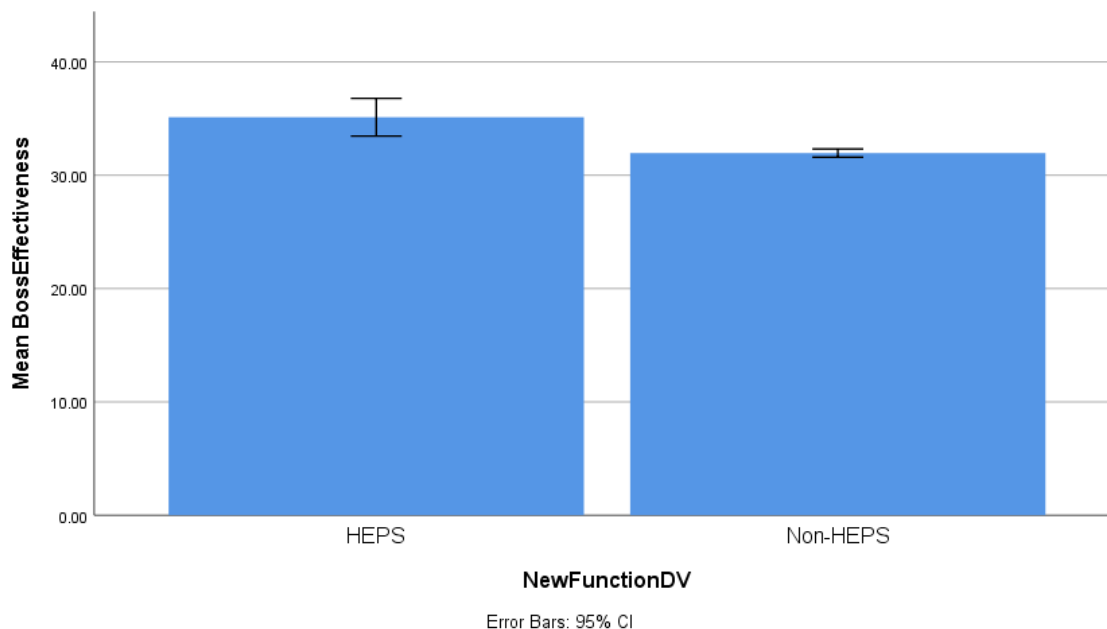


Figure 4. Mean Boss Effectiveness by Career Function.

Team ratings of career stalling problems. There was a statistically significant difference in the mean scores for Team Ratings of Career Stalling Problems between the HEPS-group and the Non-HEPS group, $t(962) = -3.296$, $p = .001$. The HEPS-group mean score was -1.259 , 95% CI $[-2.008, -.509]$, lower than the non-HEPS group. There was no significant effect size with Cohen's $d = .0105$, $r = .105$. See Figure 5.

There was not a statistically significant difference in the group means for Boss Ratings of Likelihood to Derail or for Team Competency Ratings for these two groups.

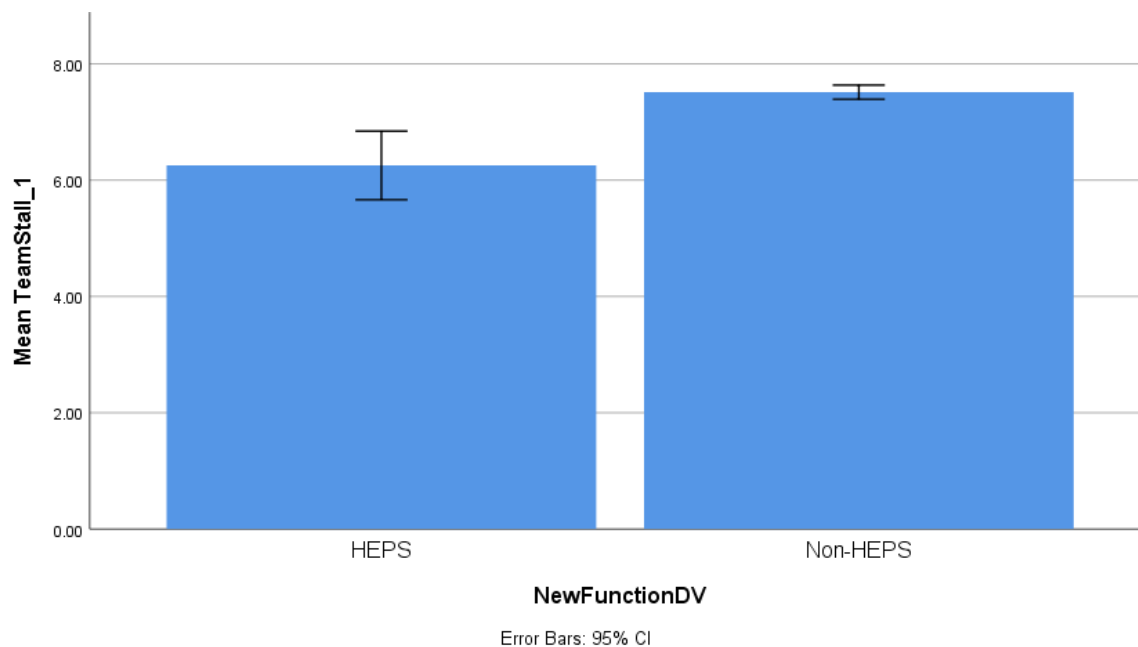


Figure 5. Mean Team Career Stall Problems by Career Function.

Hungry, Humble, and Smart

To determine if there was a statistically significant difference in the mean for gender, race/ethnicity, and career function with regard to the Hungry, Smart, and Humble scores, three independent-samples *t*-tests were run.

Gender. There were statistically significant differences in the group means for Hungry, Smart, and Humble for gender.

Hungry. There was a statistically significant difference in the group means for Hungry for male and female/non-designated groups, $t(987) = -2.499$, $p = .013$. Male mean score ($M = 2.259$, $SD = 1.205$) was $-.129$, 95% CI $[-.230, -.027]$, lower than female/non-designated cores ($M = 3.521$, $SD = .7617$) for Hungry. There was no statistically significant effect size with Cohen's $d = .159$, $r = .079$. See Figure 6.

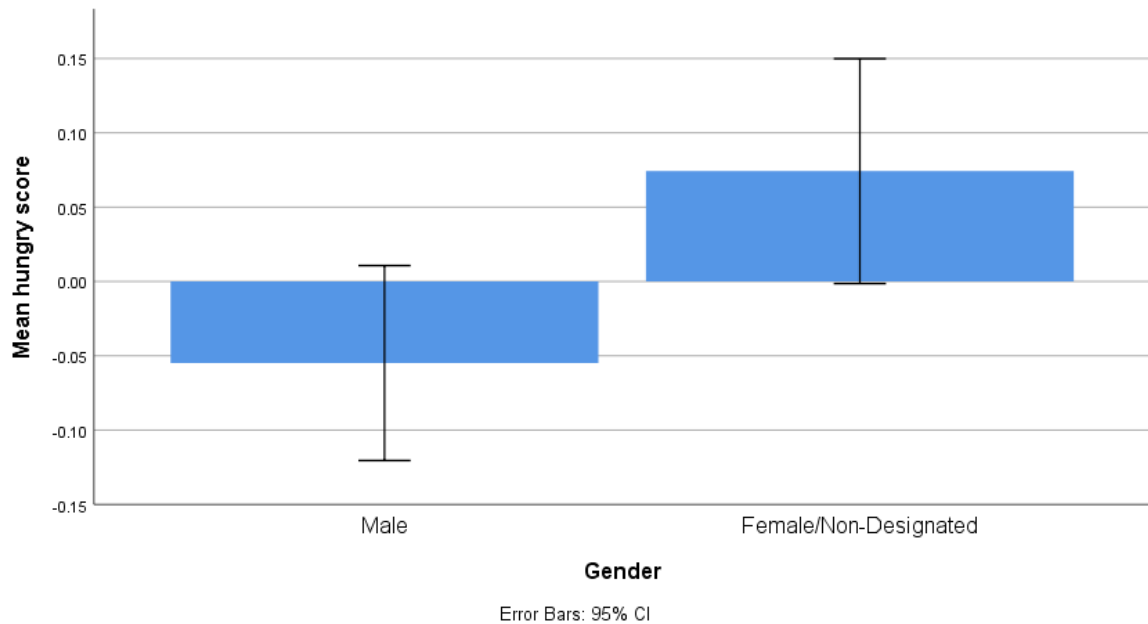


Figure 6. Mean Hungry by Gender.

Smart. There was a statistically significant difference in the group means for Smart for male and female/non-designated groups, $t(987) = -4.425, p < .0005$. Male mean score ($M = 1.986, SD = .554$) was $-0.153, 95\% \text{ CI } [-0.221, -0.085]$ lower than the female/non-designated mean score ($M = 2.14, SD = .496$) for Smart. There was no statistically significant effect size with Cohen's $d = .028, r = .139$. See Figure 7.

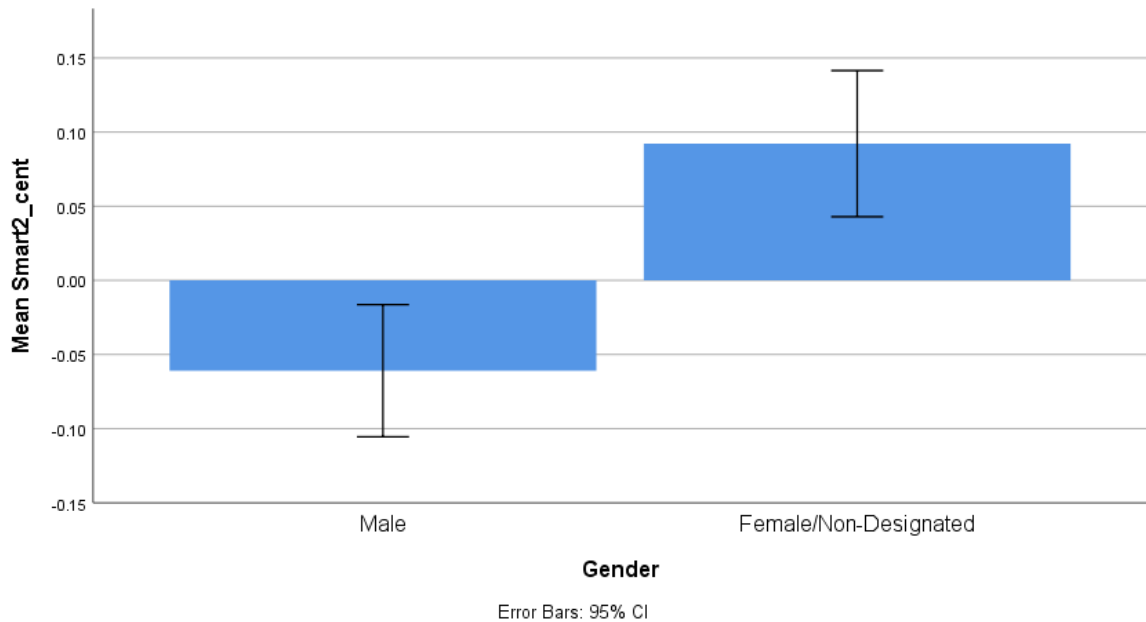


Figure 7. Mean Smart by Gender.

Humble. There was a statistically significant difference in the group means for Humble for male and female/non-designated groups, $t(987) = 2.637, p = .009$. Male mean score ($M = 2.259, SD = 1.205$) was $+.209, 95\% CI [.053, .366]$, higher than female/non-designated group mean score ($M = 2.049, SD = 1.250$) for Humble. There was no statistically significant effect size with Cohen's $d=.167, r=.084$. See Figure 8.

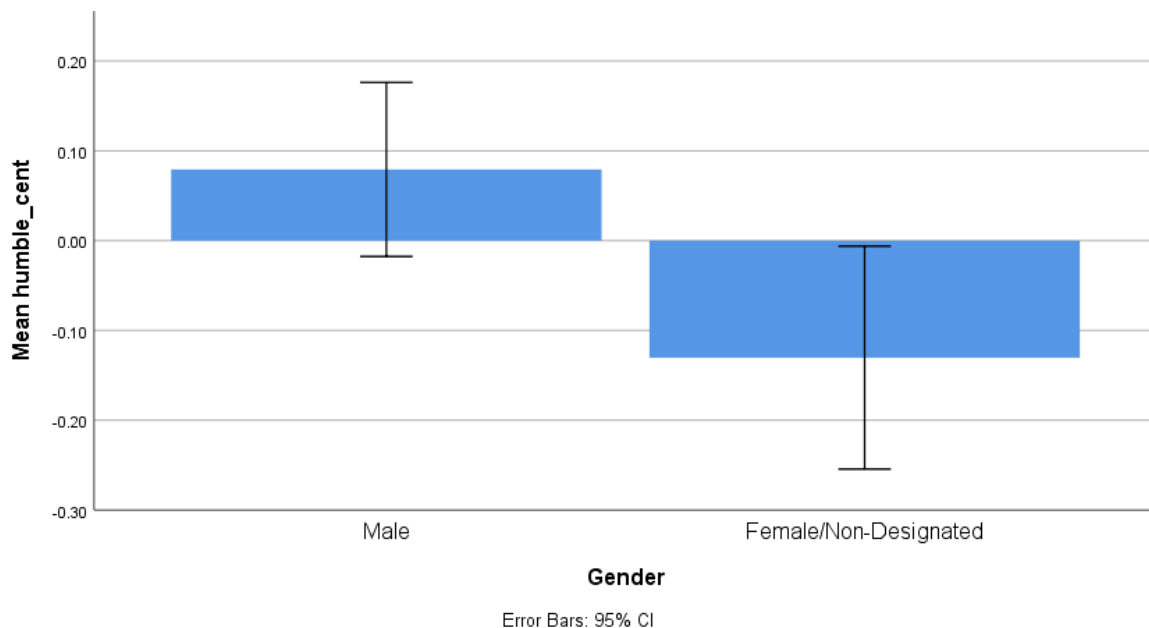


Figure 8. Mean Humble by Gender.

Race.

Smart. There was a statistically significant difference in the group means for Smart for Caucasian and non-Caucasian groups, $t(961) = -3.344, p = .001$. Caucasian group mean ($M = 2.015, SD = .5309$) was $-.143, 95\% CI [-.227, -.059]$ lower than non-Caucasian group mean ($M = 2.158, SD = .538$) for Smart. There was not for Hungry and Humble. There was no statistically significant effect size with Cohen's $d = .216, r = .107$.

See Figure 9.

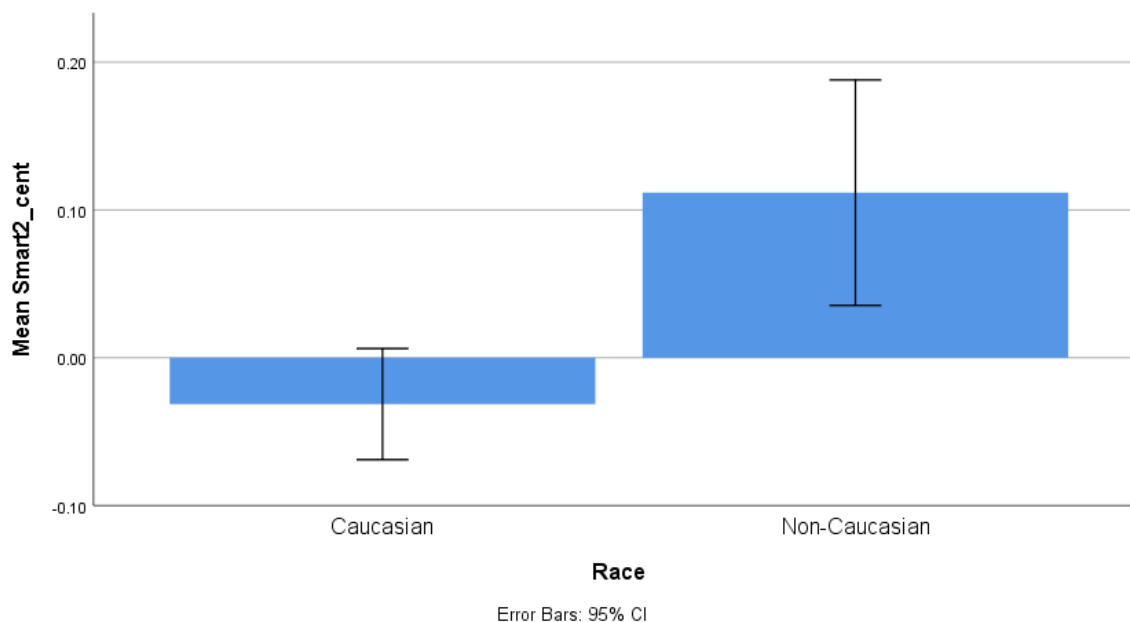


Figure 9. Mean Smart by Race.

Career Function. For Career Function, there were no statistically significant differences in the mean for scores of Humble, Hungry, or Smart.

Hypotheses Testing

The following hypotheses were answered:

Ho1: Humble, Hungry, and Smart will be positively associated with/predictive of boss ratings of leader effectiveness and likelihood to derail. Hungry was a positive statistically significant predictor of boss ratings of leader effectiveness. There was no statistically significant predictive relationship between Humble, Hungry, and Smart and Boss Ratings of Likelihood to Derail.

Ho2: Humble, Hungry, and Smart will be positively associated with/predictive of Team ratings of leader competence and problems that stall a career. Hungry was a positive significant predictor of Team Ratings of Competence, but there was no

statistically significant predictive relationship between Humble, Hungry, and Smart and Team Ratings of Problems that Stall a Career. Smart and Humble did not explain any portion of the variance in any boss or team ratings.

Ho3: Humble will account for most of the variance in all ratings from boss and team. When controlling for gender, race/ethnicity and career function, Humble did not account for most of the variance in any of the boss and team ratings. Neither did Smart. Hungry was correlated with Boss Effectiveness and team competence and explained a statistically significant portion of the variance in both boss and team ratings for Effectiveness and Competence, respectively. Yet, this portion of explained variance was not significant in a practical sense. Hungry did not explain any statistically significant portion of the variance in boss likelihood to derail or team ratings of career stalling problems.

CHAPTER V

DISCUSSION AND CONCLUSION

General Summary

This exploratory, correlational study was designed with the goal of answering questions related to qualities of team players in an effort to understand the predictive nature of the qualities of Hungry, Smart, and Humble from Lencioni's framework of the *Ideal Team Player*. The hope was that by being able to quantify these qualities, which align with many of the principles from team science and interprofessional collaborative practice research, direction might be provided for potential interventions that could improve teamwork across the modern complex work settings of today, including the healthcare industry at the pre- and in-service levels with a translational contribution to both IPE/IPP and team science research.

Starting with the history of teaming, a review of the literature pointed to psychology and team science research to determine what is currently known and unknown about teams and team players in general. Interprofessional education and collaborative practice research showed current understanding of the barriers to teamwork in healthcare settings as well as ideas for what is needed for IPE/IPP to be effective. Potential dysfunctions on teams were also explored.

Questions were posed such as, *What are the qualities of effective teams? What are the components of teamwork? What are the qualities of ideal team players? Are they*

measurable? These questions led to many suggestions across the literature indicating ideas and heuristics surrounding what is needed for effective teamwork to occur, what qualities high performing teams have in common, and what characteristics the individuals and leaders working on teams should possess (O'Neill & Salas, 2018; Rosen et al., 2018; Salas & Frush, 2013; Salas et al., 2015).

Personality researchers have classified traits into the Big Five to assist in common language around individual differences (Costa & McCrae, 1992; Howard & Howard, 2017; McCrae & Costa, 1987, 1997) and they have identified traits associated with leadership and team-orientation, and have gone as far as to determine that there are generally certain personality trait combinations that are a “best fit” for certain careers.

Positive psychology researchers have provided a classification system for character strengths and virtues (Peterson & Seligman, 2004), sharing an alternative path to the study of what can go wrong through the classification of psychological disorders through the DSM-V by giving a strengths-based focus on what can go right with the classification manual of character strengths and virtues (Peterson & Seligman, 2004). This perspective is relatively new, and much is still unknown about what combination of strengths are needed for teamwork.

Using the framework from Lencioni's (2016) *The Ideal Team Player*, the focus was narrowed down to three specific qualities that appear to be related to much of what the literature shows is important in teamwork and collaborative practice. Because many of the Big Five personality traits are correlated to and predictive of job performance in the literature, the researcher then attempted to measure these three qualities by a

personality trait profile assessment and further related questions were posed. *Are individual qualities such as motivation to achieve, a tendency for effective interpersonal relationship behavior and emotional intelligence, and humility related to an individual's effectiveness and competence as a team member?*

Psychology and team science literature indicated that there is support for the aforementioned qualities of the ideal team player, which Lencioni labeled as hungry, smart, and humble, in various articles related personality traits and job performance, task performance, and contextual performance (Anglim & O'Connor, 2019; Chang et al., 2012; Chiaburu, Oh, Berry, Li, & Gardner, 2011; Fink, 2015; Gentili Aguilera & Stachowski, 2014; Harms & Crede, 2010; Harvard Business Review, 2011; Judge, 2009; Judge & Bono, 2001; Judge, Bono, & Illies, 2002; Judge & Illies, 2002; Lapkin, Levett-Jones, & Gilligan, 2013; Law, Wong, & Song, 2004; Lee & Doran, 2017; Sanchez-Ruiz, Mavroveli, & Poullis, 2013; Taylor, 2015; Young, Glerum, Wang, & Joseph, 2018).

There is support for their importance in team science; however, to the knowledge of this researcher, there has neither been a study which examines all three qualities together, nor are there empirical studies examining the Hungry, Smart, and Humble Framework as it relates to team player effectiveness or teamwork. This is not uncommon in the research to practice gap. Often practice occurs at a faster rate than research can keep up. This is certainly the case in this study as well. Hungry, Smart, and Humble are already being taught and provided to the public sector on best-seller book lists in the organizational leadership genre, and its benefits are being seen anecdotally. However, team science needs to catch up to understand, inform, and refine its application.

It was discovered that these qualities are often associated with personality in the psychology literature, and because personality has been rigorously researched in the psychology and human resources fields for many years, personality assessments provided the mechanism for attempting to quantify these qualities. Informed by the literature and personal communication with developers in the field of personality research, the researcher used the Work Place Big Five 4.0 (Howard & Howard, 2017) personality test to construct Hungry, Smart, and Humble. Hierarchical regression analyses were then run to determine if there were relationships between those constructs and boss/team ratings of effectiveness and competency and boss/team ratings regarding a likelihood to derail in one's career or to demonstrate problems that could stall a career from the Leading Manager's 360 Assessment developed by the Center for Creative Leadership. The effects of the construct interactions were also examined. Additionally, independent samples *t*-tests were run to examine potential differences in groups inside the sample and to measure effect size. The guiding research questions and their answers follow in the next section, along with interpretations, limitations, suggestions for future research, and recommendations.

Guiding Research Questions and Interpretation

The first guiding question was, *Do Hungry, Smart, and Humble predict Boss Rating of Effectiveness?* The prediction was made that Hungry, Humble, and Smart would indeed predict boss ratings of effectiveness; however, results showed that only Hungry was a statistically significant predictor of boss ratings of effectiveness. Results

showed that of the 1.2% of the variance accounted for by Hungry, Smart, and Humble, Hungry alone explained 1.1% of the variance in Boss Ratings of Effectiveness.

This is not surprising, as Aguinis (2013) mentioned, because organizations often do not build their performance management systems to focus on contextual performance as much as they do task performance. With that understanding, when it comes to whether or not a boss finds an employee effective, drive or motivation to achieve (Hungry) would more likely influence the boss ratings than interpersonal relationship and emotional intelligence (Smart) or humility (Humble) as related to the task of managing. There are many leaders who are effective at executing, but there are also many who leave a trail of bruised, unengaged, or actively disengaged employees in their wake. Smart and Humble are most likely more related to contextual performance than task performance. Task performance often has to do with productivity, efficiency, and quality of the work. Ultimately, an individual who has a high tendency toward motivation to achieve is going to be effective at getting things done by their very nature; that ability to execute and get things done can make the individual effective at task performance from their boss's perspective, but does not guarantee teamwork competence from the team perspective. Additionally, as mentioned in various studies, motivation to achieve is a positive predictor of job performance; therefore, the results align with previous study results.

The second guiding research question was, *Do Humble, Hungry, and Smart predict Boss Ratings of Likelihood to Derail?* The prediction was also made that Humble, Hungry, and Smart would be significant predictors of a boss ratings of likelihood to

derail one's career. However, the results did not support this prediction, as Humble, Hungry, and Smart were not statistically significant predictors of Likelihood to Derail.

This finding was surprising, as one would speculate that a lower level of motivation to achieve, higher levels of emotionality and interpersonal skills, and lack of humility might be positively associated with a boss's perception of likelihood to derail. In looking deeper into the questions on Likelihood to Derail, there were only three questions asked about the participants in this area: How likely is the person to derail as a result of (a) poor performance, (b) political missteps in the organization, or (c) the person's actions or decisions that are considered unethical or a violation of ethics? The number of questions in this section could have caused the limited significance of the constructs for this rating.

Another possible explanation could be that for the participants in the sample, they were enrolled in CCL by their companies for leadership development. To participate in the programs at CCL, a significant financial investment is required; therefore, it could be that the sample is biased away from those likely to derail, as it is unlikely that individuals perceived as likely to derail would be sent to a leadership development training program such as the ones offered by CCL, as companies most likely send their strongest candidates to development programs. A quick frequency table and histogram inspection on the participants' scores on Boss Derail confirms this idea. Of the 1,000 participants in the study, only five scored 13–15 out of 15 for likelihood to derail, and 21 participants scored 7-9 of 15 points meaning that they were only somewhat likely to derail. Seven hundred ninety participants scored 3-6 out of 15 possible points, meaning their bosses

rated them as not likely to derail in their career (note that there were missing data from 184 participants).

The third guiding research question was, *Do Humble, Hungry, and Smart predict Team Rating of Competency?* In relation to the qualities of a team player and teamwork, this question is the most important one in the study, as the researcher wanted to know if the presence of Hungry, Smart, and Humble affected the team's perspective of the teammate as Lencioni's framework suggests. It was predicted that Humble, Hungry, and Smart would be significant predictors of team ratings of competence in 15 areas of leadership measured by the LM360. This particular regression examined the relationship that most closely aligns with the Lencioni framework of the ideal team player, because the raters were peers and subordinates who work closely with the participant. Essentially, these raters are the teammates of the participant making this score representative of the team's perspective of the individual on their effectiveness and competence as a member of the team.

As with the boss ratings, Hungry showed a strong positive correlation with Team Competency ratings. Additionally, when examining the regression model summary for significant changes in R^2 with the addition of each predictor variable, Hungry was found to add a statistically significant change in the Team Competency Ratings F statistic; however, Smart and Humble did not. Based on the results from Boss Ratings of Effectiveness, it is not surprising that for team competency, Hungry contributed to .7% of the variance above that of the control variables which contributed .8%. What is different from Boss Effectiveness Ratings with Team Competence Ratings is that Hungry did not

account for as much of the variance in team competency ratings as it did for Boss Effectiveness ratings. Smart accounted for some (.2% rather than 0%), and Humble accounted for more (.3% rather than .1%) of the total explanation of variance. While neither Smart nor Humble showed a statistically significant contribution to the variance in team competency ratings, they did show more contribution for team than for boss ratings. This could provide some direction for future research and support for Smart and Humble with the team perception. But there was not enough statistically significant support for that in this study. Again, this may reveal a limitation of this study.

The results did uncover an interesting idea surrounding team competency ratings, particularly in the relationship to humility and implications for team interventions for collaborative practice. As described in the methods chapter, the team competency rating was a composite of an average of the raters scores in 15 leadership competency areas. One of those areas of competency is called Balance of Work and Personal Life. When the investigator ran a Pearson Product moment correlation analysis on the individual competency areas and Humble, Smart, and Humble, Humble was correlated with only one leadership competency Balance of Work and Personal Life, and the correlation was quite high ($r=.078$, $p=.015$). It could be that individuals with trait humility do not take themselves at work too seriously, as they have an accurate view of themselves and are more self-aware, making them less likely to burnout and potentially be a sustainable member of the team. This idea was confirmed in the data, as there was also a strong positive relationship between the Self-Awareness competency score and the Balance Between Work and Professional life ($r=.75$, $p=0.018$). While not the focus of this study,

it is related and could have implications for teamwork training at the individual level. Remember that one of the barriers to effective teams and teamwork is provider burnout and workforce shortages that interrupt the team development process, keeping the team in a perpetual state of infancy or forming (Ryan, 2017; Tuckman, 1965). If humble individuals and those who have more self-awareness are more likely to have a balance between work and personal life, perhaps there is support for humility and self-awareness training with regard to the prevention of provider burnout and workforce shortage, indirectly improving collaborative practice teamwork at the macro-level by focusing training at the micro-level. Again, this is an area for future research.

The fourth guiding research question was, *Do Humble, Hungry, and Smart predict Team ratings of Career Stalling Problems?* It was predicted that Humble, Hungry, and Smart would predict Team ratings of career stalling behaviors; however, the results did not support this prediction. Of note is that the correlation of Humble to team ratings of career stalling problems were negatively correlated with a Pearson- $r=-.051$, $p=.055$. While not statistically significant, it was close, making it a target for further future research. One potential reason for this could be that the higher or lower levels of humility could affect the interpersonal relationship behaviors of the individual on a team, making one with lower levels of humility seen as presenting with more problems that could stall a career, seeing that the first problem listed in the Problems That Can Stall a Career is Difficulty with Interpersonal Relationships. While a correlation was not shown to be significant with Humble and the Difficulty with Interpersonal Relationships scaled scores from the LM360 from this study, it does give direction for further study.

In the area of Team Ratings of Problems That Can Stall a career, it was also a surprise that Smart did not predict ratings in this variable. In looking more closely taking into this surprise result, the investigator decided to deconstruct the Smart construct to determine if the Need for Stability/Neuroticism components had any correlation to the team's rating of Career Stalling Problems. Particularly because communication and interpersonal relationship skills can be supportive of teamwork or, when faulty, a barrier, this seemed important to explore a little further.

When the investigator ran the Pearson correlation for the “deconstructed Smart” looking only at the original scores on N, E, and A used for Smart there was one statistically significant correlation. The facet of N2_Intensity was positively correlated with “Difficulty with Interpersonal Relationships” ($r=0.79, p=.006$). It was the only N facet to correlate with this problem. Perhaps the intense emotionality aspect could be an avenue for teamwork training at the individual or micro-level and gives direction for future research. Additionally, the Extroversion facet that was statistically significantly correlated with difficulty with interpersonal relationships was E6_Tact, which was negatively correlated ($r=-.87, p=003$), meaning more tact equals less relationship difficulty. The other extroversion facets were not correlated. Lastly, for Accommodation, A2_Agreement and A4_Reserve were used. Both were negatively statistically significantly correlated to Difficulty with Interpersonal Relationships ($r=-.147, p=.000$) and ($r=-.156, p=.000$) meaning more agreeable, reserved individuals have less difficulty with relationships. Because a barrier to teamwork is faulty communication and interpersonal relationship behaviors, a potential area for future research and training in

the language of teamwork comes to mind as teaching an individual to have more team-oriented communication and interaction styles might result in less difficulty with interpersonal relationships which can positively influence teamwork.

The fifth guiding research question was related to Lencioni's idea that humility is the most important virtue in team players: *Does Humble have more strength than Hungry and Smart in predicting ratings of effectiveness and competency?* This study did not support the prediction that it would; however, limitations to the study may explain this further. The results of the fifth guiding question were surprising as the third hypothesis predicted that Humble would account for more of the variance in Boss and Team Ratings. This initial prediction was based on the review of the literature showing the value of humility in leadership and on teams (Collins, 2011; Maxwell, 2011, 2013; Owens & Hekman, 2016; Sousa & Van Dierendonck, 2017; Zhu, Zhang, & Shen, 2019). Additionally, Lencioni (2016) also suggests that humility is the most important quality because it tempers the other virtue combinations of Hunger and Smart, preventing the "skillful politician" type from causing damage to the team. This idea suggests that there could be some moderating, if not direct effects, of Humble onto, at the very least, Team Ratings (Lencioni, 2016). In retrospect, it did bring to light some limitations of this study which will be discussed later.

An Unexpected Twist: Testing the Interactions and Refining the Model

The original design of this study did not include interaction testing, as it was expected that Hungry, Smart, and Humble would all be predictors of Boss and Team Ratings across the board and that Humble would account for most of the variance in all

ratings. In the first round, only Humble, Hungry, and Smart were entered into the hierarchical regression. Initially, no control variables were included. In Round 1, similar to the final model, Hungry was a significant predictor of boss ratings. What was different from the final results was that both Hungry and Humble were statistically significant predictors of team ratings. Hungry still accounted for most of the variance in team competency ratings, but Humble was a significant predictor as well. Since Smart did not show a direct relationship with Boss or Team ratings, and Humble did not show a direct relationship with any except for team competence rating, it was considered that perhaps there were indirect effects and interaction variables were then created for Hungry by Smart, Hungry by Humble, and Smart by Humble. No statistically significant interaction effects were shown.

In further refining the model, it was decided that control variables should be added to the model to better account for the relationship of the independent variables. Since the demographic information was available for gender, race ethnicity, and career function, these variables were entered into the model as the controls. What was interesting was that once the control variables were entered into the model, humility dropped out of the significance level for team ratings. This led to testing interactions for gender, race, and career function by creating the nine interaction variables. The addition of the new interaction variables for gender, race/ethnicity, and career function did not show statistical significance in the regression; however, because the addition of the controls changed the statistical significance of Humble, an independent samples *t*-test was run on the control variables with all of the variables from the study to explore any

group differences. Not surprisingly, group differences were observed on a number of variables. However, there were no statistically significant effect sizes; they were non-existent. Therefore, it is unlikely that there is much to the group differences with regard to team-playerness, which means these results can be generalized across a number of teams; however, it was prudent to explore them. For example, there may be group differences in what is considered teamwork for different career functions. That would be an area for further research.

Limitations of the Study and Directions for Future Research

The most prominent limitation to this study is the lack of diversity in the sample. As mentioned in chapter four, the majority of the sample (790 participants) were rated by their bosses as effective and not likely to derail. Because of this limited variability in the sample of high performers, it did not allow for much variance, therefore, Hungry, Smart, and Humble could not account for any practically significant portion of the variance. A future study of this same data set should use a group design, create dichotomous group variables using the 30 lowest-rated and 30 highest-rated participants, and compare group means related to hungry, smart, and humble through the use of independent samples t-tests. This may better show the value of these virtues related to effectiveness and competency.

Another limitation of this study is that while the participant sample was large, the number of participants in health-related services is a somewhat small percentage of the samples. Healthcare, education, and protective services (HEPS) functions in the sample were small with 31 individuals directly identifying their function within the organizations

such as these. In applying the results of this study to Interprofessional Collaborative Practice in healthcare teams, the results of this study did not show differences in Humble, Hungry, and Smart in individuals from HEPS combined versus other industries. However, results did show that there was a statistically significant difference in Boss and Team ratings from HEPS versus other industries. In these service profession industries, Boss and team ratings were higher than in other industries. Future studies geared toward IPE/IPP may utilize participants from the healthcare industry to be able to generalize results to IPP/IPE. However, the literature and results support the assumption that overall, “a team is a team,” regardless of the industry and its makeup.

Teamwork, team, and team player principles are universal. Particularly with personality traits of drive and motivation, emotional intelligence and interpersonal relationship skills and humility, it can be assumed that findings can be applied across industry boundaries to any setting where teamwork is needed. With that assumption, this study and its follow up studies will provide insight into the essentials of a team-based, collaborative orientation that can inform team creation and development across industries.

Why Was Hunger the Sole Predictor?

There is likely a reason that Hunger showed the most responsibility and significance toward effectiveness. Effectiveness is often related to task performance, but may not have been thinking of contextual performance. Morgeson et al.’s (2005) study of personality, social skills, and team knowledge measured contextual performance over

task performance. In contextual performance measures, it is likely that Humble and Smart would have held more weight than they did in this study.

It is highly likely that the old adage, “you reap what you sow” is true in this regard. Perhaps we have taught that ambition is more important than humility or people smarts, and that this is an acceptable way to lead. Meanwhile, teamwork suffers. Perhaps this is why hunger shows up as a predictor of effectiveness and competence. In Lencioni’s Venn diagram, having more bulldozers in management is not the way. Clifton and Harter (2019) would agree, as their Gallup poll shows that more context-driven performance and managers that value it are what the current generation of workers wants. In the sample, perhaps that is the reason they were enrolled in the leadership program at CCL, because they had ambition and drive, but needed other leadership skills growth. That idea is mere speculation without further qualitative interviewing of the participants. Overall, the fact that Hunger showed up as a significant predictor is not surprising considering that Hunger (Drive) is a sub-trait of Conscientiousness, and there are many research studies consistent with this finding which show that conscientiousness predicts job performance (Tett, Jackson, & Rothstein, 1991).

It is understandable that Smart and Humble would not predict Boss Ratings of Effectiveness, as one could see how drive to achieve could be more important to a boss measuring task performance who wants a person to get the job done. Considering that Emotional Intelligence, Interpersonal communication skills, and Humility have not been a focus of business world until more recently and contextual performance is less of a

focus for HR than task performance (Aguinis, 2013), one could see how these two qualities might be of less importance to a boss.

However, it was surprising that Smart and Humble were not predictors of Team Competency Ratings or Problems that can Stall a Career, considering all of the research which shows that emotional intelligence, interpersonal communication/relationship skills, and humility are components of teamwork and part of the values of interprofessional collaborative practice.

Why Did Smart and Humble Not Play a Bigger Part?

While this study did not show any statistically significant predictions with Smart and Humble, the findings should not be interpreted as a lack of their importance in a team member's effectiveness, competence, or to their value in teamwork.

According to the literature, both the facet traits of our construct for Smart (low need for stability, moderate-high extroversion, and moderate agreeableness) are predictive of better relationships and interpersonal skills needed for team-orientation. Additionally, the theoretical concepts of emotional intelligence, strong interpersonal relationship and communication skills, and humility are supported components of teamwork.

This study attempted to use personality trait theory to predict a person's perceived effectiveness and competence. Future studies should make another attempt with more specific non-personality trait measures that have an other-raters component, as well as a qualitative component of the behavioral based interview questions, as Nielsen and Marrone (2018) suggest. There are numerous studies that have measured emotional

intelligence and humility in more behavior-based measures. Utilizing their instruments for a follow up study would be an appropriate next step.

Additionally, the LM360 measured the team's ratings of effectiveness, likelihood to derail, 15 leadership competencies, and five problems that could stall a leadership career. While this assessment measured the leadership capabilities of the participants, there was not a specific teamwork or contextual performance component to it or a contextual performance measure available to be linked to this group of participants. However, future versions of this study could also use a 360-assessment focused on teamwork competencies. There are some in development that are behavior-based, but this researcher is not aware of any reliable and valid 360-degree tools that measure teamwork competency. That could also be a direction for future researchers.

Also to consider is that this sample was of manager-leaders. There is certainly support that there is a "leader personality profile" (Howard & Howard, 2017; Judge, 2009). It is likely that for non-leaders, the results may have turned out differently. We did not have the personality profiles or ratings for the teammates of these leaders available to explore. It would have been an interesting comparison to see if the teammates of these leaders (raters) had similar results or if there was a difference in Hungry, Smart, and Humble on non-leader teammates' ratings of effectiveness and competence.

Another limitation is that unlike the construct for "Humble" and "Hungry," the construct of "Smart" was quite complex and was created using a composite score based on grounded theory of trait emotional intelligence as it relates to personality. The assessment used to create this composite, the WorkPlace Big Five Profile, is a self-report

test; however, trait emotional intelligence is based on the individual's internal state versus external behaviors measured by others' observations. It is a correct assumption that the composite would provide insight into the individual's trait EI, however there are other assessments built specifically to measure both emotional intelligence and interpersonal relationship behaviors as viewed from other (non-self) raters that could provide more insight. Future studies might utilize scores from a trait EI assessment and an interpersonal relationship behaviors measure for the construct of "smart." However, due to the type of assessments given to the participants in this sample from the Center for Creative Leadership, this method of constructing "Smart" seemed to be a best fit method for this study. It could have been a limitation.

Measurements of Smart and Humble

The construct of the independent variables of Hungry, Smart, and Humble were developed from the WorkPlace Big Five, a personality assessment (Howard & Howard, 2017). Big Five personality trait theory is highly supported in literature with regard to its ability to predict behavior, for example, with the personality trait patterns of high Conscientiousness, low Need for Stability, and high Agreeableness are predictive of job performance. But research also shows that personality traits cannot account for all dimensions of personality; for example, moral behavior or ethics. Moral behavior is a component of other personality theories and is utilized in personality assessment such as the HEXCO (Ashton, Lee, & DiVries, 2014), which in addition to the Big Five, adds a category for Honesty-Humility, separating humility from conscientiousness.

Personality traits are typically measured through assessments that are self-reported measures. These assessments measure internal traits or tendencies, but not necessarily external behavior. Early personality theorists state that traits are considered to be rather consistent over time, and while they are relatively speaking, it is a common finding in psychological research that behavior related to particular traits is situational, meaning the individual may demonstrate behaviors consistent with that trait in some situations, and not in others (Stangor, 2017). In the WPB5 manual, Howard references this phenomenon. For example, an individual who demonstrates trait introversion may still enjoy working on a team at work, but prefer more activities that allow for quiet alone-time to rejuvenate when at home. Likewise, a person who is conscientious at work may struggle with it at home. As Howard & Howard (2017) shared, often, individuals adapt their natural tendencies and behavior at work in order to advance. The nature versus nurture theory holds true with personality as well. Personality can shape a person's response to the situations they confront, and the situations can shape personality and related behaviors.

In regard to Humble from this study, measuring Humble with only a personality test and no other measures could have created a limitation. Nielsen and Maronne (2018) discuss that the predictive validity of other-reported measures of at least two other acquaintances consistently outperforms self-reported measures of humility. Some other-reported measures follow. The relational humility scale (RHS) (Davis et al., 2011) measures global humility, superiority, and accurate view of self. A second other-reported scale by Owens (2009) and Owens and Hekman (2016) measures willingness to view

one's self accurately, appreciation of others' strengths, and teachability. A third other-reported scale by Ou et al. (2014) measures low self-focus, self-transcendent pursuits, and transcendent self-concept.

Likewise, the construct for Smart entails more than traits of Need for Stability, Extroversion, and Agreeableness. Because the data were available for the participants in the secondary analysis, the researcher used this measure of "trait level Smart," which did give us information, but perhaps not the strongest measure of smart and humility that was needed to give those constructs predictive strength. Future research on Humble, Hungry, and Smart should use more complex measures that are other-rater-based to gather levels of Smart and Humble behavior versus traits. Due to the availability of such a large dataset, this researcher decided to utilize the provided assessments associated with the dataset. However, in hindsight, because of the complexity of Smart and Humble, measures other than facets from a personality measure could have provided a more holistic representation of these complex constructs.

The Need for Tools to Test the Lencioni Framework and Teamwork

When this researcher reached out to the Table Group, Lencioni's consulting firm, to inquire about the self-assessment and manager's assessment (see Appendix D) created by the Table Group, they indicated that so far they had only used the questions for qualitative means to start discussions with their clients, but had not done any psychometric reliability or validation studies on the assessments themselves. While this study is not one of examining the validity and reliability of Lencioni's specific assessments, that would be a recommendation for future team science research as a way

to develop the existing assessment of Hungry, Smart, and Humble for research purposes. Valentine, Nembhard, and Edmondson (2015) recognized the shortage of valid and reliable survey tools to assess teamwork, and recommended that rather than researchers creating new measures, the focus should be on adapting and modifying existing measures into more psychometrically validated assessments. The Lencioni self and managers assessments could be part of that effort.

Future Questions for Team Science and Interprofessional Collaborative Practice Research

Through answering the primary research questions, the hope was to also answer these questions:

- Can we quantify the qualities of team players?
- What does this mean for Interprofessional Collaborative Practice and the development of teams that have synergy and work together effectively?
- Can we teach virtues such as hungry, smart, and humble?
- Can personality traits be changed by interventions?
- What does this mean for organizational culture in healthcare organizations?
- Does this give us insight into how we might use commonly used assessment tools to identify team players and develop teams that work cohesively, thereby improving quality of care?
- What does this mean for pre-service education in Interprofessionalism and Collaborative Practice?

- What direction does this give us for developing strong and effective interprofessional teams?
- What skills must we teach our pre-professional students to ready them for working in collaborative teams?
- Is the healthcare industry different than other industries with regard to these qualities needed to be effective on collaborative healthcare teams?
- Is there a gender or race/ethnicity differences in the composition of these qualities?
- Does the Speech-Language Pathologist have a role to play in interventions that improve teamwork?

Several of these questions remain unanswered.

Considerations from Team Science That Support Collaborative Practice

It is well known that organizations tend to focus more on task performance than contextual performance, and it is the opinion of this researcher that this needs to change if we are going to have organizations that collaborate effectively to solve real world problems. The following includes several considerations.

- Composition of teams is important. Specifically, in motivation toward task work as well as teamwork, having individuals with Hunger matters. It is suspected that Smart and Humble also matter, but they were not found to carry a predictive weight for reasons mentioned earlier. Nonetheless, we should consider them in our selection processes as well as our team training processes.

- Organizational culture should include in its vision and values a call for not only task performance but also organizational citizenship behaviors that foster teamwork. Performance management systems should include a large component of measurement to teamwork behavior (Aguinis, 2013). Managers should make fostering motivation and drive part of the performance coaching strategy, but should also be sure to value contextual performance with training and support in organizational citizenship through teamwork trainings that focus on individual traits, character strengths, and virtues, making it essential, not optional, in performance appraisals.
- Selection processes for organizations where teamwork is essential should select individuals with dispositions with a lean toward teamwork. This means selection should include personality assessments, but also should use behavioral interview questions targeted toward team-orientation to help in the selection process. As Morgesen et al. (2005) suggest, behavioral interview questions aimed at finding individuals with team-orientation will result in better selection and better team composition.
- Recognize the barriers to effective teamwork and understand that these barriers have an overarching theme of faulty communication and interpersonal relationships. Valentine et al. (2015) identified three areas where teamwork fails in healthcare: professional hierarchies, poor coordination, and managing human relationships and personalities. These findings summarize most of the

literature reviewed for this study. These are primary barriers across industries and provide avenues for intervention.

- Recognize that teamwork qualities can be taught. While we examined Hungry, Smart, and Humble as personality traits for the sake of available tools to measure in the research sample, they could also fall under what positive psychology would call character strengths and virtues. Teamwork, for instance, is classified as Citizenship and falls under the strength of justice. Humility and modesty as virtues fall under the strength of temperance. Smart is the virtue of social intelligence and falls under the strength of humanity. Hungry or Drive could be labeled as persistence, perseverance, or industriousness, and falls under the strength of Courage. All of these virtues fall under the category of phasic strengths, or those that are situational or dependent on context surrounding the need for that strength. The author says that unlike tonic strengths that are displayed ongoing do not typically need teaching, phasic strengths can be taught. This provides insight into whether interventions geared toward these virtues could be effective. Indeed, it appears that they could be (Peterson & Seligman, 2004). Nielsen and Maronne (2018), as well as Peterson and Seligman (2004), support that like any virtue, humility can be taught and coached. Lencioni supports this notion in his book as well, as one function of his self-assessment and manager assessment gives an anchor for self-monitoring, feedback, and coaching. Dweck's (2008) research shows that even the belief that traits can be changed results in behavioral

changes in those so-called fixed traits. Hudson and Fraley (2015) also show that personality traits can be changed volitionally. Humility is the precursor to being teachable (Nielsen & Maronne, 2018), which lines up with our professional ethics requirements to engage in lifelong learning through continued professional development and to develop others through mentorship (ASHA, 2016a). Therefore, it should be a part of our pre-service training and ongoing continuing professional education.

- Pre-service programs in higher education should explicitly teach team player qualities and teamwork competencies as a standard part of their curriculum. Interventions can work to improve teamwork, so we should focus our interventions, in part, on the qualities of team players. This will foster knowledge, skills, and attitudes needed for effective teamwork and is the most simple, straightforward path to systemic change. Some guiding could be: What does collaborative communication and interaction look like? What are the “social rules” of collaboration? What team-player language is used in the most effective collaborative teams (i.e., “Us/We” vs. “I/Me” language)? These are questions that future research can and should answer.
- Teamwork training should be an on-going process on our existing teams. Old habits and mindsets are difficult to change, but it can be done. Starting from the selection process, organizations can begin by selecting individuals with strengths and personalities that indicate a lean toward team player qualities

and include explicit teamwork training in their orientation and ongoing in-service continuing education programming.

- As Salas et al. (2015) recommended, teamwork training should move from a mere recommended competency to an obligatory competency for obtaining professional licensure and certifications across professional disciplines if collaborative practice is going to be sustainable and consistent component of the future direction for healthcare and education.

As Ogletree (2017) pointed out, measuring the qualities of team players and teams is no easy task, as it is complex and there are many variables that affect a team's ability to be effective. The composition of the team is only one factor, but it does give direction for where to begin coaching individuals for more successful "team player-ness."

Understanding the strengths, weaknesses, and barriers teams have is vital to creating interventions that can be effective at improving teamwork. There are many barriers to overcome. A mixed methods design of the concepts in this study with quantitative and qualitative examination is recommended to get to the heart of teamwork and how it affects the individuals on teams who are doing it every day.

Final Thoughts: The Role of the Speech-Language Pathologist and Communication Sciences and Disorders in Team Science

In reading this study, one might wonder why a speech-language pathologist (SLP) would have an interest in this type of study which seems more psychology- and organizational psychology-oriented than communication sciences and disorders-oriented. In true interprofessional collaborative practice fashion, three opinions are shared that

point to the need for psychology and communication sciences and disorders to team up for teamwork.

First, speech-language pathologists often find themselves in leadership roles in health and education in which they are responsible for leading teams and creating cohesion in teams across all settings in which they work. Teamwork is part of the practical, everyday “in the trenches” work of being an SLP. There are many individual psychological factors involved in teamwork. SLPs in management, leadership roles, and team members roles across organizations need to understand these factors in order to be ideal team players, foster patient-provider relationships, and build and develop effective teams in our areas of influence in the health and education settings.

Second, it is very difficult to separate out the psychology from the communication of an individual. Psycholinguistics is an example of the marrying of the two disciplines in seeking out understanding the psychology of language. Psychological states affect behavior. Our thinking affects our communication. How we communicate is reflective of our thinking, and reciprocally, how we think is reflected in how we behave and communicate. Likewise, it is difficult to separate the thinking of teams from the language and behavior of teams, and as the research has shown, communication is a major barrier to effective teamwork. The language and interpersonal communication skills needed for teamwork are certainly something that needs to be studied further, and this is where the SLP can contribute significant value along with the psychologist. Our knowledge and skills in creating interventions to improve communication could be invaluable and utilized to create team interventions that could promote team-friendly communication and

foster stronger team relationships. In turn, this could improve teamwork globally for our own industry, as well as others in need of teamwork intervention.

Third, communication sciences and disorders could learn from the field of psychology in creating new branches of research and understanding the science of professional communication within team science. Like psychology, the field of communication sciences and disorders spends most of its research efforts on disorders. In a brief review of the ASHA website, one can quickly go to the practice maps to find research on any disorder that an SLP or audiologist might evaluate or treat. While most of our scope of practice focuses on communication disorders, non-disorder based domains are within our scope of practice (asha.org/policy). Yet, there is not much reference to communication sciences outside of the disorders other than in the scope of practice document itself. Specifically, SLPs as educators in business communication is an area of wellness and prevention that is listed on the ASHA Scope of Practice document; however, when searching the site for business communication, no research can be found. Over the last 15 years an entirely new branch of psychological research has been created that focuses not on the disorders from the DSM-V, but on the strengths of individuals. This branch is called Positive Psychology. Peterson and Seligman (2004) wrote *Character Strengths and Virtues: A Handbook and Classification*, which gave the branch of positive psychology a framework with which to launch strength-based research. Expanding on this idea from our positive psychology colleagues, perhaps it is time to launch an entirely new branch of study within our own scope of practice. Perhaps we begin a branch along the lines of Positive Communication Sciences where we classify the

communication behaviors that are associated with positive communication outcomes in various domains. Those could then provide a common language for studying the communication of teamwork.

Studies that examine the language between team interaction that are positive and negative could certainly use insight from the Speech-Language Pathology frame. We are already on our way with our ability to apply social thinking strategies to individuals on the Autism spectrum or for those with social communication disorders (Winner & Crooke, 2009) Additionally, SLPs are skilled at writing goals for individuals with communication disorders with the desired outcomes or “strengths” in mind. Currently, in communication sciences and disorders, our focus is not on general communication strengths that could be applied to interprofessional collaborative practice and team science research, but it would not be a large leap to expand this knowledge or to translate this information to professional communication and team science research.

So, how does this apply to communication sciences and disorders and why should speech-language pathologists be involved in this arena? Perhaps the better question is, why should we NOT be involved? There is a multitude of reasons the speech-language pathologist has a major role to play in creating culture, building teams, coaching individuals to be team players in our collaborative practice teams, and informing and coaching organizations to implement these ideas. Team players need the communication and behaviors that exude humble, hungry, and smart, and speech language pathologists are primed to lead in this arena through our knowledge and skills as communication behavior specialists. For example, Dale Carnegie describes in his book, *The 5 Essential*

People Skills, that one overarching people skill is to be able to communicate an assertive message. He says that an assertive message contains three major parts: (a) describe and summarize the facts of the situation; (b) express your thoughts and feelings; and (c) clearly state your wants and needs, as well as the benefits or how the solution will meet the wants and needs of the other party (Carnegie, 2010). These ideas should sound familiar to the SLP. If one did not know the context of those three points, one might think they sound much like the goals a speech-language pathologist might write for a patient with traumatic brain injury, a child with Autism, an expressive aphasia, or an expressive language disorder.

Clearly, as communication experts, speech-language pathologists are equipped to be the primary professionals on healthcare teams with the knowledge and skills to play a significant role in explicit training of future and current leaders and teammates in the “soft skills” needed to be effective in collaborative practice. The *ASHA Scope of Practice in Speech-Language Pathology* document lists Business Communication as an example of prevention and wellness programs delivered by SLPs (ASHA, 2016b). SLPs “educate individuals about the importance of effective business communication, including oral, written, and interpersonal communication” (ASHA, 2016b, p. 11).

Being an effective leader or teammate involves mastering the art of communication. Our knowledge and skills in interpersonal communication make the SLP an expert coach for team-oriented interactions. Our time to take a role in this arena has come. Knowing that communication is a thematic barrier to teamwork overall, as

communication specialists, SLPs should be more involved in team science research.

Hopefully this research is the beginning of that leap.

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APPENDIX A

NOTE ABOUT CONSULTATION WITH DR. PIERCE HOWARD

Dr. Pierce Howard is the original researcher, the developer and owner of the WorkPlace Big Five Profile assessment. His company, Paradigm Labs, is located in Charlotte, NC and produces the assessment and delivers it via online administration to individuals in organizations globally. I have had the opportunity to consult with Dr. Howard on a number of occasions via phone call and through email regarding the WPB5 ‘super-traits’ and ‘sub-traits’ and constructs of Humble, Hungry, and Smart. Dr. Howard expressed that he is very interested in this research and was engaged in helping me to determine which constructs of the WorkPlace Big Five could be mapped to the Lencioni model. He assisted with this mapping and provided me with a copy of the Professional Manual to gain a deeper understanding of the assessment’s psychometric properties and constructs for mapping to set up the statistical analyses.

APPENDIX B

QUESTIONS USED IN COMPOSING THE DEPENDENT VARIABLES FROM THE LEADING MANAGERS 360 ASSESSMENT

Questions for Boss Ratings of Effectiveness

Questions were rated by the boss or direct supervisor of the individual as

1=Among the worst, 2=Less well than most, 3=Adequately, 4=Better than most,
5=Among the best, “”=No Answer

LM_S3 1. How effectively would this person handle being promoted one or more levels?

LM_S3 2. How would you rate this person's performance in his/her present job?

LM_S3 3. Where would you place this person as a leader relative to other leaders in similar roles?

LM_S3 4. How would you rate the extent to which this person knows and understands himself/herself?

LM_S3 5. How would you rate the extent to which this person is conscious of the impact that he/she has on others?

LM_S3 6. How effectively does this person handle the challenges of linking the vision of top management with the day-to-day realities of front-line managers?

LM_S3 7. How effectively does this person work with peers throughout the organization to integrate and coordinate across groups?

LM_S3 8. How would you rate this person's overall effectiveness in the organization?

Questions for Boss Ratings of Likelihood to Derail

These questions were answered by boss or direct supervisor with a 5-point Likert scale as 1=Not likely at all; 2= Not very likely; 3=Somewhat likely; 4=Likely; 5=Almost Certain

LM_3 9. What is the likelihood that this person will derail (i.e., plateau, be demoted, or fired) in the near future as a result of his/her poor performance as a manager?

LM_3 10. What is the likelihood that this person will derail (i.e., plateau, be demoted, or fired) in the near future as a result of his/her political missteps in the organization?

LM_3 11. What is the likelihood that this person will derail (i.e., plateau, be demoted, or fired) in the near future as a result of his/her actions or decisions that are considered unethical or a violation of ethics?

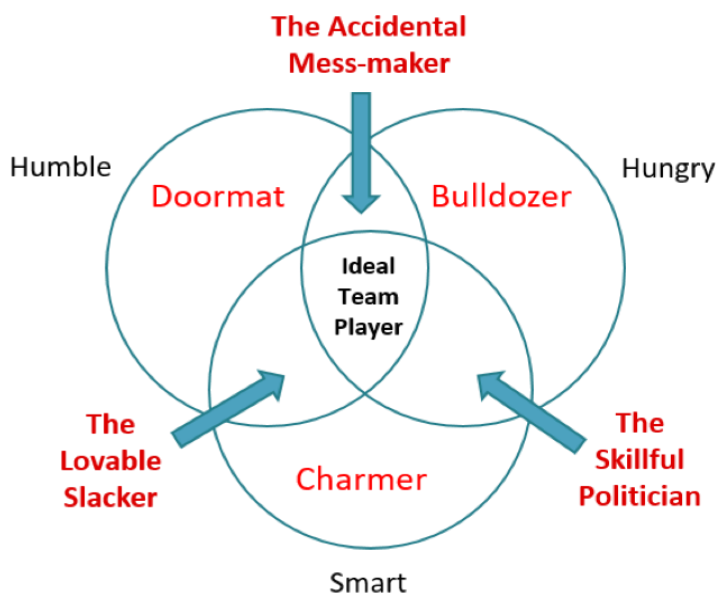
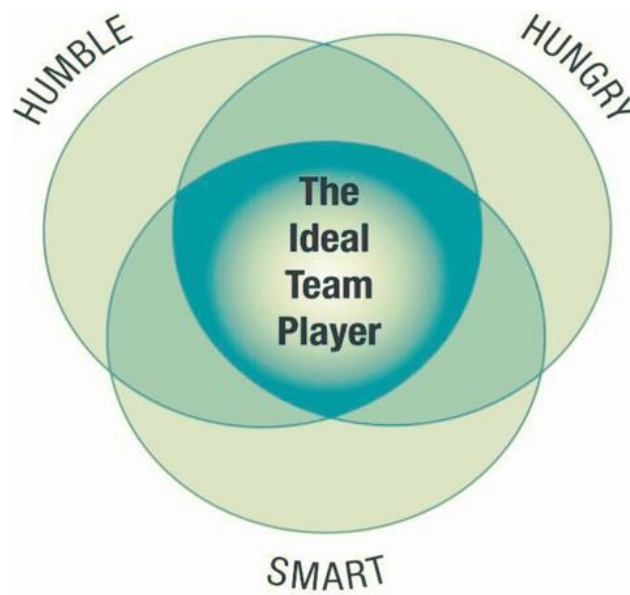
Competency Areas and Their descriptions. Scaled Scores for items LM S01-LM S15 were averaged to create the Team Competency Rating.

1. Self-Awareness—Has an accurate picture of self and seeks feedback to improve.
2. Learning Agility—Seeks opportunities to learn and can learn quickly.
3. Communication—Encourages and models effective communication.
4. Influencing Higher Management—Understands and persuades people at higher levels in the organization
5. Influencing Across the Organization—Uses Effective influencing strategies to gain cooperation and get things done.
6. Acting Systematically—Takes a systems perspective on his/her work.
7. Responding to complexity—Recognizes and effectively manages organizational dilemmas and trade-offs.
8. Broad Organizational Perspective—Has a “big picture” understanding of the organization.
9. Resiliency—Handles stress, uncertainty, and setbacks well.
10. Negotiation—Negotiates effectively with individuals and groups in the organization.
11. Balance between Personal Life and Work—Balances work priorities with personal life
12. Selecting and Developing others—Finds talented employees and develops them.
13. Taking Risks—Sees possibilities, seizes opportunities, and perseveres in the face of obstacles.
14. Implementing Change—Effectively leads others in implementing change.
15. Managing Globally Dispersed Teams—Effectively motivates, develops, and monitors globally dispersed teams.

Five Problems that Can Stall a Career-Scaled Scores for these areas were averaged to obtain the Team Rating of Career Stalling Behavior score.

1. Problems with Interpersonal Relationships
2. Difficulty Building and Leading a Team
3. Difficulty Changing or Adapting
4. Failure to meet Business Objectives
5. Too Narrow Functional Orientation

APPENDIX C
THE LENCIONI FRAMEWORK



Source: Lencioni, P. (2016). *The ideal team player: How to recognize and cultivate the three essential virtues*. New York, NY: John Wiley & Sons.

APPENDIX D

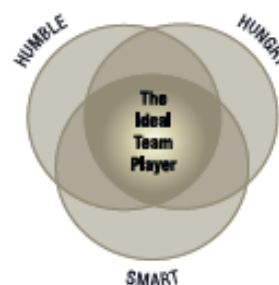
LENCIONI'S SELF-ASSESSMENT AND MANAGER'S ASSESSMENT FOR IDEAL TEAM PLAYER QUALITIES



SELF-ASSESSMENT

Instructions: Take this assessment to evaluate yourself relative to the three virtues of an ideal team player. Respond as honestly as possible, as this will allow you to most accurately identify any areas of development that you may have.

Use the scale below to indicate how each statement applies to how you think your teammates may see you and your actions on the team. Choose the rating response number that best applies to each statement and record it in the box to the right of the statement. Then total your scores for each of the three virtues.



Rating Scale: 3 = Usually 2 = Sometimes 1 = Rarely

Name/Company _____		Score
HUMBLE MY TEAMMATES WOULD SAY:	1. I compliment or praise them without hesitation.	
	2. I easily admit to my mistakes.	
	3. I am willing to take on lower-level work for the good of the team.	
	4. I gladly share credit for team accomplishments.	
	5. I readily acknowledge my weaknesses.	
	6. I offer and accept apologies graciously.	
TOTAL HUMILITY SCORE		
HUNGRY MY TEAMMATES WOULD SAY:	7. I do more than what is required in my own job.	
	8. I have passion for the "mission" of the team.	
	9. I feel a sense of personal responsibility for the overall success of the team.	
	10. I am willing to contribute to and think about work outside of office hours.	
	11. I am willing to take on tedious or challenging tasks whenever necessary.	
	12. I look for opportunities to contribute outside of my area of responsibility.	
TOTAL HUNGER SCORE		
SMART MY TEAMMATES WOULD SAY:	13. I generally understand what others are feeling during meetings and conversations.	
	14. I show empathy to others on the team.	
	15. I demonstrate an interest in the lives of my teammates.	
	16. I am an attentive listener.	
	17. I am aware of how my words and actions impact others on the team.	
	18. I adjust my behavior and style to fit the nature of a conversation or relationship.	
TOTAL SMART SCORE		

SCORING

Remember, the purpose of this tool is to help you explore and assess how you embody the three virtues of an ideal team player. The standards for "ideal" are high. An ideal team player will have few of these statements answered with anything lower than a '3' (usually) response.

A total score of 18 or 17 (in any virtue) is an indication that the virtue is a potential strength.

A total score of 16 to 14 (in any virtue) is an indication that you most likely have some work to do around that virtue to become an ideal team player.

A total score of 13 or lower (in any virtue) is an indication that you need improvement around that virtue to become an ideal team player.

Finally, keep in mind that while this tool is quantitative, the real value will be found in the qualitative, developmental conversations among team-members and their managers. Don't focus on the numbers, but rather the concepts and the individual statements where you may have scored low.



MANAGER'S ASSESSMENT

Instructions: Take this assessment to evaluate your direct report relative to the three virtues of an ideal team player.

Use the scale below to indicate how each statement applies to your direct report. Choose the rating response number that best applies to each statement and record it in the box to the right of the statement. Then total the scores for each of the three virtues.

Rating Scale: 3 = Usually 2 = Sometimes 1 = Rarely



Name/Company _____		Score
HUMBLE MY DIRECT REPORT...	1. Compliments or praises teammates without hesitation.	
	2. Easily admits to mistakes.	
	3. Is willing to take on lower-level work for the good of the team.	
	4. Gladly shares credit for team accomplishments.	
	5. Readily acknowledges his/her weaknesses.	
	6. Offers and accepts apologies graciously.	
	TOTAL HUMILITY SCORE	
HUNGRY MY DIRECT REPORT...	7. Does more than what is required in his/her own job.	
	8. Has passion for the "mission" of the team.	
	9. Feels a sense of personal responsibility for the overall success of the team.	
	10. Is willing to contribute to and think about work outside of office hours.	
	11. Is willing to take on tedious or challenging tasks whenever necessary.	
	12. Looks for opportunities to contribute outside of his/her area of responsibility.	
TOTAL HUNGER SCORE		
SMART MY DIRECT REPORT...	13. Generally understands what others are feeling during meetings and conversations.	
	14. Shows empathy to others on the team.	
	15. Demonstrates an interest in the lives of his/her teammates.	
	16. Is an attentive listener.	
	17. Is aware of how his/her words and actions impact others on the team.	
	18. Adjusts his/her behavior and style to fit the nature of a conversation or relationship.	
TOTAL SMART SCORE		

SCORING
Remember, the purpose of this tool is to help you explore and assess how your direct report embodies the three virtues of an ideal team player. The standards for "ideal" are high. An ideal team player will have few of these statements answered with anything lower than a '3' (usually) response.
A score of 18 or 17 is an indication that the virtue is a potential strength.
A score range of 16 to 14 is an indication that your direct report most likely has some work to do around that virtue to become an ideal team player.
A score of 13 or lower is an indication that your direct report needs improvement around that virtue to become an ideal team player.
Finally, keep in mind that while this tool is quantitative, the real value will be found in the qualitative, developmental conversations with your direct reports. Don't focus on the numbers, but rather the concepts and the individual statements where your direct reports may have scored low.

APPENDIX E

SYNTAX USED TO RE-CODE WPB5 VARIABLES INTO SMART

```

RECODE WPB5_6 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO N21_recb.
RECODE WPB5_30 (-2=1) (-1=2) (0=3) (1=-4) (2=5) INTO N22_recb.
RECODE WPB5_58 (-2=1) (-1=2) (0=3) (1=-4) (2=5) INTO N23_recb.
EXECUTE.
COMPUTE N2_rev_avgb = mean(N21_recb,N22_recb,N23_recb).
EXECUTE.

```

```

RECODE WPB5_11 (-2=5) (-1=4) (0=3) (1=-2) (2=1) INTO N31_reverse.
RECODE WPB5_39 (-2=5) (-1=4) (0=3) (1=-2) (2=1) INTO N32_reverse.
RECODE WPB5_63 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO N33_recb.
RECODE WPB5_81 (-2=1) (-1=2) (0=3) (1=-4) (2=5) INTO N34_recb.
RECODE WPB5_92 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO N35_recb.
EXECUTE.
COMPUTE N3_rev_avgb =
mean(N31_reverse,N32_reverse,N33_recb,N34_recb,N35_recb).
EXECUTE.

```

```

RECODE WPB5_16 (-2=1) (-1=2) (0=3) (1=-4) (2=5) INTO N41_recb.
RECODE WPB5_44 (-2=5) (-1=4) (0=3) (1=-2) (2=1) INTO N42_reverse.
RECODE WPB5_68 (-2=1) (-1=2) (0=3) (1=-4) (2=5) INTO N43_recb.
RECODE WPB5_86 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO N44_recb.
RECODE WPB5_93 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO N45_recb.
EXECUTE.
COMPUTE N4_rev_avgb =
mean(N41_recb,N42_reverse,N43_recb,N44_recb,N45_recb).
EXECUTE.

```

```

RECODE WPB5_2 (-2=5) (-1=4) (0=3) (1=-2) (2=1) INTO E11_reverse.
RECODE WPB5_26 (-2=5) (-1=4) (0=3) (1=-2) (2=1) INTO E12_reverse.
RECODE WPB5_97 (-2=5) (-1=4) (0=3) (1=-2) (2=1) INTO E16_reverse.
RECODE WPB5_50 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO E13_rec.
RECODE WPB5_74 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO E14_rec.
RECODE WPB5_82 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO E15_rec.
RECODE WPB5_100 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO E17_rec.
EXECUTE.
COMPUTE E1_avg =
mean(E11_reverse,E12_reverse,E13_rec,E14_rec,E15_rec,E16_revers
e,E17_rec).
EXECUTE.

```

```

RECODE WPB5_21 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO E51_rec.
RECODE WPB5_35 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO E52_rec.

```

```
RECODE WPB5_54 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO E53_rec.
EXECUTE.
```

```
COMPUTE E5_avg = mean(E51_rec,E52_rec,E53_rec).
```

```
EXECUTE.
```

```
RECODE WPB5_24 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO E61_rec.
```

```
RECODE WPB5_38 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO E62_rec.
```

```
RECODE WPB5_57 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO E63_rec.
```

```
RECODE WPB5_78 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO E64_rec.
```

```
EXECUTE.
```

```
COMPUTE E6_avg = mean(E61_rec,E62_rec,E63_rec,E64_rec).
```

```
EXECUTE.
```

```
RECODE WPB5_9 (-2=1) (-1=3.5) (0=5) (1=-3.5) (2=1) INTO A21_rec.
```

```
RECODE WPB5_33 (-2=1) (-1=3.5) (0=5) (1=-3.5) (2=1) INTO A22_rec.
```

```
RECODE WPB5_61 (-2=1) (-1=3.5) (0=5) (1=-3.5) (2=1) INTO A23_rec.
```

```
RECODE WPB5_71 (-2=1) (-1=3.5) (0=5) (1=-3.5) (2=1) INTO A24_rec.
```

```
RECODE WPB5_84 (-2=1) (-1=3.5) (0=5) (1=-3.5) (2=1) INTO A25_rec.
```

```
RECODE WPB5_98 (-2=1) (-1=3.5) (0=5) (1=-3.5) (2=1) INTO A26_rec.
```

```
RECODE WPB5_101 (-2=1) (-1=3.5) (0=5) (1=-3.5) (2=1) INTO A27_rec.
```

```
EXECUTE.
```

```
COMPUTE
```

```
A2_avg=mean(A21_rec,A22_rec,A23_rec,A24_rec,A25_rec,A26_rec,A27_rec).
```

```
EXECUTE.
```

```
RECODE WPB5_19 (-2=1) (-1=3.5) (0=5) (1=-3.5) (2=1) INTO A41_rec.
```

```
RECODE WPB5_22 (-2=1) (-1=3.5) (0=5) (1=-3.5) (2=1) INTO A42_rec.
```

```
RECODE WPB5_36 (-2=1) (-1=3.5) (0=5) (1=-3.5) (2=1) INTO A43_rec.
```

```
RECODE WPB5_55 (-2=1) (-1=3.5) (0=5) (1=-3.5) (2=1) INTO A44_rec.
```

```
RECODE WPB5_79 (-2=1) (-1=3.5) (0=5) (1=-3.5) (2=1) INTO A45_rec.
```

```
EXECUTE.
```

```
COMPUTE A4_avg=mean(A41_rec,A42_rec,A43_rec,A44_rec,A45_rec).
```

```
EXECUTE.
```

```
COMPUTE N_indexb=mean(N1_rev_avg,N2_rev_avgb,N3_rev_avgb,N4_rev_avgb).
```

```
COMPUTE E_index=mean(E1_avg,E5_avg,E6_avg).
```

```
COMPUTE A_index=mean(A2_avg,A4_avg).
```

```
EXECUTE.
```

```
COMPUTE Smart2=mean(N_indexb,E_index,A_index).
```

```
EXECUTE.
```

Syntax used to re-code Humble.

```
RECODE WPB5_14 (-2=5) (-1=4) (0=3) (1=-2) (2=1) INTO A31_reverse.
```

```
RECODE WPB5_42 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO A32_rec.
```

```
RECODE WPB5_66 (-2=5) (-1=4) (0=3) (1=-2) (2=1) INTO A33_reverse.
```

```
RECODE WPB5_99 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO A34_rec.
```

```
EXECUTE.
```

```
COMPUTE humble=mean(A31_reverse,A32_rec,A33_reverse,A34_rec).  
EXECUTE.
```

Syntax used to re-code Hungry.

```
RECODE WPB5_15 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO C31_rec.  
RECODE WPB5_43 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO C32_rec.  
RECODE WPB5_47 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO C33_rec.  
RECODE WPB5_67 (-2=1) (-1=2) (0=3) (1=4) (2=5) INTO C34_rec.  
RECODE WPB5_106 (-2=5) (-1=4) (0=3) (1=-2) (2=1) INTO C35_reverse.  
EXECUTE.  
COMPUTE hungry=mean(C31_rec,C32_rec,C33_rec,C34_rec,C35_reverse).  
EXECUTE.
```

APPENDIX F

**QUESTIONS FROM WORKPLACE BIG FIVE 4.0 USED IN CONSTRUCT
DEVELOPMENT OF HUMBLE, HUNGRY, SMART**

Super-trait	Sub-trait	Question	Reversed y/n
N-Need for Stability			
	N1-Worry	1 Gets tense awaiting outcomes	y
		25 Is sensitive to what others think about him/her	y
		49 Takes criticism personally	y
		73 Worries about being understood	y
	N2-Intensity	6 Is calm in the middle of conflict	Y?
		30 Remains calm when disagreeing	Y?
		58 Stays cool even when mistreated	Y?
	N3-Interpretation	11 Feels guilty when others are disappointed	y
		39 Takes rejection personally	y
		63 Maintains composure under personal attack	Y?
		81 Exhibits no self-doubt	Y?
		92 Rarely experiences a sense of failure	Y?
	N4-Rebound Time	16 Enjoys juggling multiple priorities	Y?
		44 Takes some time to recover from bad news	y
		68 Recovers promptly after setbacks	Y?

		86 Bounces back quickly after disappointment	Y?
		93 Keeps adding new and different responsibilities to his/her plate	Y?

E-Extroversion			
	E1-Warmth		
		2 Avoids close friendships with work associates	Y
		26 Resists getting into chit-chat with associates	Y
		50 Shares a lot of personal information with work associates	N-just recorded
		74 Works to develop relations with many associates	N-just recorded
		82 Enjoys being the center of attention	N-just recorded
		97 Shows little emotion	Y
	E5-Trusts others	21 Assumes associates will do what they say	N-just recorded
		35 Takes people at their word	N-just recorded
		54 Thinks most people are trustworthy	N-just recorded
	E6-Tact	24 Disagrees tactfully	N-just recorded
		38 Facilitates discussions effectively	N-just recorded

		57 Inspires others to action	N-just recoded
		78 Is smooth in handling people	N-just recoded
A- Accommodation/ Agreeableness	A2-Agreement	9 Enjoys competing	N-recoded
		33 Enjoys persuading others	N-recoded
		61 Avoids direct conflict	N-recoded
		71 can make unpleasant or unpopular decisions	N-recoded
		84 Backs off in an argument	N-recoded

		98 Is a follower	N-recoded
		101 Needs to win	N-recoded
	A4-Reserve	19 Gives opinion readily	N-recoded
		22 Holds his/her tongue in meetings	N-recoded
		36 Is comfortable staying in the background	N-recoded
		55 Speaks out in meetings	N-recoded
		79 Prefers for others to talk in meetings	N-recoded
A- Accommodation/ Agreeableness	A3-Humility	14 Takes credit when deserved	Y
		42 Declines personal credit for successes	N-recoded
		66 Enjoys getting credit in front of others	Y

		99 Is uneasy when receiving praise	N-recoded
C-Consolidation	C3-Drive	15 Has clear goals	N-recoded
		43 Is ambitious	N-recoded
		47 Is charismatic	N-recoded
		67 Is driven to be “number one”	N-recoded
		106 Prefers a slower pace	Y

APPENDIX G
RESULTS TABLES

Table 1

Hierarchical Regression Predicting Boss Rating of Effectiveness from Hungry, Smart, Humble, and Interactions Testing

Variable	Model 1 <i>Race/Gender/Career Function</i>			Model 2 <i>Controls & Hungry</i>			Model 3 <i>Controls & Hungry & Smart</i>		
	<i>B</i>	<i>SE</i>	<i>95% CI</i>	<i>B</i>	<i>SE</i>	<i>95% CI</i>	<i>B</i>	<i>SE</i>	<i>95% CI</i>
<i>Constant</i>	31.637*	0.460	[30.733, 32.541]	31.558*	0.459	[30.656, 32.459]	31.549	0.463	[30.641, 32.457]
<i>(Gender)</i>	-0.622	0.381	[-1.409, 0.085]	-0.555	0.381	[-1.303, 0.192]	-0.549	0.383	[-1.301, 0.204]
<i>(Race)</i>	0.855	0.470	[-0.069, 1.778]	0.873	0.468	[-0.047, 1.792]	0.879	0.470	[-0.044, 1.802]
<i>(Career)</i>	3.217*	1.301	[0.664, 5.770]	3.054*	1.296	[0.510, 5.598]	3.046*	1.298	[0.498, 5.593]
<i>Hungry</i>				0.649*	0.229	[0.199, 1.099]	0.644*	0.232	[0.189, 1.099]
<i>Smart</i>							0.057	0.352	[-0.633, 0.747]
<i>Humble</i>									
	Pearson-<i>r</i>	<i>p</i>-value							
<i>RacebyHungry</i>	0.104	0.002							
<i>GenderbyHungry</i>	0.088	0.007							
<i>CareerbyHumble</i>	-0.063	0.040							
<i>R</i> ²	0.016			0.026			0.026		
<i>F</i>	4.17*			5.161*			4.129*		
<i>Change in R</i> ²	0.016*			0.01*			0		
<i>Change in F</i>	4.17			8.02			0.026		

Table 1

Cont.

Variable	Model 4 <i>Controls & Hungry, Smart & Humble</i>			Model 5 <i>Controls & Hungry, Smart, Humble & Interactions</i>			
	<i>B</i>	<i>SE</i>	<i>95% CI</i>	<i>B</i>	<i>SE</i>	<i>95% CI</i>	
<i>Constant</i>	31.559	0.463	[30.650, 32.468]	31.575	0.467	[30.659, 32.492]	
<i>(Gender)</i>	-0.566	0.384	[-1.321, 0.188]	-0.573	0.386	[-1.330, 0.185]	
<i>(Race)</i>	0.882	0.470	[-0.041, 1.806]	0.869	0.472	[-0.058, 1.795]	
<i>(Career)</i>	3.08*	1.299	[0.530, 5.630]	2.620	1.400	[-0.129, 5.368]	
<i>Hungry</i>	0.681*	0.238	[0.213, 1.150]	0.534	0.609	[-0.661, 1.730]	
<i>Smart</i>	0.040	0.353	[-0.653, 0.732]	0.061	0.355	[-0.636, 0.758]	
<i>Humble</i>	0.106	0.157	[-0.203, 0.414]	0.126	0.159	[-0.187, 0.438]	
<i>RacebyHungry</i>				0.197	0.596	[-0.972, 1.367]	
<i>GenderbyHungry</i>				-0.019	0.483	[-0.968, 0.930]	
<i>CareerbyHumble</i>				-1.053	1.172	[-3.354, 1.247]	
<i>R²</i>	0.027			0.028			
<i>F</i>	3.514*			2.439*			
<i>Change in R²</i>	0.001			0.001			
<i>Change in F</i>	0.454			0.307			

Note. $N=773$, * $p<.05$, ** $p<.001$. Model 4: $F(6, 766)=3.514$, $p=.002$.

Table 2

Hierarchical Regression Predicting Boss Ratings Likelihood to Derail from Hungry, Smart, Humble and Interaction Testing

Variable	Model 1 <i>Race/Gender/Career Function</i>			Model 2 <i>Controls & Hungry</i>		
	<i>B</i>	<i>SE</i>	<i>95% CI</i>	<i>B</i>	<i>SE</i>	<i>95% CI</i>
<i>Constant</i>	3.877*	0.128	[3.626, 4.128]	3.873*	0.128	[30.656, 32.459]
<i>(Gender)</i>	0.051	0.106	[-0.156, 0.258]	0.057	0.106	[-1.303, 0.192]
<i>(Race)</i>	-0.064	0.13	[-0.32, 0.192]	-0.063	0.131	[-0.047, 1.792]
<i>(Career)</i>	-0.646	0.373	[-1.378, 0.087]	-0.657	0.374	[0.510, 5.598]
<i>Hungry</i>				0.04	0.064	[0.199, 1.099]
<i>Smart</i>						
<i>Humble</i>						
<i>R²</i>	0.005			0.005		
<i>F</i>	1.176			0.98		
<i>Change in R²</i>	0.005			0.001		
<i>Change in F</i>	1.176			0.396		

Table 2

Cont.

Variable	Model 3 <i>Controls & Hungry & Smart</i>			Model 4 <i>Controls & Hungry, Smart & Humble</i>		
	<i>B</i>	<i>SE</i>	<i>95% CI</i>	<i>B</i>	<i>SE</i>	<i>95% CI</i>
<i>Constant</i>	3.876*	0.129	[3.622, 4.128]	3.882*	0.129	[30.656, 32.459]
<i>(Gender)</i>	0.055	0.107	[-0.155, 0.258]	0.004	0.107	[-1.303, 0.192]
<i>(Race)</i>	-0.065	0.131	[-0.322, 0.192]	-0.063	0.131	[-0.047, 1.792]
<i>(Career)</i>	-0.654	0.374	[-1.389, 0.087]	-0.637	0.374	[0.510, 5.598]
<i>Hungry</i>	0.042	0.065	[-0.085, 0.169]	0.063	0.066	[0.199, 1.099]
<i>Smart</i>	-0.019	0.098	[-0.213, 0.174]	-0.03	0.099	
<i>Humble</i>						
<i>R²</i>	0.005			0.008		
<i>F</i>	0.791			0.984		
<i>Change in R²</i>	0.000			0.003		
<i>Change in F</i>	0.038			1.943		

Note. $N=775$, * $p<.05$, ** $p<.001$. Model 4: $F(6, 768)=.984$, $p=.435$.

Table 3

Hierarchical Regression Predicting Team Competency Ratings from Hungry, Smart, Humble and Interaction Testing

Variable	Model 1 <i>Race/Gender/Career Function</i>			Model 2 <i>Controls & Hungry</i>			Model 3 <i>Controls & Hungry & Smart</i>		
	<i>B</i>	<i>SE</i>	<i>95% CI</i>	<i>B</i>	<i>SE</i>	<i>95% CI</i>	<i>B</i>	<i>SE</i>	<i>95% CI</i>
<i>Constant</i>	63.251	0.443	[62.382, 64.119]	63.187	0.442	[62.32, 64.055]	63.12	0.445	[62.247, 63.993]
<i>(Gender)</i>	0.039	0.369	[-0.685, 0.763]	0.105	0.369	[-0.619, 0.828]	0.159	0.371	[-0.569, 0.887]
<i>(Race)</i>	-0.973*	0.450	[-1.856, -0.09]	-0.935*	0.449	[-1.816, -0.054]	-0.889*	0.450	[-1.773, -0.006]
<i>(Career)</i>	2.024	1.166	[-0.265, 4.312]	1.916	1.163	[-0.367, 4.199]	1.872	1.163	[-0.411, 4.155]
<i>Hungry</i>				0.567*	0.222	[0.131, 1.003]	0.516*	0.225	[0.074, 0.958]
<i>Smart</i>							0.459	0.347	[-0.221, 1.139]
<i>Humble</i>									
	Pearson-<i>r</i>	<i>p</i>-value							
<i>RacebyHungry</i>	0.075	0.012							
<i>GenderbyHungry</i>	0.075	0.012							
<i>GenderbySmart</i>	0.071	0.016							
<i>CareerbyHungry</i>	0.060	0.035							
<i>R</i> ²	0.008			0.015			0.017		
<i>F</i>	2.545			3.55*			3.193*		
<i>Change in R</i> ²	0.008*			0.007*			0.002		
<i>Change in F</i>	2.545*			6.52*			1.753		

Table 3

Cont.

Variable	Model 4 <i>Controls & Hungry, Smart & Humble</i>			Model 5 <i>Controls & Hungry, Smart, Humble & Interactions</i>			
	<i>B</i>	<i>SE</i>	<i>95% CI</i>	<i>B</i>	<i>SE</i>	<i>95% CI</i>	
<i>Constant</i>	31.559	0.463	[30.650, 32.468]	63.175	0.450	[62.291, 64.058]	
<i>(Gender)</i>	-0.566	0.384	[-1.321, 0.188]	0.080	0.373	[-0.652, 0.812]	
<i>(Race)</i>	0.882	0.470	[-0.041, 1.806]	-0.874	0.452	[-1.761, 0.012]	
<i>(Career)</i>	3.08*	1.299	[0.530, 5.630]	1.627	1.193	[-0.716, 3.969]	
<i>Hungry</i>	0.681*	0.238	[0.213, 1.150]	0.662	0.596	[-0.508, 1.832]	
<i>Smart</i>	0.040	0.353	[-0.653, 0.732]	-0.043	0.589	[-1.199, 1.112]	
<i>Humble</i>	0.106	0.157	[-0.203, 0.414]	0.258	0.150	[-0.037, 0.552]	
<i>RacebyHungry</i>				-0.089	0.585	[-1.237, 1.060]	
<i>GenderbyHungry</i>				-0.049	0.468	[-0.968, 0.869]	
<i>GenderbySmart</i>				0.671	0.728	[-0.757, 2.099]	
<i>CareerbyHungry</i>				1.428	1.417	[-1.352, 4.209]	
<i>R²</i>	0.027			0.023			
<i>F</i>	3.514*			2.078*			
<i>Change in R²</i>	0.001			0.002			
<i>Change in F</i>	0.454			0.462			

Note. $N=908$, * $p<.05$, ** $p<.001$. Model 4: $F(6, 901)=3.163$, $p=.004$.

Table 4

Hierarchical Regression Predicting Team Ratings of Career Stalling Problems from Hungry, Smart, Humble and Interaction Testing

Variable	Model 1 <i>Race/Gender/Career Function</i>			Model 2 <i>Controls & Hungry</i>			Model 3 <i>Controls & Hungry & Smart</i>		
	<i>B</i>	<i>SE</i>	<i>95% CI</i>	<i>B</i>	<i>SE</i>	<i>95% CI</i>	<i>B</i>	<i>SE</i>	<i>95% CI</i>
<i>Constant</i>	7.286*	0.152	[6.986, 7.585]	7.271*	0.153	[6.972, 7.571]	7.27*	0.154	[6.968, 7.572]
<i>(Gender)</i>	0.156	0.127	[-0.093, 0.405]	0.17	0.127	[-0.079, 0.42]	0.171	0.128	[-0.079, 0.422]
<i>(Race)</i>	0.156	0.154	[-0.147, 0.459]	0.164	0.154	[0.138, 0.467]	0.165	0.155	[-0.139, 0.47]
<i>(Career)</i>	-1.21*	0.395	[-0.1986, -0.435]	-1.23*	0.395	[-2.005, -0.455]	-1.231*	0.395	[-2.007, -0.455]
<i>Hungry</i>					0.077	[-0.027, 0.275]	0.123	0.078	[-0.029, 0.276]
<i>Smart</i>							0.008	0.119	[-0.226, 0.242]
<i>Humble</i>									
	Pearson-<i>r</i>	<i>p</i>-value							
<i>GenderbyHungry</i>	0.069	0.019							
<i>R</i> ²	0.013			0.016			0.016		
<i>F</i>	4.153*			3.774*			3.017*		
<i>Change in R</i> ²	0.013*			0.003			0		
<i>Change in F</i>	4.153*			2.617			0.005		

Table 4

Cont.

Variable	Model 4 Controls & Hungry, Smart & Humble			Model 5 Controls & Hungry, Smart, Humble & Interactions		
	<i>B</i>	<i>SE</i>	<i>95% CI</i>	<i>B</i>	<i>SE</i>	<i>95% CI</i>
<i>Constant</i>	7.267*	0.154	[6.966, 7.569]	7.286*	0.154	[6.984, 7.588]
<i>(Gender)</i>	0.183	0.128	[-0.068, 0.434]	0.177	0.128	[-0.074, 0.428]
<i>(Race)</i>	0.16	0.155	[-0.144, 0.464]	0.151	0.155	[-0.153, 0.455]
<i>(Career)</i>	-1.239*	0.395	[-2.015, -0.464]	-1.247*	0.395	[-2.021, -0.472]
<i>Hungry</i>	0.101	0.080	[-0.055, 0.258]	-0.072	0.129	[-0.325, 0.181]
<i>Smart</i>	0.021	0.120	[-0.214, .0255]	0.010	0.120	[-0.224, 0.245]
<i>Humble</i>	-0.066	0.051	[-0.167, 0.036]	-0.072	0.052	[-0.174, 0.029]
<i>GenderbyHungry</i>				0.274	0.160	[-0.040, 0.587]
<i>R²</i>	0.018			0.021		
<i>F</i>	2.786*			2.812*		
<i>Change in R²</i>	0.002			0.003		
<i>Change in F</i>	1.62			2.935		

Note. $N=920$, * $p<.05$, ** $p<.001$. Model 4: $F(6, 913)=2.786$, $p=.011$.

Table 5

Correlation Matrix

		BE	BD	TC_1	TS_1	hun	S2_c	hum	G	R	NFDV
BE	Pearson Correlation	1	-.388**	.204**	-.292**	.106**	0.013	0.002	-.058*	0.059	.088**
	Sig. (1-tailed)		0.000	0.000	0.000	0.001	0.353	0.475	0.050	0.050	0.006
	N	813	808	790	802	813	813	813	803	787	807
BD	Pearson Correlation	-.388**	1	-.095**	.205**	0.026	0.006	0.036	0.014	-0.014	-.065*
	Sig. (1-tailed)	0.000		0.004	0.000	0.233	0.438	0.151	0.341	0.345	0.031
	N	808	815	792	804	815	815	815	805	788	810
TC_1	Pearson Correlation	.204**	-.095**	1	-.619**	.083**	0.038	0.045	-0.004	-.074*	.059*
	Sig. (1-tailed)	0.000	0.004		0.000	0.005	0.117	0.080	0.451	0.012	0.034
	N	790	792	961	960	961	961	961	951	926	951
TS_1	Pearson Correlation	-.292**	.205**	-.619**	1	0.048	0.017	-0.051	0.038	0.041	-.106**
	Sig. (1-tailed)	0.000	0.000	0.000		0.067	0.302	0.055	0.120	0.104	0.001
	N	802	804	960	974	974	974	974	963	938	964
hun_c	Pearson Correlation	.106**	0.026	.083**	0.048	1	.168**	-.226**	-.079**	-0.041	0.042
	Sig. (1-tailed)	0.001	0.233	0.005	0.067		0.000	0.000	0.006	0.104	0.095
	N	813	815	961	974	1000	1000	1000	989	963	990
S2_c	Pearson Correlation	0.013	0.006	0.038	0.017	.168**	1	0.017	-.139**	-.107**	0.046
	Sig. (1-tailed)	0.353	0.438	0.117	0.302	0.000		0.296	0.000	0.000	0.074
	N	813	815	961	974	1000	1000	1000	989	963	990
hum_c	Pearson Correlation	0.002	0.036	0.045	-0.051	-.226**	0.017	1	.084**	-0.007	-0.034
	Sig. (1-tailed)	0.475	0.151	0.080	0.055	0.000	0.296		0.004	0.416	0.142
	N	813	815	961	974	1000	1000	1000	989	963	990
G	Pearson Correlation	-.058*	0.014	-0.004	0.038	-.079**	-.139**	.084**	1	.092**	-0.041
	Sig. (1-tailed)	0.050	0.341	0.451	0.120	0.006	0.000	0.004		0.002	0.102
	N	803	805	951	963	989	989	989	989	954	979

Table 5

Cont.

		BE	BD	TC_1	TS_1	hun	S2_c	hum	G	R	NFDV
R	Pearson Correlation	0.059	-0.014	-.074*	0.041	-0.041	-.107**	-0.007	.092**	1	-0.015
	Sig. (1-tailed)	0.050	0.345	0.012	0.104	0.104	0.000	0.416	0.002		0.317
	N	787	788	926	938	963	963	963	954	963	954
NFDV	Pearson Correlation	.088**	-.065*	.059*	-.106**	0.042	0.046	-0.034	-0.041	-0.015	1
	Sig. (1-tailed)	0.006	0.031	0.034	0.001	0.095	0.074	0.142	0.102	0.317	
	N	807	810	951	964	990	990	990	979	954	990
RxHun	Pearson Correlation	.104**	0.008	.069*	0.046	.908**	.141**	-.205**	-.054*	-0.008	0.020
	Sig. (1-tailed)	0.002	0.411	0.017	0.079	0.000	0.000	0.000	0.047	0.408	0.267
	N	787	788	926	938	963	963	963	954	963	954
RxS	Pearson Correlation	0.010	-0.029	0.037	0.023	.145**	.889**	0.032	-.099**	-0.027	0.027
	Sig. (1-tailed)	0.395	0.211	0.130	0.244	0.000	0.000	0.159	0.001	0.205	0.202
	N	787	788	926	938	963	963	963	954	963	954
RxHum	Pearson Correlation	-0.008	0.019	0.020	-0.031	-.208**	0.032	.893**	.075**	-0.005	-0.042
	Sig. (1-tailed)	0.408	0.297	0.269	0.170	0.000	0.159	0.000	0.010	0.444	0.097
	N	787	788	926	938	963	963	963	954	963	954
GxHun	Pearson Correlation	.081*	-0.002	.075*	.068*	.798**	.160**	-.133**	-0.042	-0.020	0.042
	Sig. (1-tailed)	0.011	0.481	0.010	0.017	0.000	0.000	0.000	0.092	0.270	0.094
	N	803	805	951	963	989	989	989	989	954	979
GxS	Pearson Correlation	-0.010	0.002	0.046	0.024	.158**	.809**	0.011	-.069*	-.064*	.055*
	Sig. (1-tailed)	0.390	0.474	0.079	0.226	0.000	0.000	0.369	0.015	0.025	0.044
	N	803	805	951	963	989	989	989	989	954	979
GxHum	Pearson Correlation	-0.008	0.025	0.038	-0.046	-.138**	0.012	.766**	0.041	0.008	-0.024
	Sig. (1-tailed)	0.413	0.241	0.124	0.078	0.000	0.359	0.000	0.097	0.407	0.225
	N	803	805	951	963	989	989	989	989	954	979

Table 5

Cont.

		BE	BD	TC_1	TS_1	hun	S2_c	hum	G	R	NFDV
CFxHun	Pearson Correlation	0.050	-0.038	.060*	0.000	.165**	.074**	-0.041	0.003	-0.038	.244**
	Sig. (1-tailed)	0.079	0.139	0.033	0.495	0.000	0.010	0.101	0.459	0.119	0.000
	N	807	810	951	964	990	990	990	979	954	990
CFxS	Pearson Correlation	0.016	-0.027	0.012	-0.033	.081**	.151**	0.033	0.005	-0.047	.298**
	Sig. (1-tailed)	0.321	0.219	0.356	0.151	0.005	0.000	0.151	0.435	0.074	0.000
	N	807	810	951	964	990	990	990	979	954	990
CFxHum	Pearson Correlation	-.061*	0.038	-0.013	0.003	-0.039	0.029	.170**	0.015	-0.029	-.190**
	Sig. (1-tailed)	0.041	0.138	0.340	0.459	0.109	0.178	0.000	0.325	0.182	0.000
	N	807	810	951	964	990	990	990	979	954	990
		RxHun	RxS	RxHum	GxHun	GxS	GxHum	CFxHun	CFxS	CFxHum	
BE	Pearson Correlation	.104**	0.010	-0.008	.081*	-0.010	-0.008	0.050	0.016	-.061*	
	Sig. (1-tailed)	0.002	0.395	0.408	0.011	0.390	0.413	0.079	0.321	0.041	
	N	787	787	787	803	803	803	807	807	807	
BD	Pearson Correlation	0.008	-0.029	0.019	-0.002	0.002	0.025	-0.038	-0.027	0.038	
	Sig. (1-tailed)	0.411	0.211	0.297	0.481	0.474	0.241	0.139	0.219	0.138	
	N	788	788	788	805	805	805	810	810	810	
TC_1	Pearson Correlation	.069*	0.037	0.020	.075*	0.046	0.038	.060*	0.012	-0.013	
	Sig. (1-tailed)	0.017	0.130	0.269	0.010	0.079	0.124	0.033	0.356	0.340	
	N	926	926	926	951	951	951	951	951	951	
TS_1	Pearson Correlation	0.046	0.023	-0.031	.068*	0.024	-0.046	0.000	-0.033	0.003	
	Sig. (1-tailed)	0.079	0.244	0.170	0.017	0.226	0.078	0.495	0.151	0.459	
	N	938	938	938	963	963	963	964	964	964	
hun_c	Pearson Correlation	.908**	.145**	-.208**	.798**	.158**	-.138**	.165**	.081**	-0.039	
	Sig. (1-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.109	
	N	963	963	963	989	989	989	990	990	990	

Table 5

Cont.

		RxHun	RxS	RxHum	GxHun	GxS	GxHum	CFxHun	CFxS	CFxHum
S2_c	Pearson Correlation	.141**	.889**	0.032	.160**	.809**	0.012	.074**	.151**	0.029
	Sig. (1-tailed)	0.000	0.000	0.159	0.000	0.000	0.359	0.010	0.000	0.178
	N	963	963	963	989	989	989	990	990	990
hum_c	Pearson Correlation	-.205**	0.032	.893**	-.133**	0.011	.766**	-0.041	0.033	.170**
	Sig. (1-tailed)	0.000	0.159	0.000	0.000	0.369	0.000	0.101	0.151	0.000
	N	963	963	963	989	989	989	990	990	990
G	Pearson Correlation	-.054*	-.099**	.075**	-0.042	-.069*	0.041	0.003	0.005	0.015
	Sig. (1-tailed)	0.047	0.001	0.010	0.092	0.015	0.097	0.459	0.435	0.325
	N	954	954	954	989	989	989	979	979	979
R	Pearson Correlation	-0.008	-0.027	-0.005	-0.020	-.064*	0.008	-0.038	-0.047	-0.029
	Sig. (1-tailed)	0.408	0.205	0.444	0.270	0.025	0.407	0.119	0.074	0.182
	N	963	963	963	954	954	954	954	954	954
NFDV	Pearson Correlation	0.020	0.027	-0.042	0.042	.055*	-0.024	.244**	.298**	-.190**
	Sig. (1-tailed)	0.267	0.202	0.097	0.094	0.044	0.225	0.000	0.000	0.000
	N	954	954	954	979	979	979	990	990	990
RxHun	Pearson Correlation	1	.158**	-.229**	.738**	.128**	-.116**	.143**	.057*	-0.036
	Sig. (1-tailed)		0.000	0.000	0.000	0.000	0.000	0.000	0.039	0.132
	N	963	963	963	954	954	954	954	954	954
RxS	Pearson Correlation	.158**	1	0.036	.132**	.733**	0.023	.054*	.124**	0.028
	Sig. (1-tailed)	0.000		0.132	0.000	0.000	0.234	0.046	0.000	0.194
	N	963	963	963	954	954	954	954	954	954
RxHum	Pearson Correlation	-.229**	0.036	1	-.115**	0.019	.690**	-0.037	0.034	.160**
	Sig. (1-tailed)	0.000	0.132		0.000	0.278	0.000	0.124	0.150	0.000
	N	963	963	963	954	954	954	954	954	954

Table 5

Cont.

		RxHun	RxS	RxHum	GxHun	GxS	GxHum	CFxHun	CFxS	CFxHum
GxHun	Pearson Correlation	.738**	.132**	-.115**	1	.194**	-.171**	.146**	.065*	-0.051
	Sig. (1-tailed)	0.000	0.000	0.000		0.000	0.000	0.000	0.022	0.055
	N	954	954	954	989	989	989	979	979	979
GxS	Pearson Correlation	.128**	.733**	0.019	.194**	1	0.019	.059*	.094**	-0.012
	Sig. (1-tailed)	0.000	0.000	0.278	0.000		0.279	0.034	0.002	0.358
	N	954	954	954	989	989	989	979	979	979
GxHum	Pearson Correlation	-.116**	0.023	.690**	-.171**	0.019	1	-.055*	-0.014	.117**
	Sig. (1-tailed)	0.000	0.234	0.000	0.000	0.279		0.042	0.330	0.000
	N	954	954	954	989	989	989	979	979	979
CFxHun	Pearson Correlation	.143**	.054*	-0.037	.146**	.059*	-.055*	1	.490**	-.237**
	Sig. (1-tailed)	0.000	0.046	0.124	0.000	0.034	0.042		0.000	0.000
	N	954	954	954	979	979	979	990	990	990
CFxS	Pearson Correlation	.057*	.124**	0.034	.065*	.094**	-0.014	.490**	1	.197**
	Sig. (1-tailed)	0.039	0.000	0.150	0.022	0.002	0.330	0.000		0.000
	N	954	954	954	979	979	979	990	990	990
CFxHum	Pearson Correlation	-0.036	0.028	.160**	-0.051	-0.012	.117**	-.237**	.197**	1
	Sig. (1-tailed)	0.132	0.194	0.000	0.055	0.358	0.000	0.000	0.000	
	N	954	954	954	979	979	979	990	990	990

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

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

APPENDIX H

PERMISSION TO REPRINT LENCIONI'S HUMBLE, HUNGRY, SMART VENN DIAGRAMS AND SELF AND MANAGERS ASSESSMENTS

10/20/2019

UNCG Mail - Fwd: Doctoral Student Research: Humble, Hungry, Smart permission for Venn Diagram and Self and Managers Assessment



Summer McMurry <svcmurr@uncg.edu>

Fwd: Doctoral Student Research: Humble, Hungry, Smart permission for Venn Diagram and Self and Managers Assessment

Summer McMurry <svcmurr@carolinapeds.com>
To: svcmurr@uncg.edu

Sun, Sep 8, 2019 at 11:26 PM

Summer V. McMurry, MS, CCC-SLP
President/Owner
Carolina Pediatric Therapy
www.carolinapeds.com

office: 828-670-8056
fax: 828-670-8057
mobile: 828-280-2710

Begin forwarded message:

From: Amy Hiett <amy@tablegroup.com>
Date: September 8, 2019 at 4:16:19 PM EDT
To: Summer McMurry <svcmurr@carolinapeds.com>
Subject: Re: Doctoral Student Research: Humble, Hungry, Smart permission for Venn Diagram and Self and Managers Assessment

Hi Summer,

Thanks for taking the time to reach out. You are welcome to use the model and/or the questions in your dissertation as long as they are properly referenced. I hope that helps.

Best,

Amy Hiett | General Manager
250 Lafayette Circle, #300 | Lafayette, CA 94549
p. 925.299.9702 | amy@tablegroup.com



10/20/2019

UNCG Mail - Fwd: Doctoral Student Research: Humble, Hungry, Smart permission for Venn Diagram and Self and Managers Assessment

From: Summer McMurry <smcmurry@carolinapeds.com>
Date: Friday, September 6, 2019 at 3:12 PM
To: Amy Hiett <amy@tablegroup.com>, TTG Defaultname <ttg@tablegroup.com>
Subject: Re: Doctoral Student Research: Humble, Hungry, Smart permission for Venn Diagram and Self and Managers Assessment

Good afternoon, Amy,

Since I reached out last year, I wanted to let you know I am nearly finished with my dissertation research project on Humble, Hungry and Smart.

I wanted to see what the process is for getting written permission to use the Humble, Hungry, Smart Venn Diagrams (Ideal and not so ideal:) and the self and managers assessments.

I am wrapping up my dissertation entitled:

QUANTIFYING THE QUALITIES OF TEAM PLAYERS USING THE LENCIONI FRAMEWORK OF HUMBLE,
HUNGRY, & SMART: IMPLICATIONS FOR TEAM SCIENCE AND INTERPROFESSIONAL EDUCATION AND
COLLABORATIVE PRACTICE IN HEALTH
ORGANIZATIONS AND ACADEMIC PROGRAMS

I would like to put a modified/adapted copy of the Venn Diagram image and the assessments or at least the questions from the assessments in the appendices of my dissertation. I did not directly use the assessment questions in my study, but refer to them and will refer to them in directions for future research.

How might I go about getting permission to do that?

Also, if anyone at the table group is interested to know about my research findings, I'd be very interested to discuss it! I've attached the abstract.)

With gratitude,

Summer V. McMurry, MS, CCC-SLP
President/Owner
Carolina Pediatric Therapy
www.carolinapeds.com
PHD student
University of North Carolina at Greensboro

10/20/2019 UNCG Mail - Fwd: Doctoral Student Research: Humble, Hungry, Smart permission for Venn Diagram and Self and Managers Assessment
 office: 828-670-8056
 fax: 828-670-8057
 mobile: 828-280-2710

ABSTRACT:

Purpose – Knowledge The purpose of this paper is to examine and quantify three qualities of team players using Patrick Lencioni’s framework for the Ideal Team Player. The qualities examined are drive or motivation to achieve (hungry), emotional intelligence and interpersonal relationship skills (‘people smart’) and humility (humble). The researcher attempts to determine if these qualities are predictive of the team’s ratings of a manager as an effective and competent leader.

Design/methodology/approach – This is an exploratory, correlational design that involves a secondary data analyses of a large dataset using a 5-step hierarchical regression analyses. Deidentified participant data were collected through random selection by means of a data request from the Center for Creative Leadership’s participant database.

Findings – The results showed that hungry is a significant predictive value of Boss Ratings of a team member/manager’s effectiveness and the Team’s ratings of Competence. Furthermore, it could be shown that there are some correlations and interaction effects with gender, race/ethnicity, and career function within the organization.

Practical/implications – In practice, the results of the study provide a valuable framework for improving teamwork through team development interventions applied at the individual and the group level and can be applied to Interprofessional Education and Collaborative Practice at the pre-service and in-service level .

Originality/value – To the knowledge of this researcher, This is the first quantitative study to explore “humble” “hungry” and “smart” together in relation to superior and team ratings of team member effectiveness and competence and to translate the findings into practical application for the healthcare industry.

Keywords: IPE/IPP, Interprofessional Collaborative Practice, Big Five Personality, Teamwork, Healthcare, Team Player, Team Interventions, Team Science, Humility, Motivation, Emotional Intelligence, Interpersonal Relationship Behaviors, job performance, contextual performance

Paper type: Doctoral dissertation

On Sep 26, 2018, at 5:41 PM, Amy Hiett <amy@tablegroup.com> wrote:

10/20/2019

UNCG Mail - Fwd: Doctoral Student Research: Humble, Hungry, Smart permission for Venn Diagram and Self and Managers Assessment
Hi Summer,

Thanks so much for your question. It's great to hear that you've found *The Ideal Team Player* so helpful.

Unfortunately, we haven't conducted any reliability or validity studies on our Ideal Team Player assessments. The tools are intended to be used as qualitative tools to help in opening discussions.

I hope that helps.

Best,

Amy Hiett | General Manager

250 Lafayette Circle, #300 | Lafayette, CA 94549

p. 925.299.9702 | amy@tablegroup.com

<image001.png><image002.png>

Come to our [UnConference](#) – January 16-18, 2019

From: Summer McMurry <smcmurry@carolinapeds.com>

Date: Monday, September 24, 2018 at 6:46 PM

To: TTG Defaultname <ttg@tablegroup.com>

Subject: Doctoral Student Research Guidance: Humble, Hungry, Smart Self and Managers Assessment

Dear Mr. Lencioni and the Table Group Team,

Thank you for your time in reading my email. My name is Summer McMurry. I am the founder and CEO of Carolina Pediatric Therapy in Asheville, NC. I am reaching out to you for a couple of reasons.

First, to let you know what an impact your book *The Ideal Team Player* has made on my team and our company culture. About a year ago, we read your book together with our Directors Team. This is our top tier leadership team. We began integrating your HHS questions into our interviews to assist us with selection of new hires. It has made such a difference! We use it in our orientations to cast our vision and expectations for new and current employees. It has been a culture influencer for the good of our team and has helped our leaders to see when things aren't working so well and the why behind it. From there we are able to coach and develop our team mates, and it has given us a great framework. So, thank you!

My second reasons for connecting is due to my "spare time" professional development activities. I am currently completing my PhD in Communication Sciences and Disorders. I am a Speech-Language Pathologist by trade, and my focus is on Inter-professional Collaborative

10/20/2019

UNCG Mail - Fwd: Doctoral Student Research: Humble, Hungry, Smart permission for Venn Diagram and Self and Managers Assessment Practice in Integrated Healthcare Organizations. My daily job is leading our 100+ clinicians and administrators for the past 16 years has shaped my focus for my doctoral studies.

I am beginning my doctoral dissertation and have obtained a very large data set from the Center for Creative Leadership with a sample size of 2000 participants' response data from a number of assessments including two "360 assessment instruments", the FIRO-B, the CPI, and the WorkPlace Big Five. I'm looking for correlations of the virtues of Humble, Hungry, and Smart in the participants' responses and want to see if individuals who have more of those virtues are perceived as better leaders by those around them. Essentially, I am trying to quantify the qualities of team players and see if those qualities are present in particular combinations and if those compositions are different in Healthcare Teams versus Teams from other industries.

My question to you is regarding the constructs of the Humble/Hungry/Smart Self-Assessment and the Manager's Assessment you have developed. Have those assessment tools undergone any psychometric analyses on their constructs when they were being developed or since? If so, could you point me in the right direction to those studies or assessments of the three virtues/constructs, or any information on how those tools were developed? Any reliability or validity studies on the assessments, etc.

I have consulted with Dr. Pierce Howard, the developer of the WorkPlace Big Five Personality test and he pointed me to several of the constructs of the Work Place Big Five that align nicely with the virtues of HHS. I am excited about this research, as I have been applying the use of your self-assessments/managers assessments on my team/new hires within my own company for the last year along with Dr. Pierce's WPB5. I'm excited to see the power of an analysis on a large data set.

Thank you so much for any guidance you or your team might provide.

With gratitude,

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