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# Accelerating Leadership and Professional Development for Adults: Developing a New Measure for Assessing Kegan's Constructive Developmental Orders

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# Accelerating Leadership and Professional Development for Adults: Developing a New Measure for Assessing Kegan's Constructive Developmental Orders

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## Abstract

Much has been learned and theorized about adult development and its importance in leadership effectiveness and professional development interventions thanks to the framework proposed by Kegan's Constructive Developmental Theory (CDT). However, research and practice in this area has been hindered by the difficulty of utilizing the current method for assessing constructive developmental Level, the Subject-Object Interview. The present study addresses this problem through the development and preliminary validation of a new self-report instrument that measures the Levels of development described in Kegan's CDT. This new measure, the Constructive Developmental Self-Report (CDSR), was constructed through theoretical-based item generation that utilized both inductive and deductive methods. Self-report items were generated by extracting the subject-object structure from coded Subject-Object Interview excerpts. An expert review then confirmed a version of the CDSR to be used in measurement validation exercises. Preliminary validity was assessed through testing two sets of hypotheses that, if supported, provide concurrent validity for the CDSR. The study hypothesized (a) that different Levels of constructive developmental maturity (as measured by the CDSR) will predict preferences for conflict communication strategies, and (b) that increased perspective-taking ability positively relates to constructive developmental Level. A targeted sample of 220 employed adults in management/supervisory positions within a wide age range from 21 to 70 responded to a survey that included the CDSR, conflict communication, and perspective-taking scales. Results yielded complex findings that, after careful interpretation, provide nuanced relationships between Levels of development and the conflict communication and perspective-taking scales. Consequently, evidence was provided for the preliminary concurrent validity of the CDSR. The CDSR was deemed a promising new assessment of constructive developmental

Level that can be used to increase the frequency and sample sizes of CDT research. Ideally, this instrument will ultimately allow for greater dissemination of professional development resources that address vertical development. Finally, this study provides a fresh tool to be used within life span communication research. Future researchers are encouraged to conduct additional validation studies that can refine the CDSR and cement its place as a useful tool for adult development research.

*Keywords:* Constructive Developmental Theory, self-report instrument, professional development, leadership, conflict communication, perspective-taking

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# Chapter 1: Introduction

It is estimated that organizations spent approximately $370 billion globally on training in 2019, which is up from $271 billion in 2010 (Training Industry, 2020). Clearly, this indicates an impressive and increasing amount of money pouring into the professional development of employees around the world. Many leaders within their organizations may note that they have gone through training, attended classes, earned certifications, traveled to conferences, and otherwise been fortunate to have their organizations invest in their skills and knowledge. This type of professional development addresses 'what you know,' and the leadership and adult development literature refers to this as horizontal or lateral development (Eigel & Kuhnert, 2005; Harris & Kuhnert, 2007; Sharma, 2018; Strang & Kuhnert, 2009). Despite these impressive numbers and the perceived ubiquity of horizontal development, existing learning and development endeavors have severe shortcomings. For example, Glaveski (2019) noted that as many as 75% of 1,500 managers surveyed in 50 organizations indicated that they were dissatisfied with their organization's learning and development functions. Additionally, a substantial 70% of employees reported that they lack mastery of the skills required to do their jobs, only 12% apply new skills learned from learning and development programs to their jobs, and only 25% believe that training measurably improved performance.

These alarming numbers raise a poignant question for professional development researchers and practitioners: is the current approach to development working? However crucial professional development may be in essence, the failure of current learning and development functions points to an aspect of professional development that has been largely overlooked and understudied: vertical development. Vertical development addresses growth in psychosocial developmental maturity (Cook-Greuter, 2004; Harris & Kuhnert, 2007; Reams, 2017; Sharma,

2018; Strang & Kuhnert, 2009). Whereas horizontal development addresses ‘what you know,’ vertical development addresses ‘how you know what you know,’ and is understood as developing in the process of meaning-making and the complexity of a person’s unique epistemology. Horizontal development is the acquisition and organization of knowledge and skills that do not require a shift in one’s meaning-making system or construction of reality, which is derived from one’s developmental maturity (Sharma, 2018). Vertical development is the transformative, lifelong process of growing into later stages of adult developmental maturity and has crucial implications for professional development.

Most professional development activities today address the horizontal type of development, but some researchers have recently begun to recognize the need for vertical development as well (Reams, 2017). Practitioners and researchers must realize that people differ not only with respect to their knowledge, skills, preferences, and personalities but also with their developmental maturity. Just as it is important to learn how to manage and develop skills in employees, it is crucial to learn how to manage and develop adult developmental maturity for employees, both for the sake of organizational effectiveness and for the personal and professional development of employees. This vertical type of development is addressed by Kegan’s (1982, 1994) constructive developmental theory (CDT) approach to adult learning and development.

Authors supporting the CDT approach to professional and leadership development challenge the over-reliance on horizontal development (what you know) and claim that vertical development (how you know what you know) is either an important contributor of leader effectiveness (Bartone, Snook, Forsythe, Lewis, & Bullis, 2007; Lucius & Kuhnert, 1999) or the most important predictor of leader effectiveness (e.g., Eigel, 1998; Eigel & Kuhnert, 2005;

McCauley, Drath, Palus, O'Connor, & Baker, 2006; Strang & Kuhnert, 2009). Research suggests that later stages of developmental maturity, which can be assisted through vertical development, have a number of other benefits, such as improved organizational performance (Lord & Emrich, 2001), authentic leadership (Brennan, 2017; Eigel & Kuhnert, 2005), success in conducting organizational change/transformation (Rooke & Torbert, 1998), transformational leadership which can empower employees (Crane & Hartwell, 2018), improved strategic decision-making (Hirsch, 1988; Merron, Fisher, & Torbert, 1987), and revenue (Hirsch, 1988). Conversely, the limits of one's developmental maturity inhibits leadership effectiveness (Anderson & Adams, 2016; Eigel & Kuhnert, 2016; Reams, 2017), which further emphasizes the importance of encouraging developmental progression through vertical development.

Additionally, vertical development addresses improvements and changes that are simply not possible to address through horizontal development. Many of the challenges that employees and leaders face today require growth in psychosocial developmental maturity rather than the acquisition of new technical knowledge or skills (Kegan, 1994; Kegan & Lahey, 2009). Thus, when challenges to one's construction of reality are presented that require a shift in developmental maturity, technical or horizontal development is inadequate to make a sustained difference. Such a challenge asks one to do something that he/she is not yet developmentally capable of doing. Attempting to address these challenges through attaining new skills or knowledge only leaves one feeling overwhelmed and struggling to meet the psychological demands they find themselves unable to satisfy (Kegan, 1994; Kegan & Lahey, 2009). Without vertical development, such challenges result in a mismatch between one's developmental capabilities and organizational or role requirements. Quickly, it becomes clear that relying solely on horizontal development is unlikely to achieve desirable results for professional development

interventions or leadership development (Bartone et al., 2007; Eigel & Kuhnert, 2016; Kegan, 1994). This serves as an excellent explanation for the shortcomings of current (horizontal) learning and development functions. Training and development programs simply can't continue to throw money at a process that focuses on teaching skills and knowledge while neglecting vertical development.

Despite the importance of vertical development, this type of development is uncommon in practice and research. The over-reliance on horizontal development is certainly a problem (Eigel & Kuhnert, 2016), but practice and research has primarily been limited for a more practical reason: the unavailability of an affordable, time-efficient, and easily deployable instrument to measure Kegan's (1982, 1994) constructive developmental maturity (also called order, stage, and Level of development throughout this study). Currently, Kegan's CDT has only one assessment tool that can measure a person's Level of development. This assessment tool is the Subject-Object Interview (SOI; Lahey, Souvaine, Kegan, Goodman, & Felix, 2011).

Although decades of research have demonstrated that the SOI is a precise, robust, valid, and reliable measure of constructive developmental Level (Eigel & Kuhnert, 2005; Kegan & Lahey, 2009; Lahey et al., 2011), it is expensive to administer, requires arduous expertise to conduct, and is tremendously time-consuming. The SOI requires a highly trained interviewer, at least two coders who are highly knowledgeable in CDT and trained in SOI methodology, and approximately five to eight hours to assess a single individual's developmental Level. Thus, the SOI is difficult to administer in large scale studies. Existing studies, limited by their small samples, provide implications that are difficult to generalize and remain largely theoretical.

The difficulty of administering the SOI has long been a lamentation for CDT researchers (e.g., Crane & Hartwell, 2018; Harris & Kuhnert, 2008; Helsing & Howell, 2014; Kuhnert,

2018). For example, Reams (2017) noted that "there is much work to be done to enable better, more user-friendly assessments" (p. 344). Bartone and colleagues (2007) explained that their research of developmental Level and leader performance was "hampered somewhat by the difficulty in measuring constructive-developmental levels," and that "unless and until more efficient assessment strategies are devised, research studies on the Kegan developmental framework are likely to be few and include a small number of subjects" (p. 502). In addition to the limitations imposed on CDT research, the intrinsic difficulty of the SOI has resulted in an unfortunate and unintended consequent to vertical development practices. Administering the SOI and using its results to provide vertical development resources has largely been reserved for those who have the time and money to afford it: typically, upper-management in wealthy organizations. Therefore, vertical development is unavailable for the vast majority of lower and mid-level managers and most employees (Crane & Hartwell, 2018). It has become connoted as an elitist luxury.

This limitation of CDT research, dating back 40 years since its inception (Kegan, 1980), is for the first time addressed in this study. The aim of this study is to develop and provide preliminary validation for a new instrument to assess Kegan's constructive developmental Levels: the Constructive Developmental Self-Report (CDSR). By developing and validating a new self-report instrument to assess CDT's adult Levels of development, this study will allow for accelerated CDT research, greater dissemination of vertical development resources to more working professionals, and a new tool to investigate how people and their communication develop over the lifespan. As a self-report instrument, the CDSR allows, for the first time, CDT researchers to attain sample sizes that can be large and representative enough to further investigate, and ultimately generalize, relationships between Levels of development and a

number of relevant variables that have thus far been hampered by small sample sizes (i.e., leadership effectiveness, organizational effectiveness, employee professional development, etc.). Additionally, the study of how people and their communication develop over the course of a lifespan, also called Life Span Communication (LSC) Theory (Yingling, 2009) is an area of communication research that has received relatively little attention. Existing studies in this area have typically only investigated communication at the early or later stages of life (Nussbaum & Friedrich, 2005). This study contributes to this field as well.

Not only does this study acknowledge the need to scale up CDT investigations, but this study also addresses the need to utilize vertical development practices that can assist in developmental movement, or the progression from one order of development to the next to become more developmentally mature (McCauley et al., 2006; Reams, 2017). A handful of studies have recently demonstrated that, once order of development is determined, professional development or leadership development efforts can introduce manageable challenges to individuals which stretch their current orders of development and foster their developmental growth (Kegan & Lahey, 2009, 2016; Kegan, Lahey, Fleming, & Miller, 2014; Markus, 2016).

However, the first step of this process is to develop a new instrument. Such an instrument would allow for a more wide-spread assessment of constructive developmental Level, growth in CDT research, and a greater dissemination of vertical development resources. To develop the new CDSR measure, this study relies on the extant body of CDT research to identify the observable differences between each Level of constructive developmental maturity. Utilizing CDT and SOI methodology, I took a theoretically informed approach to construct items in the CDSR by extracting content from coded SOIs. To validate the CDSR, I reviewed CDT, conflict communication, and perspective-taking research to make predictions of how each Level of

development will differ with respect to conflict communication strategies and perspective-taking ability.

Chapter 2 presents a literature review that lays the theoretical foundations of this study, then presents supporting literature explaining the differences and progressions of Kegan's Levels of adult constructive developmental maturity. The literature review continues with best practices for scale development and literature related to two communication concepts used to validate the CDSR: conflict communication and perspective-taking. Two hypotheses are tested to validate the CDSR: the first set of hypotheses (H1a through H1d) predict that people at different Levels of developmental maturity (as measured by the CDSR) will prefer certain conflict communication strategies; the second hypothesis (H2) predicts that increased perspective-taking ability positively relates to constructive developmental Level (as measured by the CDSR). If the CDSR is a valid assessment of constructive developmental Level, then both of these hypotheses should be supported. Chapter 3 describes the methodology utilized in this study, which includes scale development procedures and validation efforts. Chapter 4 discusses the results of this study. Chapter 5 provides a discussion supporting the preliminary validation of the CDSR and presents the implications for CDT research and professional development practices.

# Chapter 2: Literature Review

## Theoretical Foundation

As a meta-theoretical perspective to link CDT to how communication develops over the course of a life span, this study draws on Life Span Communication (LSC) Theory. LSC seeks to describe, explain, and predict the changes that occur in communication and its outcomes over the course of a life span (Yingling, 2009). Studying communication over the course of the human life span is not a novel approach to communication study, as research here dates back to the late 1970s and early 1980s (Nussbaum & Friedrich, 2005). Existing research has primarily focused on older adults and children, leaving a sizable gap for understanding how communication develops during the adult years between childhood and later life (Nussbaum & Friedrich, 2005). More recently, emerging adulthood (i.e., the college years) has received some attention as well. Communication scholars have relied on disciplines such as sociology and psychology to explain how people and their communication change throughout life, and sparse attention has been given to developing a complete and agreed upon understanding of LSC theory. Researchers have framed LSC within a variety of systems theories (e.g., Bronfenbrenner's ecological systems theory) and as a metatheory to understand the entire communication discipline (e.g., Nussbaum & Friedrich, 2005; Pecchioni, Wright, & Nussbaum, 2006). However, there still does not exist an adequate body of LSC research that helps explain why and how communication develops from beginning to end of human life.

This study suggests that CDT is a helpful framework to apply within LSC and provides a cogent articulation of human development that can explain and predict some of the changes in communication that arise over the life span. CDT elucidates the internal psychological processes that occur and evolve throughout human development which help explain communication

changes over the life span. Similar to the LSC purpose to describe, explain, and predict changes in communication, CDT claims that "people derive understanding through growth and changes over the course of their life span that signifies the manner in which they develop and organize the complexity of interpersonal relationships (Perry, 1970)" (Bugenhagen & Barbuto, 2012, p. 37). The present study is in good company to rely on psychology research on adult development, as many other studies in the area of communication over the life span also heavily rely on literature from psychology (Nussbaum & Friedrich, 2005). By drawing attention to CDT within the context of life span communication, this study offers an important addition to LSC theory and provides LSC researchers with a new assessment tool (i.e., the CDSR) that can be used to investigate other communication behaviors at various constructive developmental Levels.

CDT was first conceptualized by Robert Kegan (1980) as a framework to understand and explain the different ways that individuals construct and organize their experiences relating to themselves, others, and their world (Eigel & Kuhnert 2016; Kuhnert, 2018; McCauley et al., 2006; Strang & Kuhnert, 2009). CDT proposes that people construct meaning in these domains (i.e., self, others, and world) by drawing from their experiences and that this meaning-making process develops through qualitative shifts over the course of a life span. The constructive aspect means that "humans create a subjective understanding of the world that shapes their experiences as opposed to their directly experiencing an objective 'real' world" (Kuhnert & Lewis, 1987, p. 650). CDT stresses that humans' meaning-making comprises all aspects of the self–cognitive, affective, interpersonal, and intrapersonal (Kegan, 1994). While people construct their understandings, experiences, and meaning, this construction evolves rather than remaining static (Kegan, 1980; 1982). Hence, the 'development' of constructive developmental theory means that the way people construct their reality develops as a function of life experience and time. This

construction qualitatively changes in predictable stages over the course of a life span. Because construction interacts with life-long psychological development, the way that people construct meaning develops over time into greater and greater complexity as long as a person continues to develop.

CDT is a stage theory of adult development, meaning that it separates adult development into identifiably different epistemological structures (Kegan, 1994). As a stage theory, CDT demonstrates that people progress through different stages of meaning-making. These stages are also called orders of development and constructive developmental Levels (McCauley et al., 2006), which will be used interchangeably throughout this paper. Each stage integrates the meaning constructed from the previous stage, with the latter stage becoming more complex than the former. These stages are categorized by identifiable patterns in the ways that people construct meaning in their lives, and movement between stages are spurred on by challenging the limitations of the current stage of development (Eigel & Kuhnert, 2005, 2016; Kegan 1982, 1994; Valcea, Hamdani, Buckley, & Novicevic, 2011).

Challenges typically occur when someone faces increasing complexity in his or her world that requires a more complex understanding than the one they are currently enmeshed within, which necessitates a shift from one stage to the next. In other words, one realizes "that one's current framework for understanding the world is inadequate, and needs to change … in order to better fit reality" (Bartone et al., 2007, p. 494). Challenging experiences contradict the existing order of development, which causes discomfort and destabilization at that stage. As Eigel and Kuhnert (2005) explain:

> The challenged individual can then choose to reconstruct a new understanding, one that incorporates the new information about the world that is learned from the challenge, or they can choose to shut down and allow the current understanding to account for the

> experience in an oversimplified way. The former promotes development while the latter tends to arrest it. (p. 371)

An individual's order of development can be determined by identifying what that person understands as *subject* and *object*. This is exactly the task accomplished through the Subject-Object Interview (SOI; Lahey et al., 2011). McCauley et al. (2006) explained that when someone holds a subjective belief, they are embedded within the belief, they take it for granted as true, are unable to call it into question, and are unable to take an objective perspective on it because it is a part of oneself. Objective beliefs, on the other hand, "are those that can be reflected on and questioned" (McCauley et al., 2006, p. 638). Kegan (1982, 1994) explained that beliefs held as subject are entwined within a person's identity, while beliefs held as object can be evaluated and are under a person's awareness. Another way to understand this concept is that subject is "self," and object is "other" (Kegan, 1980). Kegan (1994) continued to elaborate that, "we *have* object; we *are* subject" (p. 32). Berger and Fitzgerald (2002) further clarified how people construct their meaning of reality differently depending on how far they have developed in this relationship between subject and object:

> [Things that are Subject] can include many different things—a theory, a relational issue, a personality trait, an assumption about the way the world works, behaviors, emotions—and they can't be seen because they are the lenses through which we see. For this reason, they are taken for granted, taken for true—or not even taken at all. We generally can't name things that are Subject to us, and we certainly can't reflect on them—that would require the ability to stand back and take a look at them. We don't *have things* that are Subject; things that are Subject *have us.*
>
> Things that are Object, however, can be seen and considered, questioned, shaped, and acted on. Something that is Object can be a theory, a relational issue, a personality trait, a belief, behaviors, or emotions. And, while things that are Subject *have us,* we *have things* that are Object. Because it isn't the lens through which we see, something that is Object can be held out and examined. (p. 30)

Humans develop from one stage of development to the next through moving beliefs from the subjective realm to the objective realm (McCauley et al., 2006; see Table 1). Said another

way, people become objectively aware of what they were once subjectively unaware of because it was simply a part of themselves. As people move from one stage to the next, their self-definition changes from externally defined to internally defined, their view of others changes from focusing on self to focusing on others, and their understanding of the world changes from simplistic to complicated (Strang & Kuhnert, 2009). Humans progress through one stage at a time, in the same order, and without skipping stages (Bugenhagen & Barbuto, 2012). People experience periods of stability and periods of growth throughout their lives, the rate of growth varies between individuals, and people can have their development arrested at any stage, which ceases the progression (Harris & Kuhnert, 2008). Permanent fallback to a previous stage is generally impossible because once a belief is held as object a person cannot be subject to it anymore. Kegan (1982, 1994) outlined six stages, but only four (stages two through five) apply to adult development and are applicable to the present study. Stages zero and one typically only apply to early childhood, while stages two (the instrumental mind/Level 2), three (the socializing mind/Level 3), four (the self-authoring mind/Level 4), and five (the self-transforming mind/Level 5) apply to adult development and increasingly effective leadership capabilities (Kuhnert, 2018).

**Table 1**

*Subject-object relations of CDT*[a]

| CDT order of development | Subject (personal lens which cannot be stepped away from/evaluated) | Object (previous lens that now can be objectively evaluated) |
|---|---|---|
| Two | Personal needs, goals, and agendas | Immediate needs and feelings |
| Three | Interpersonal connections | Personal needs, goals, and agendas |
| Four | Personal standards and values system | Interpersonal connections |
| Five | Openness and paradox | Personal standards and value system |

[a]Adapted from Strang and Kuhnert (2009).

The constructive developmental framework does not romanticize the process of human growth. The experience of developmental movement is gradual and often distressing because it is an inherently painful and destabilizing process (Kegan, 1980). For example, the transition

between Level 2 and Level 3 necessitates a certain vulnerability: how will my needs and agendas be met if I instead have concern for and incorporate the internal states of other people? The Level 2 embedded understanding of being oriented to and defined by meeting one's own needs must be vulnerably held out to allow for an ability to construct meaning of one's interpersonal relationships (and thus become "socializing"). This is an extremely destabilizing process, and such is the case with transitions between all the Levels of development. To make the transition from one Level to the next, one feels their current understanding of themselves and their world slipping away with seemingly nothing to replace it yet. The anxiety caused by this can be a cause for arrested development (Kegan & Lahey, 2009). However, by growing through the challenges brought about by developmental shifts instead of becoming stuck, individuals experience the benefits of later stages of developmental maturity.

When assessed through the SOI, constructive developmental stage is measured along four gradients or transition points between any two stages (Lahey et al., 2011). For example, there are four gradients between constructive developmental Level 3 and Level 4. This progression goes as follows: 3, 3.2, 3.4, 3.6, 3.8, 4. This highlights that growth between the stages is gradual, and technically there are an infinite number of points between the stages of development that an individual may find him/herself in (Eigel & Kuhnert, 2005). A dominate stage emerges in an individual when one becomes more of a certain stage than they are of another. Thus, someone at Level 3.4 shows signs that they are making the transition to Level 4 but are still predominantly operating under a Level 3 understanding of the world. Conversely, someone at Level 3.8 is operating at Level 4, but has yet to fully complete the transition out of Level 3. This is relevant to note because the items in the instrument developed in this study, the CDSR, are designed to be as dominant as possible for only one particular Level.

Before continuing any further, due to this study's focus on professional/leadership development, it is germane to articulate a suitable definition of leadership. Leadership is understood as an inherently communicative process, and the definition used in this study is provided by Johnson and Hackman (2018): "leadership is human (symbolic) communication that modifies the attitudes and behaviors of others in order to meet shared group goals and needs" (p. 12). The study of how leadership communication changes over the course of an adult's lifespan is limited. There is little theoretical or empirical support to explain how people lead others differently at different stages of life and how their leadership communication changes as they progress through life. Existing research in this area has primarily come from the psychology discipline (Reams, 2017) and Kegan's adult development literature is especially useful to explain how later stages of life contribute to greater leadership effectiveness (e.g., Eigel & Kuhnert, 2005).

Note that this definition of leadership allows for emerging leadership as well as designated leadership, meaning that leadership is an action that can be performed by anyone within an organization, not just those who have some sort of formal management or supervisory position. However, for feasibility purposes, this study will primarily target a population of employees with some form of management/supervisory experience. I do not intend to claim that all management is leadership, but selecting this population was a necessary assumption to make for the purposes of this study.

Now that CDT has been adequately articulated and its implications for research on communication over the lifespan and vertical development explained, this paper continues with a review of the relevant literature that further describes stages two through five of CDT. Then, literature is reviewed describing best practices of scale development. Two communication

concepts will serve as sources of criterion validity for the newly constructed measure of constructive developmental Level: conflict communication strategies and perspective-taking ability. Literature is reviewed discussing each concept and accompanying arguments link development Level with both conflict communication strategies and perspective-taking.

## Levels of Adult Constructive Developmental Maturity

Kegan's CDT has been thoroughly conceptualized in the developmental psychology literature since Kegan introduced his framework in 1980 and further articulated the concept in *The Evolving Self* (1982). Longitudinal research has investigated and refined the six distinct orders, (also called stages or Levels), of human development (Kegan, 1994; Kegan & Lahey, 2009). Scholars have provided detailed explorations of the different stages of development and identifiable characteristics that align with each order of development (e.g., Cook-Greuter, 2004; Eigel & Kuhnert, 2005, 2016; Helsing & Howell, 2014; Hunter, Lewis, & Ritter-Gooder, 2014; Kegan, 1982, 1994; Kegan & Lahey, 2009, 2016; Kuhnert, 2018; McCauley et al., 2006; Strang & Kuhnert, 2009; Valcea et al., 2011). The descriptions and characteristics of the Levels of adult development (Level 2 through Level 5) are provided next.

**The second order of development–the instrumental mind.** Individuals at the second stage of adult development (the instrumental mind/Level 2) see themselves, the world, and others through the lens of personal needs, goals, and agendas (Eigel & Kuhnert, 2005; Kegan, 1994). This stage is typically reached in early adolescence; however, researchers have found that some adults (approximately 10%) have arrested their development at this stage (Eigel, 1998; Eigel & Kuhnert, 2016; Harris & Kuhnert, 2008; Kegan, 1994; Torbert, 1991).

People at Level 2 are subject to their needs, goals and agendas, and are unable to objectively view this way that they construct their realities (Kegan, 1982, 1994). They are still

primarily operating from the developmental position of most adolescents. They have not yet developed the mental capabilities to incorporate their interpersonal relationships internally or weigh other opinions against their own, meaning that even though they know that others have feelings and desires, they are unable to empathize with other people to take the perspective of said feelings and desires. People here are unable to reflect on their goals/agendas–they *do not have* agendas (i.e., hold agendas as object), but their agendas *have them* (i.e., are subject to their agendas; Kuhnert & Lewis, 1987). They are primarily self-centered and believe that others are also primarily motivated by self-interest (Eigel & Kuhnert, 2005, 2016).

They see their position with others in win/lose, right/wrong, and black/white terms (Eigel & Kuhnert, 2005, 2016). Others are categorized as either helpers or barriers to their own needs and desires. In this sense, Level 2 individuals define their relationships by what other people can do for them (Bartone et al., 2007). Although they are aware that other people have different perspectives, this is only understood in terms of competing viewpoints and agendas besides their own. Thus, people here are unable to internalize another perspective besides their own, believe that their own perspective is the best instead of valuing other unique perspectives, and establish shallow exchange-based interpersonal relationships.

In understanding their worlds, Level 2 people use concrete thinking and look to rules to determine how they can get what they want (Hayes & Popp, 2019), or how they can break the rules to get what they want if the risk of being caught is deemed insignificant (because being caught is in direct competition to getting what they want). This person's world is understood as a series of concrete consequences of his/her and others' actions (Hayes & Popp, 2019). Eigel and Kuhnert (2005) explain that people at this stage are simplistic and concrete in their thinking, utilize basic categorical and rules-based thinking, and see the world through simple rules and

laws. Adults in this stage have an outside-in understanding of their beliefs because they have not yet internalized them, which typically means that they blame external sources when problems arise in their lives.

**The third order of development–the socializing mind.** As Kegan (1994) explains, a person at the third order of development (the socializing mind/Level 3), has developed the ability to see their own goals and desires as object, rather than remain subject to them, in order to establish and maintain interconnection with other people (i.e., important relationships) and important external affiliations (i.e., a political party, religion, social ideology, or even the external identity of being perceived as a 'good manager' or 'good mother'). For most people, the third order is fully acquired by the early-twenties, which explains the pervasiveness of peer-pressure and idealism during adolescence as people make this transition. However, the majority of adults remain within this stage of development throughout their lives. It is estimated that approximately 80% of adults are between the third and fourth Levels of development (Eigel, 1998; Eigel & Kuhnert, 2016; Kegan, 1994; Torbert, 1991), and Kegan and Lahey (2009) claim that the majority of adults (58%) do not make meaning at the Level 4 perspective.

To understand the meaning-making system constructed from the third order of development, one must understand that what was once subject, self-centered needs and desires, has become object, and a new concept has become subject: interconnectedness. For Level 3 individuals, interconnectedness may reveal itself in relation to roles/responsibilities, termed 'separate threes,' and/or enmeshment in personal relationships, termed 'connected threes' (Kuhnert, 2018). At this stage, one is entirely interconnected with his/her important relationships, ideologies, groups, affiliations, roles, and/or responsibilities. As such, people at the third order of development form their sense of identity primarily from these external sources, as they have not

yet developed the ability to step away from these sources to take an objective perspective on them. Once again, it is helpful to state that at Level 3, people do not *have* relationships (or even their understandings of their beliefs), rather, relationships (or their understandings of their beliefs) *have them* (Kegan, 1994).

The third order of development is the first time that true mutuality in relationships becomes possible because people at this Level are finally able to internalize (rather than simply categorize as helper/barrier) the internal states of other people, allowing for empathic responses, reciprocal obligation, and an ability to take another person's perspective (Bartone et al., 2007; Hayes & Popp, 2019). Because individuals at this stage are subject to these connections with other people/external sources, these outside sources fundamentally define how they think about themselves and form their own beliefs. Thus, they are highly sensitive and easily influenced by others. Expectations and feedback are sought out to help them understand themselves (Kegan, 1994; Kegan & Lahey, 2009). Additionally, because of the acquisition of other's internal perspectives, the world becomes more complex, gray areas appear, abstract and hypothetical ideas become more apparent, compromise is sought out in favor of dominance, and connection with important others, roles, and institutions is key.

However, operating from this stage of development presents its own limitations. For example, because they are dependent on outside sources to form their self-concept and understanding of the world, these individuals have a limited capacity to form their own 'self-authored' perspectives (Crane & Hartwell, 2018). This means that Level 3 people often have to rely on clear expectations or other trusted sources of information to inform how they should think and act. Additionally, their perceptions of other people's opinions and alignment/identification with external sources of authority (e.g., an ideology, political party, etc.)

disproportionately shape their understandings (Eigel & Kuhnert, 2005; 2016). Individuals at Level 3 cannot understand themselves or their worlds apart from external sources because these sources are the very context that defines them (Kegan, 1994). They have no value and perspective apart from their relationships and group affiliations. The limits of their meaning-making capabilities become apparent when they are forced into making decisions without clear expectations to turn to or when addressing competing opinions from multiple external sources that they identify with (Eigel & Kuhnert, 2005; Helsing & Howell, 2014). This is due to an undeveloped internal perspective to turn to when making decisions or when mediating between multiple competing sources.

Their relationships and group identities dominate their self-image, identity, and worldviews (Eigel & Kuhnert, 2016). They are likely to fiercely connect with some sort of group or ideology, idealize it, and seek identification with it. Congruency with others and affiliations is paramount, so suppression of one's independent or more authentic self for the sake of relationships/affiliations becomes a necessary act of self-preservation (Fossas, 2019). For this reason, people at this stage are especially vulnerable to succumbing to groupthink because of their intense desire to remain harmonious with their groups (Kegan & Lahey, 2009) and are overly concerned with how they perceive others perceiving them because disruption of harmony is equated to disruption of one's identity. They cannot separate their identity from their relationships, meaning that those relationships have the power to determine what Level 3 individuals believe they like, what they are good at, how they feel, and what they should do. Additionally, because interconnectedness also reveals itself in relation to roles and responsibilities, third order people commonly confuse their identities with their roles. As Eigel and Kuhnert (2016) point out, "There is a subtle but important difference between saying, 'I am

an accountant,' as opposed to, 'I am a person who practices accounting'" (p. 111). The first statement equates identity with role, while the second statement separates identity and role.

When these external sources power a person's identity, their energy is directed at preserving that identity, even at the cost of personal values, well-being, or broader organizational/societal values or success (Eigel & Kuhnert, 2016; Fossas, 2019). For example, when forced into making a decision that involves upsetting others, such as addressing subordinates' problematic behaviors, third order individuals face intense discomfort and would prefer to ignore problematic behavior–often compromising their values or well-being and to the detriment of the organization. Individuals here have an outside-in meaning-making system, which means that they look for external sources for direction, legitimization, and belonging (Eigel & Kuhnert, 2016; Hayes & Popp, 2019). As another result of this outside-in meaning-making system, Level 3 individuals make their well-being especially vulnerable to outside circumstances and the well-being of others. These outside-in desires for interconnectedness make them crave harmony. They are highly empathetic, more indirect in communicating feedback, prefer high morale, seek out positive feedback in their roles, and want to feel valued. Additionally, when authority is located externally, responsibility and blame is also placed externally (Helsing & Howell, 2014).

**The fourth order of development–the self-authoring mind.** The fourth order of development (the self-authoring mind/Level 4) incorporates all that the third order offers, but there is a newly created self that exists independently of its interconnectedness with people, ideologies, and roles (Kegan, 1994). At this stage, what was once subject–interconnectedness–has become object, and a new concept occupies the position of subject: autonomy and self-authorship. Only some adults reach this fourth order (Eigel, 1998; Eigel & Kuhnert, 2016;

Kegan, 1994; Torbert, 1991). Estimates vary, as Kegan (1994) suggests that approximately 7% of adults operate between Level 4 and Level 5, while other estimates suggest that only between 20–30% of adults ever reach Level 4 (Brennan, 2017; Eriksen, 2006). The shift from the third order to the fourth typically begins in the mid-thirties, and individuals usually do not settle into a fourth order holding environment until their mid-forties–if they make the fourth order transition at all (Eigel & Kuhnert, 2016). Part of the reason why estimates and age ranges vary so greatly is because developmental progression is not just a function of time, but also of life experience (Kegan, 1994). Thus, age and Level of development become less related as age progresses.

To understand the self-authoring meaning-making construction at Level 4, it is helpful to understand how interconnection with other important people and affiliations moves from subject to object. At Level 4, individuals gain psychological distance from how they interpret the internal states of others and the meaning brought by external sources (Helsing & Howell, 2014). Instead of being defined by these external sources, they develop the capability to generate and maintain their own 'self-authored' definitions. Thus, the dependence on others for how to think or what to do gives way to an autonomous perspective of oneself and the surrounding world (Bartone et al., 2007).

The fourth Level of development allows one to finally develop respectful but bounded relationships that involve empathy and perspective-taking without becoming limited by the internal states of others (Helsing & Howell, 2014). Thus, individuals are able to internalize the outside opinions around them and take an objective perspective on them, meaning that they are no longer controlled by, or subject to, outside influences. Up until this point of developmental maturity, individuals form most of their identity from external sources, but at the fourth order people become more inside-out than outside-in with respect to their understandings of

themselves, others, and the world (Eigel & Kuhnert, 2016). They distinguish themselves through independence, and while outside sources merit consideration, individuals here can analyze such information objectively and see it as only one factor when making judgements (Harris & Kuhnert, 2008). They acquire a truly internal understanding of their own beliefs and values–they derive their sense of self from within instead of from supervisors, friends, self-help books, or political affiliations (Eigel & Kuhnert, 2005). Because they look internally when making meaning, fourth order individuals are more likely to take responsibility for their behaviors, circumstances, well-being, and relationships instead of attributing cause to external forces (Helsing & Howell, 2014). If things are going poorly in their lives, they first look at how they could be responsible for making improvements in those circumstances.

People at Level 4 are often seen as highly self-motivated, self-directed, and self-evaluative (Bugenhagen & Barbuto, 2012). Instead of primarily looking to others for feedback and criticism to understand what to do (Level 3) or dogmatically believing that they are always right (Level 2), they apply their own standards to live by and criticize and support themselves from how authentically they live up to their self-authored values (Eigel & Kuhnert, 2016). Everything that was subject in the previous orders is now object, meaning that Level 4 people "can now use the understanding of traditional rules, winning and losing, perspectives of others, and input from outside sources to create a more complex comprehension of the world" (Harris & Kuhnert, 2008, p. 50).

Adults at this stage have developed a more complex view of the world and a truly internal perspective on themselves and their experiences that they have authored for themselves. Because of this, they now have the capacity to take multiple perspectives at the same time because they have a truly internal, self-developed, perspective that can be used to compare to outside

perspectives (Hayes & Popp, 2019). In fact, the Level 4 individual is "now able to 'reach back' to her own previous mindsets to be able to understand what the world looks like from those perspectives" (Hayes & Popp, 2019, p. 17). They can consider many perspectives and analyze the weaknesses and strengths of each by comparison to their own self-authored values systems. In contrast to Level 3, outside perspectives no longer define nor threaten, rather they inform one's own Level 4 perspective.

However, this Level of development is not without its shortcomings. Since their self-authored identity is subject to them, they are unable to take an objective perspective on their value-system. The meaning and composition of one's existence is subject to this newly acquired authority, ideology, identity, and autonomy (Fossas, 2019). In this sense, fourth order people *do not have* values, their values *have them*–they are their values (Kegan, 1994; Eigel & Kuhnert, 2016). This may be problematic in a rapidly changing environment or when one's self-authored paradigm is unsuitable for a given situation. In the rapidly changing and exceedingly complex environments of many of today's organizations, Level 4 individuals risk becoming so enmeshed within their personal value systems that they fail to adapt to complexity that contradict their particular self-authored paradigm. When values cannot be taken as object, people fail to see the interconnectedness between a variety of value-systems or larger global/universal values. If someone's development is stalled at this point, they are likely to watch their value-systems fade into irrelevancy as they are unable to keep up with the changes around them (Eigel & Kuhnert, 2016).

**The fifth order of development–the self-transforming mind.** At the fifth order of development (the self-transforming mind/Level 5), one is able to take an objective perspective even on his/her own self-authored identity (Kegan, 1994). The personal values-system,

independent perspective, and internal identity of the autonomous, self-authored self makes a transition from subject to object, and the transforming self becomes subject. It is rare to encounter an individual who has grown to the fifth order of development, and it is never seen before midlife (Berger & Fitzgerald, 2002). Research suggests that Level 5 estimates of the adult population range from less than 1% (Kegan, 1994; Kegan & Lahey, 2009) to 5–8% (Harris & Kuhnert, 2008; Eigel, 1998; Eigel & Kuhnert, 2005; Van Velsor & Drath, 2004), which may explain why it is so rare to encounter wise, sage-like people.

Once again, to understand how a new meaning-making framework arises at Level 5, it is helpful to consider how one gains a new perspective on the previous Level of development. At Level 4, individuals cannot make meaning of their lives or experiences separate from the internal, self-authored value systems or paradigms that they operate within (Eigel & Kuhnert, 2005; Bartone et al., 2007). Through the transition to Level 5, people surrender their self-authored paradigms to gain an objective perspective on them and gain the ability to hold and mediate among multiple paradigms, autonomous identities, and self-authored perspectives (Helsing & Howell, 2014). They have access to a system of paradigms or ways of understanding the world that they may choose to employ at any time (Eigel & Kuhnert, 2005, 2016). As a result, they have access to a much more complex meaning-making structure, welcome contradictions and paradoxes, accept incompleteness, can integrate value systems, and find connection with higher-order values and principles.

People here have acquired everything that the fourth order individual has, but they have learned that there are limits to having a self-authored system (Eigel & Kuhnert, 2005; Harris & Kuhnert, 2008). Their personal values are still meaningful, but those values become incorporated within bigger-picture, more global values that benefit more than just themselves and include their

family, community, organization, society, or even the world. At Level 5, one doesn't lose their independence, but one does recognize the inter-independence of others (Bartone et al., 2007; McCauley et al., 2006). This new stage of self-awareness allows for an intense intimacy or awareness of others that is impossible at any other Level (Kegan, 1982, 1994). They seek out connections between a multitude of value systems and see similarities between them that otherwise look like differences to individuals at the former orders of development. They resist either-or, dichotomous perspectives and instead understand the world as different tensions on a variety of spectrums. As a result, they are more comfortable in the face of apparent paradoxes and contradictions.

In setting aside their personal value system as object, these people connect their values to overarching, global 'fifth order values,' such as "openness, honesty, courage, justice, selflessness, productivity, service, respect for the inherent value of others, authenticity, and vulnerability" (Eigel & Kuhnert, 2016, p. 160). Kegan (1982) termed these the universal set of higher-order values and suggests that there is little deviation of these values across gender, nationality, or culture.

The investigation of CDT and its Levels of development over decades of research and theoretical refinement provides momentous implications for the importance of research in this area and a focus on vertical development (e.g., Kegan 1982, 1994; Kegan & Lahey, 2009). However, generalizations about the different orders of development and application to professional development and leadership research still require further attention. It is unlikely that sufficient generalizations between stage progression and any number of relevant variables, such as leadership/professional development, can be established at a reasonable pace with the current Subject-Object Interview (SOI) assessment method due to feasibility restrictions. Therefore, the

aim of this study is to accelerate research by developing and validating a new instrument to assess Kegan's Levels of development: The Constructive Developmental Self-Report (CDSR). As the literature review continues, I will explain the process of scale development and how the CDSR will be validated through connecting conflict communication strategies, perspective-taking ability, and constructive developmental order.

**Scale Development**

When developing new measurement instruments within social science research, a scale must undergo a number of rigorous processes to generate items and ensure its reliability and validity. CDT has an established measure of constructive developmental order with a robust body of qualitative research based on the SOI (Lahey et al., 2011). The scale developed in this study will utilize both an inductive and deductive method of scale development. Boateng, Neilands, Frongillo, Melgar-Quiñonez, and Young (2018) explain that an inductive method of scale development is appropriate when qualitative data–such as in-depth interview data–is available to identify and generate items from coded responses. In my scale development I begin with the qualitative coded data individuals provided in previous Subject-Object Interviews. Additionally, per recommendations from Boateng and colleagues, items developed deductively in the forthcoming scale rely on identifying items from the body of CDT literature and the current coding methodology of the Subject-Object Interview (found in Lahey et al., 2011). In accordance with best practices in item generation (Boateng et al., 2018; Morgado, Meireles, Neves, Amaral, & Ferreira, 2018), both steps have been taken when creating items for this new measure.

After items are generated, an expert review is conducted on each item to ensure content validity, which ultimately enhances each item's content relevance, representativeness, and

technical quality (Boateng et al., 2018). For the present study, a total of five experts reviewed each item in accordance with best practices on scale development (Boateng et al., 2018; Flake, Pek, & Hehman, 2017; Morgado et al., 2018). Two reviewers were leadership development coaches and experts in CDT, two reviewers were professional leadership consultants, and one reviewer was a faculty member who specialized in leadership communication.

In addition to best practices in item generation and validation, the present study establishes scale criterion validity through concurrent validity. A measure's validity ensures that "an instrument indeed measures the latent dimension or construct it was developed to evaluate in the first place" (Raykov & Marcoulides, 2011, p. 184). Criterion validity is understood as the "degree to which there is a relationship between a given test score and performance on another measure of particular relevance, typically referred to as criterion" (Boateng et al., 2018, p. 13). Concurrent validity, similarly, is accomplished when scale scores have a stronger relationship with criterion measurements made at or near the time of administration (Boateng et al., 2018). Thus, concurrent validity can be calculated through the association between other similar scale scores and the criterion in question (constructive developmental order as assessed through the CDSR). As the literature review continues, the following variables have been selected in order to assess the criterion validity of the CDSR: conflict communication strategies and perspective taking.

**Conflict Communication**

How leaders understand and make meaning of conflict is an important area of focus within CDT (e.g., Eigel, 1998;  Eigel & Kuhnert, 2005; Hayes & Popp, 2019; Hughes, 2019; Kuhnert, 2018). Individuals will construct meaning from and handle conflict in different ways depending on their order of development (Eigel, 1998; Hayes & Popp, 2019; Hughes, 2019).

Conflict research has provided a number of distinguishable patterns or styles of conflict management. The present study relies on Putnam and Wilson's (1982) description of three such conflict patterns and one scale developed for this study and attempts to connect these patterns with the four pertinent orders of development (i.e., Levels 2 through 5; instrumental, socializing, self-authoring, self-transforming). Putnam and Wilson's model was selected over other similar instruments, such as Rahim's (1983) ROCI II because the three dimensions presented by Putnam and Wilson most accurately reflect relevant CDT orders. Additionally, Putnam and Wilson frame conflict management as communication acts, making their approach especially relevant to this study.

Putnam and Wilson (1982) explain that when conflict is experienced, people turn to conflict strategies to determine which communicative behaviors should be enacted to handle that conflict. These conflict strategies provide possible actions for pursuing and coordinating goals within a certain situation. Putnam and Wilson created the Organizational Communication Conflict Instrument (OCCI) in 1982 to assess choices about conflict management strategies in organizational contexts. The instrument separates conflict communication into three strategies: control strategies, nonconfrontation strategies (which combines avoiding conflict and accommodating others during conflict), and solutions-oriented strategies (which combines seeking compromises during conflict and collaborating to arrive at solutions). Engaging in control strategies entails arguing persistently for one's position and emphasizing demands with nonverbal messages (Wilson & Waltman, 1988). Nonconfrontation strategies involve indirect avoidance or downplaying important issues; while solutions-oriented strategies pursue creative and integrative solutions which typically involve compromise (Taylor, 2010).

Previous research has investigated the relationship between conflict strategies and leadership–both of which are enacted through communication (Madlock, 2013). According to Wilmot and Hocker (2007), communication creates, reproduces, and determines whether conflict yields constructive or destructive outcomes. The conflict literature supports that cooperative styles–which includes problem solving, compromising, and accommodating–are positively associated with constructive conflict management and with positive individual and organizational outcomes (Sharma, & Sehrawat, 2014). Of these conflict management styles, "problem solving style is generally perceived as the most appropriate, most effective, and highly competent style in managing conflicts (Gross & Guerrero, 2000; Papa & Canary, 1995)" (as cited in Sharma, & Sehrawat, 2014, p. 52). Conversely, control and avoidance are related to ineffective or destructive conflict management (Madlock, 2013; Sharma, & Sehrawat, 2014). However, Madlock (2013) identified accommodating as ineffective also, under different situational factors.

Leaders play an important role in guiding the use of conflict management strategies within their unit and/or organizations. When a leader selects a particular conflict strategy, she/he is contributing to the effectiveness or ineffectiveness of the conflict outcome. When successful conflict resolutions occur, frustration is relieved and higher effectiveness, trust, and openness can result (Sharma, & Sehrawat, 2014). Additionally, effective conflict communication strategies can allow leaders to develop quality relationships with their employees, which then can improve employee involvement and performance (Madlock, 2013). Using the OCCI, Madlock found that supervisors' use of solution-oriented strategies with their subordinates were significantly related to increased task and relational leadership, whereas use of nonconfrontation and control strategies were significantly related to decreased task and relational leadership.

Taking a developmental perspective on conflict communication is an important addition to conflict research, which has typically associated conflict-management decisions with social-contextual influences or as stable traits (Taylor, 2010). Rather than assuming that conflict communication decisions are only determined by contextual considerations or traits, the present study proposes that a more complex interaction, which considers constructive developmental order, also influences conflict communication decisions. CDT research has addressed how conflict is informed by developmental maturity (e.g., Eigel, 1998; Eigel & Kuhnert, 2005; Hayes & Popp, 2019; Hughes, 2019; Kuhnert, 2018).

CDT research argues that conflict must not only be understood as the influence of contextual factors or by personality differences but also explained by how individuals make meaning of conflict, which is determined by their constructive developmental Level (Hughes, 2019). For example, people in the second order of development understand conflict in terms of whether their needs are met, third order individuals seek reconciliation from conflict above all else to maintain their sense of identity which is tied to harmony in their relationships, fourth order individuals seek the integrity of their self-authored system (Eigel, 1998), and fifth order people see conflict as an opportunity to engage in mutual transformation and integration of multiple self-authored systems (McCauley et al., 2006). How individuals make meaning of conflict at the different orders is further explained next.

Because second order individuals see the world and other people in relation to how they can get their own needs and desires met (Kegan, 1994), one would expect that these individuals will prefer to adopt control strategies when involved in workplace conflict. Indeed, control strategies–arguing persistently for one's position and making demands–intuitively aligns with Level 2 individuals' categorization of conflict as a win/lose, right/wrong struggle for domination,

their striving after self-centered goals, and their inability to internalize outside perspectives (Eigel & Kuhnert, 2005). Interestingly, Life Span Communication (LSC) research also notes that earlier stages of development/age align with limited, less sophisticated conflict management skills, such as control strategies (Pecchioni, Wright, & Nussbaum, 2006).

Third order individuals, on the other hand, desire to establish and maintain connection with other important people and external affiliations (Kegan, 1994). Because of their intense desire to remain harmonious in relationships with others so as not to disrupt their sense of identity, they are uncomfortable during conflict and seek to avoid it or resolve it as quickly as possible (Eigel & Kuhnert, 2005, 2016). The LSC literature indicates that as children learn to adopt the internal states/emotions of others (i.e., make the transition to Level 3), they begin to use more mutual and symbolic solutions to conflict (Pecchioni, Wright, & Nussbaum, 2006). By adolescence, the typical transition period to Level 3, people become more likely to respond to conflict by disengaging (i.e., using nonconfrontation) and less likely to use control strategies, which again demonstrates this shift in conflict behaviors as people develop. This evidence suggests that Level 3 individuals prefer nonconfrontation strategies when faced with conflict.

Fourth order individuals have an internal understanding of their identities, values, and ways of doing things–they are self-authored (Kegan, 1994). They assume responsibility for the cause and outcome of conflict, apply their own values when engaged in conflict, and judge the outcome of the conflict by how authentically the conflict outcome aligns with their own value-system (Eigel & Kuhnert, 2016). They are able to evaluate outside opinions, but opinions do not define them or determine their decisions (Eigel & Kuhnert, 2005). Level 4 people “use conflict with others as a way to revise the strategies they use to meet their goals. They evaluate this conflict against their own values” (Fensel, 2016, p. 87). In contrast to the third order, fourth

order individuals are not uncomfortable with conflict and do not seek to avoid or reduce it. Instead, they are able to apply their self-authored perspective (i.e., their values, beliefs, processes, etc.) to conflict situations and make a decision. Unlike second order individuals, who dominate conflict so that they can 'win,' fourth order people are comfortable with and even welcome a diverse range of perspectives to consider while decision-making, so that they can be well informed when they apply their self-authored system to make the final decision. Because they take ownership for the outcome of the conflict and see conflict as an opportunity to obtain others' perspectives, fourth order individuals are likely to seek solutions and positive outcomes. Once again, the LSC research supports this argument. According to Pecchioni, Wright, & Nussbaum (2006), developmental progressions continue after the onset of adulthood, and with these progressions come changes in conflict communication abilities/preferences. Namely, older adults (mean age at approximately 62) prefer solution-oriented strategies more than young adults (mean age at approximately 21). At this older adulthood age, it is much more likely to encounter Level 4 individuals. Considering this evidence, one can expect fourth order individuals to rely on solutions-oriented strategies when engaging in conflict.

Finally, fifth order people have acquired the ability to take a perspective on even their own paradigm and self-authored value systems, see the limitations of sticking to any one self-authored system, and allow themselves to be in a constant state of self-transformation as they incorporate a variety of different higher-order values and paradigms which shape their understanding of the world and the purpose of conflict (Eigel & Kuhnert, 2005). From this stage of development, conflict is seen as an opportunity to be open and vulnerable with others, promote the development of others, and integrate multiple self-authored systems in order to get an even more complex view of their worlds (Eigel & Kuhnert, 2005). Conflict is welcomed

because it provides opportunities to shape and reshape their thinking (Fensel, 2016). In this sense, Level 5 individuals are more concerned about the process, not necessarily the outcome, of conflict. Instead of seeing conflict as an attack on personal identity or a win/lose battle for survival (second order), as harmful to social image or disruptive to harmony (third order), or as a refining tool that can be assessed by one's standards to make the best decision (fourth order), fifth order individuals are motivated to engage in conflict because they think it will likely spur on the development of others and can expose them to new ways of understanding reality. They see conflict as an inevitable experience that presents "an opportunity to engage in mutual transformation with others" (McCauley et al., 2006, p. 638). This understanding of conflict is considerably more amorphous than the previous three conflict strategies, and measuring this understanding of conflict is more difficult considering that most conflict management instruments measure the outcome of conflict only in terms of how the resolution benefits oneself and/or others (e.g., Putnam & Wilson, 1982; Rahim, 1983). Thus, in order to test the conflict strategies that a fifth order individual would employ, 10 items were constructed for this study that are labeled as transformational conflict management strategies.

The ability of the CDSR to predict conflict strategies provides concurrent validity for this proposed measure of constructive developmental order. As explained by Boateng and colleagues (2018), concurrent validity is used to determine if a scale's scores can predict outcomes on another relevant scale. Therefore, by determining CDT order, this study intends to predict participants' preferred conflict management strategies. In consideration of these arguments and the previous conceptualizations of constructive developmental order and conflict strategies, the following hypotheses are proposed:

H1a: People at the second order of development are more likely to prefer control strategies.

H1b: People at the third order of development are more likely to prefer nonconfrontation strategies.

H1c: People at the fourth order of development are more likely to prefer solution-oriented strategies.

H1d: People at the fifth order of development are more likely to prefer transformational strategies.

Conflict communication strategies provide a promising connection with CDT orders of development, but there are other important constructs that can indicate which stage an individual may be at. Perspective-taking is one such concept that has been thoroughly investigated in both psychology and communication research, and which is central to adult development within CDT (Hayes & Popp, 2019; Kegan, 1982, 1994). The present literature review continues by conceptualizing perspective-taking, assessing its presence in communication and leadership research, and connecting increases in perspective-taking ability with development through the CDT Levels.

**Perspective-Taking**

Perspective-taking is understood in this study as the ability to understand the world (e.g., situations), others (e.g., relationships), and the self (e.g., one's own way of meaning-making) from multiple cognitive and affective points-of-view. This definition encompasses Fagley, Coleman, and Simon's (2010) argument to conceptualize perspective-taking as one's understanding how a situation appears to another person. Perspective taking has both cognitive and affective components which influence how a person processes information or forms

decisions (Fagley, Coleman, & Simon, 2010; Ku, Wang, & Galinsky, 2015). This conceptualization allows for understanding the complex interaction that occurs between perspective-taking ability and CDT presented in the following paragraphs. Considering these conceptualizations, I define perspective-taking, in its fullest form, as a person's ability to not only understand how another person may think and feel, but also to take various perspectives on any number of things, including the world, others, and the self. Considering this definition, this study uses two assessments of perspective taking ability: The Multiple Perspectives Inventory (MPI; Gorenflo & Crano, 1998) and the Perspective-Taking (PT) subscale of the Interpersonal Reactivity Index (IRI; Davis, 1980). The MPI measures the capacity to take multiple perspectives when forming judgements, while the PT measures the ability to see situations from another person's viewpoint.

Perspective-taking is essential to communication and has been investigated by communication researchers for decades. The act of communicating necessitates sharing ideas from one mind to another and forming ideas about what is going on in someone else's head (Gasiorek & Hubbard, 2016). Communication research generally supports that increased perspective-taking ability leads to more effective, competent, and listener-adapted messages. Overall, the communication literature proposes that "through accounting for other perspectives, people will have a richer, more complex and somehow better outlook, and that this will be reflected in their communication and/or perceptions of others' communication" (Gasiorek & Hubbard, 2016, p. 94). The LSC literature acknowledges the significance of perspective-taking in human development and communication. Communication researchers note that perspective-taking ability progresses through development over the lifespan (Pecchioni, Wright, &

Nussbaum, 2006). In turn, this yields progressively more complex and effective communication abilities.

The ability for leaders to take the perspective of others, especially their followers or important stakeholders, is an intuitive necessity. Ku, Wang, and Galinsky (2015) reviewed social and developmental psychology and management literature to report that a leader's perspective-taking ability is linked to several positive consequences, such as increased liking, psychological and cognitive closeness, and cognitive complexity; improved interpersonal relationships in terms of approach behavior, coordination, and helping; improved intergroup relationships through reduced prejudice, stereotyping, and discriminatory views; better negotiation outcomes; positive impacts on various group processes, cooperation, creativity, and outcomes; and more ethical judgements and behaviors. Since perspective-taking can have such widespread positive outcomes, further attention is warranted to extend investigations of perspective-taking and leadership through focusing on constructive developmental stage.

Perspective-taking ability has been linked with developmental theory and empirical research on adult development. For example, Giri (2016) claims that perspective-taking and progression through Kohlberg's (1969, 1981) stages of moral reasoning are essentially identical. This is especially noteworthy considering that Kohlberg's moral reasoning model is a theory of human development very similar to Kegan's CDT (McCauley et al., 2006). In speaking about perspective-taking's significance to human development, Kahn and Zeidler (2019) claim that "perspective taking is arguably the most developmentally significant component because it forms the gateway, as we argue, for more epistemologically sophisticated forms of reasoning" (p. 606). Reams (2017) explains that for leaders to grow in developmental maturity, they must take an increasingly sophisticated perspective of their own "internal operating systems" (p. 339). To

develop, one must take a greater perspective on the internal meaning-making processes, which involves examining what has previously been unconscious, habitual, or assumed. In other words, greater perspective-taking ability is necessary to become aware of what one is subject to and take an objective perspective on it–to hold it as object. These theoretical claims are further supported by empirical evidence. For example, in a study of 600 civic leaders, Fuhs (2016) found that greater developmental maturity was linked to perspective-taking ability.

Perspective-taking ability throughout the stages of lifelong development is a central focal point within CDT (Kegan, 1982, 1994). According to CDT, human development occurs as the "process of making increasingly complex meaning of an increasingly complex world" (Hayes & Popp, 2019, p. 15). This increase in perspective-taking is what often propels someone from one order of development to the next. As Kuhnert and Lewis (1987) put it, CDT "focuses on changes and growth in leaders' perspective-taking abilities as the means for understanding changes in their behaviors" (p. 654). Hayes and Popp (2019) explain that as people develop through the stages of CDT, they are able to 'reach back' to previous meaning making systems and have a wider variety of perspectives to draw from (e.g., someone at the fourth order would still be able to understand and internalize others' internal needs/feelings as in the third order, but someone at the second order would be unable to understand such a third order construct). In other words, CDT postulates that as one progresses through the orders of development, he/she necessarily gains a greater ability in perspective-taking.

At the second stage of development people have the lowest ability to take in perspectives other than their own. Hayes and Popp (2019) explain that people at this stage are unable to imagine the internal states of others or look at situations from any other perspective. A Level 2 individual is not able to understand outside perspectives because they have not yet developed the

cognitive processes necessary to participate in mutual experiences or shared perceptions (Lewis & Kuhnert, 1987). In other words, they have not yet developed an ability to weigh outside ideas against their own (Eigel & Kuhnert, 2005). Why would they if they see the world in right/wrong dichotomies in which they are almost always right in their own minds? Their relationships to others are solely based on how others behave and react–and how that impacts them (e.g., this person is a helper/barrier to getting what I want). Although they know that others have different perspectives than their own, they are unaware of how their actions impact others internally.

The third order of development brings outside perspectives into a person's internal awareness, which allows them for the first time to empathically respond to others (Eigel & Kuhnert, 2005; Hayes & Popp, 2019; Kegan, 1994). Perspective-taking is used to help Level 3 people construct their identities and understand their world. Level 3 individuals are able to understand the thoughts or feelings of another and can use this information to understand themselves, (e.g., this person likes me, so I must be a likable/good person; this person doesn't like me, so I must be an unlikable/bad person), their world (e.g., this trusted source which I have vested my identity in has that opinion, so I also have that opinion), and others (e.g., if they knew of how I disapprove of their decision, it would crush them). However, their ability to take others' perspectives is limited when competing external viewpoints are present (e.g., a disagreement between two trusted sources). This occurs because they have not yet developed their own internal, independent perspective to evaluate or critique outside perspectives (Eigel & Kuhnert, 2005; Hayes & Popp, 2019).

A Level 4 individual is also able to take others' perspectives but to a greater extent than someone at the third order of development (Kuhnert & Lewis, 1987). Not only can this person take in a multitude of different perspectives at the same time, but he/she can also use the various

strengths and weaknesses of each and integrate the different perspectives into his/her own self-authored perspective (Hayes & Popp, 2019). In this sense, perspective taking is used to inform, rather than define, internal beliefs. A fourth order person can more fully appreciate and understand outside perspectives–including the strengths and weaknesses of each–instead of becoming completely enmeshed in any particular outside perspective or feeling torn by competing perspectives. Individuals operating at the fourth stage "continuously look for ways to improve and revise the strategies they use to reach their goals. Others' perspectives are used to help them evaluate and reshape their strategies" (Fensel, 2016, p. 93). However, there is a limit to perspective-taking at the fourth order of development. Due to their enmeshment within their own self-authored perspective, these individuals do not realize when they are imposing their own self-authored perspectives onto others (Fensel, 2016). Although they can evaluate their perspective, they cannot step away from or let go of it because they are subject to it (Eigel & Kuhnert, 2005).

The highest perspective-taking ability is reserved for individuals who not only internalize outside perspectives (Level 3) and compare outside perspectives with their own self-authored perspective (Level 4) but can also take a perspective on their own self-authored perspective. The fifth order of development features the most complete perspective-taking ability (Kegan, 1982, 1994). People who make it to this stage have developed the capacity to take a perspective on their own perspective–their self-authorship, identity, and ideology–and frequently question how their own self-system/perspective works (Drago-Severson, 2009). They see that their own point of view as incomplete. They are able to own a number of different internalized perspectives simultaneously and choose the best perspective for a given situation (Eigel & Kuhnert, 2005). As

Eigel and Kuhnert state, “for the very first time, they can fully walk in someone else’s shoes” (p. 369).

Given the foundational connection between perspective-taking ability and constructive developmental order, this study utilizes perspective-taking ability as another source of criterion validity for creating this new measure of constructive developmental order. Thus, perspective-taking ability serves as a test of concurrent validity for the CDSR. As such, this study proposes the following hypothesis:

H2: Increased perspective-taking ability positively relates to constructive developmental order.

In summary, this study is designed to construct and then validate the CDSR which can be used to assess the constructive developmental orders of professional adults. People’s developmental maturity constitutes the way they make meaning of themselves, their relationships, and their worlds (Eigel & Kuhnert 2016; Kuhnert, 2018; McCauley et al., 2006; Strang & Kuhnert, 2009). As such, and as articulated in the previous review of literature, CDT research has identified the different ways individuals understand and respond to conflict depending on their Level of development. Additionally, CDT research has demonstrated how greater degrees of perspective-taking concurs with later Levels of development. Both of these concepts are used to test the concurrent validity of the CDSR. Once the CDSR is validated, it may accelerate research and practice in a number of domains relevant to CDT, including leadership and professional development (e.g., Brennan, 2017; Crane & Hartwell, 2018; Kuhnert, 2018).

# Chapter 3: Methods

## Research Design

This study utilized two phases to develop and validate the CDSR. In the first phase, I generated an initial pool of items for the CDSR and utilized expert review to develop the instrument and assess content validity (see Appendix A for the materials sent to the expert reviewers). After the expert review was completed, the pool of items was reduced before being used in the second phase of the study. In the second phase, I assessed the construct validity of the CDSR through exploratory factor analysis (EFA) and I tested the hypotheses of this study by distributing the instrument through an online self-report survey (see Appendices B through I for the informed consent form and the individual instruments). These methodological decisions are further explained in the following section.

## Phase 1: CDSR Development

Phase 1 assessed content validity for the CDSR by generating a large pool of initial items, reducing and refining said items, obtaining expert review, and further reducing and refining the item pool based on the reviewers' assessment of how accurately each item represented its focal concept (e.g., feedback at Level 2, feedback at Level 3, etc.), the clarity of each item, and whether each item should be deleted or kept in the CDSR. The process of scale development, expert review participants, procedure, and results of Phase 1 are explained below.

**Scale item development.** To construct this new measure, I assessed coded Subject-Object Interviews (SOIs), the CDT literature, and SOI methodology. I either created original items that were informed by CDT literature and SOI methodology or extracted content from coded SOI transcripts/excerpts and modified the content into self-report items. To illustrate this

process, consider the following coded SOI excerpt provided by Eigel and Kuhnert (2005). The participant is speaking on the topic of decision-making, and his response is coded at Level 5.

> If we had an unlimited amount of time, I could probably find pieces from many different places and times, but one of the things that still stays with me today is from my sociology class and one of the philosophers, maybe Socrates, who said "the unexamined life is not worth living," so that it's important to continue to reevaluate what you believe. It doesn't necessarily mean that you change your beliefs, but you leave them open. You sort of leave them exposed…and I think too many people don't do that. You know, they form their beliefs and their opinions, but they're not open to evaluating them. But if you think about them, there's less to think about when you need to use them…And so decisions [about the right thing to do], I think, become easier as opposed to harder. (Eigel & Kuhnert, 2005, p. 379)

This excerpt was then used to generate a number of items intended to reflect the fifth order of development. An example item crafted from this response in the CDSR is: "Receiving negative feedback allows me to re-examine what I believe to be worthy values and principles by exposing my values and principles to challenging ideas." In total, more than 350 excerpts and two full transcripts from SOIs were assessed from published studies (i.e., Eigel & Kuhnert, 2005; Hayes & Popp, 2019; Helsing & Howell, 2014; Kuhnert, 2018), dissertations (i.e., Brennan, 2017; Eigel, 1998; Fensel, 2016), and the guide/coding manual for the SOI (i.e., Lahey et al., 2011).

In SOIs, relevant subject-object material is extracted from such excerpts and given an overall score that represents an order of development (e.g., Level 5). Thus, my goal was essentially to recreate similar statements that include an abundance of relevant subject-object material that could be assessed through a self-report instrument. The foundational assumption of developing the CDSR is that if individuals can articulate their meaning-making at different orders of development through SOIs, then they should also be able to self-report their meaning-making at different orders of development through the CDSR. The CDSR places a respondent at

a particular order of development when he/she shows a clear preference for items designed to reflect that order of development.

CDSR statements were constructed to measure Level 2 through Level 5 and organized into four topic dimensions: Feedback, Leadership, Success, and Relating to Others. These dimensions were chosen because they reflect themes that are common within SOIs and represent "ripe" content areas that have high potential to reveal a person's order of development (Lahey et al., 2011). The SOI uses ten topic dimensions to assess Level of development: success, anger, important to me, sad, lost something, change, torn, strong stand/conviction, moved/touched, and anxious/nervous. Lahey and colleagues note that the actual topics and experiences discussed in the interview are less relevant compared to the meaning-making displayed while discussing these topics. Thus, the topic dimensions in the CDSR (Feedback, Leadership, Success, and Relating to Others) were chosen based on their prevalence in relevant literature employing the SOI and similarity to the original SOI topics. It was also judged that these four topic dimensions are relevant in organizations.

Items within each topic dimension were constructed under two general guidelines. First, each item was part of a set of four overall items that generally contained the same sentence stem and outcome (only a few exceptions were made when absolutely necessary). An example stem is: "Feedback is important because—." This was a necessary step because the 'what you know' aspect or outcome of the sentence must remain the same while the 'why,' or 'how you know what you know' structure of the sentence must change to reflect the associated constructive developmental order. In this sense, each item agrees that feedback is important, but the reasons why feedback matters was designed to reflect the intended order of development.

Second, items progressively build on statements designed to encompass and incorporate the previous Level of meaning-making while also adding the more complex understandings of the item's current Level. Table 2 demonstrates this progression of items from earlier to later constructive developmental Levels under the leadership topic dimension. These items are designed to measure how people at different orders of development view their thoughts on leadership and actions as leaders differently. Items intended to represent the second Level of development focused on meeting personal needs, desires, and agendas (represented by the term, 'Me'). Items representing the third Level include an ability to see needs, desires, and agendas objectively and introduce alignment with relationships and roles as the main focus (and are represented as 'Relationships/Roles'). Items representing the fourth Level provide an objective perspective on the themes of the previous two Levels (i.e., needs/desires/agendas and relationships/roles) and provide statements reflecting internal values, standards, principles, and self-imposed expectations (and thus are coined as 'Objective/Paradigm'). Finally, items representing the fifth Level provide statements that hold the personal values, standards, principles, and self-imposed expectations as objectively examined or questioned in light of universal principles, integration with other principles or perspectives, and overall transformation of self and others (and are thus termed, 'Universal Principles/Integration').

**Table 2**

*Process of Constructing Items from Earlier to Later Constructive Developmental Levels*

| CDT Order of Development | Subject | Object | Example items within the leadership dimension |
|---|---|---|---|
| Instrumental (level 2) | Me | | As a leader, it is important to get my team to see things my way. |
| Socializing (level 3) | Relationships/roles | Me | As a leader, although I would like things to go my way, it is important that my team views me favorably because that is how I can be sure I am leading effectively. |
| Self-authoring (level 4) | Standards/paradigm | Relationships/roles | As a leader, although it is nice to have my team view me favorably, it is important to lead from my own set of values and standards which should not be compromised even if they upset my team. |
| Self-transforming (level 5) | Universal principles/integration | Standards/paradigm | As a leader, it is important to identify the people who can provide the widest array of perspectives, because when I hear a variety of perspectives I can see the underlying truths that connect them and then make a better decision. |

Using this method, an initial pool of 177 items were generated for the CDSR. These items intended to represent Level 2 through Level 5 along the topic dimensions of Feedback, Leadership, Success, and Relating to Others. As a preliminary check of content validity, my thesis advisor and I independently sorted each item, regardless of its topic dimension, under the order of development we each felt that the item best reflected. Items which did not sort into their intended order of development were modified if possible or discarded. Items were then further edited, reduced, and re-organized into a final set of 112 items which were sent to the expert reviewers to assess content validity (see Appendix A).

**Expert review.** I contacted nine experts in the areas CDT, SOI methodology, leadership communication, and/or professional development. Of these, five agreed to participate in the study. Two reviewers were leadership development coaches and experts in CDT, two reviewers were professional leadership consultants, and one reviewer was a faculty member who specialized in leadership communication. Reviewers were given three weeks to complete their reviews, or more time if needed. All reviews were conducted in January or February 2020.

Reviewers were given descriptions of each Level of development along with instructions on how to proceed (see Appendix A). First, experts read the descriptions of each Level of development and each item of the proposed CDSR instrument. Second, reviewers assessed each item in terms of (a) how accurately each item matches its intended Level of development from 1 (*Not at All Accurate*) to 5 (*Very Accurate*); (b) how clear each item is from 1 (*Not Clear at All*) to 5 (*Very Clear*); and (c) whether each item should be deleted or kept in the final version of the CDSR from 1 (*Definitely Delete*) to 5 (*Definitely Keep*). Reviewers were also provided with open-ended prompts which encouraged them to share their thoughts and suggestions for how items could be improved. Their suggestions were considered and implemented when appropriate.

Reviewer's ratings were then averaged together for each 5-point scale, and any items that scored below 4 on any one of its three scales were either deleted or improved using the expert reviewers' feedback. After this process, the CDSR was reduced to 64 items which were used in Phase 2. These steps are taken, as recommended from recent scale development and validation studies (e.g., Boateng et al, 2018; Flake, Pek, & Hehman, 2017; Morgado et al., 2018) to ensure that each question is a reflection of the construct intended to be measured (i.e., reflects a certain Level of constructive developmental maturity).

**Phase 2: Hypotheses Testing**

The objective of phase 2 was to test the study's hypotheses and thus establish initial construct validity for the CDSR. The following section describes the participants, data collection procedures, measures, and factor structures from exploratory factor analyses.

**Data collection procedures.** Qualtrics survey panels were used to acquire the targeted sample (i.e., currently employed adults who hold some form of management position and fit into a particular age bracket). This data collection procedure was necessary considering the sample

requirements, which would otherwise be infeasible to acquire. All data were collected in February 2020. Qualtrics contacted potential respondents via email and offered them monetary compensation ranging between $7.00 and $8.00 for their participation. Respondents were screened to ensure that they met three selection criteria: (a) respondents must currently be employed in either full-time or part-time work; (b) respondents must either currently hold a management or supervisory position or have held a management or supervisory position within the past twelve months; and (c) respondents must fit into a particular age bracket that ensures representative ages in the workforce.

Efforts were made to increase the quality of the sample. Two attention-check questions were inserted into the survey to screen out respondents whom were providing bad data (“For this question, please select the "unsure" option to indicate that you are paying attention,” and “For this question, please select "Not Like Me" to indicate that you are paying attention. Inattentive respondents will be terminated without compensation.”). Additionally, participants were further screened out of the survey if they completed the survey in less than 10 minutes since the average time to complete the survey was approximately 20 minutes. Respondents who spent less than half of the average overall time to complete the survey did not demonstrate adequate reflection or thoughtfulness to their task.

Participants used a link to access the online survey, where they were provided with the informed consent form (see Appendix B). If participants consented, they were instructed to complete the rest of the survey (see Appendices C through H). The survey collected demographic and experiential information (see Appendix C) and deployed four instruments used to test concurrent validity: the (a) Organizational Communication Conflict Instrument (OCCI; Putnam & Wilson, 1982; see Appendix D), (b) transformational conflict strategies scale (see

Appendix E), (c) Multiple Perspectives Inventory (MPI; Gorenflo & Crano, 1998; see Appendix F), and (d) Perspective-Taking (PT; see Appendix G) subscale of the Interpersonal Reactivity Index (IRI), developed by Davis in 1980. Finally, the survey also deployed the 64-item CDSR. Seven items from the 64-item CDSR were omitted following the factor analysis, as will be discussed later, which resulted in the final 57-item CDSR (see Appendix H for the CDSR as it was presented in the survey and Appendix I for the 57-item CDSR organized by developmental Level).

**Sample.** After receiving Institutional Review Board approval (see Appendix J), respondents ($N$ = 220) were purposively sampled to include professional, currently employed adults who hold/held some form of management/supervisory position (e.g., first-level, mid-level, upper-level, or senior management) and fit into a specific age group. In total, 557 individuals began the survey, but 337 participants either failed a screener question, failed an attention-check question, or completed the survey too quickly and were excluded from data analysis, resulting in a final sample of 220.

Because the CDSR is a measure of constructive developmental order within the adult population (Level 2 through Level 5) and because constructive developmental order and age are often correlated (Kuhnert, 2018; Strang & Kuhnert, 2009), it was necessary to sample a wide adult age demographic (age 21 to 70) to capture a representative range of developmental maturity. This age range was optimized to sample from the following age brackets: 21 to 30 ($n$ = 44, 20.0%), 31 to 40 ($n$ = 45, 20.5%), 41 to 50 ($n$ = 45, 20.5%), 51 to 60 ($n$ = 41, 18.6%), and 61 to 70 ($n$ = 45, 20.5%).

In terms of the other demographics, participant mean age was 45.34 years ($SD$ = 13.39). Of the sample, 115 participants were male (52.3%) and 105 were female (47.7%). The majority

of participants identified as White/Caucasian (*n* = 179, 81.4%), followed by Black/African American (*n* = 15, 6.8%), Spanish/Hispanic/Latino (*n* = 10, 4.5%), Multi-Racial (*n* = 9, 4.1%), and Asian/Asian American (*n* = 7, 3.2%). Of the sample, 20 (9.1%) had received some or completed a high school education, 69 (31.4%) had received some college education, 77 (35.0%) had a bachelor's degree, and 54 (24.5%) attained an advanced degree beyond a bachelor's degree. Participants reported that they had been employed in the workforce for a mean of 24.08 years (*SD* = 14.08). The industries where participants worked include public for-profit (*n* = 84, 38.2%), private for profit (*n* = 75, 34.1%), educational/academic (*n* = 14, 6.4%), not-for-profit (*n* = 13, 5.9%), government/municipal (*n* = 12, 5.5%), self-employed (*n* = 11, 5.0%), and other industries (*n* = 11, 5.0%). Participants indicated that the approximate size of their organizations varied from 1 to 10 employees (*n* = 18, 8.2%), from 11 to 50 employees (*n* = 34, 15.5%), from 51 to 200 employees (*n* = 31, 14.1%), from 201 to 500 employees (*n* = 38, 17.3%), from 501 to 1,000 employees (*n* = 32, 14.5%), from 1,001 to 5,000 employees (*n* = 33, 15.0%), from 5,001 to 10,000 employees (*n* = 14, 6.4%), and greater than 10,000 employees (*n* = 20, 9.1%).

The survey also collected information about respondents' involvement in professional development activities such as: organization-sponsored management training/workshops (*n* = 98, 44.5%), formal leadership development programs (*n* = 88, 40.0%), cross-training (*n* = 84, 38.2%), mentoring (*n* = 83, 37.7%), one-on-one business/executive coaching (*n* = 57, 25.9%), and/or other professional development activities (*n* = 9, 4.1%). Only 22 participants (10.0%) indicated that they had either never participated in any of the aforementioned professional development activities or selected 'other' professional development activities, while 93 (42.3%) indicated they had engaged in one of the activities, 35 (15.9%) engaged in two activities, 36 (16.4%) engaged in three activities, 14 (6.4%) engaged in four activities, and 20 (9.1%)

participated in all five of the provided professional development activities. Participants reported the number of people they managed/supervised ($M$ = 30.40, $SD$ = 76.82) and the number of years they have held a management/supervisory position ($M$ = 11.53, $SD$ = 9.83). Finally, participants also reported their management seniority, which included first-level ($n$ = 37, 16.8%), mid-level ($n$ = 105, 47.7%), upper-level ($n$ = 49, 22.3%), and senior management ($n$ = 29, 13.2%).

**Data collection instruments.** The following instruments were used to assess concurrent validity and test the study's hypotheses: (a) the Organizational Communication Conflict Instrument (OCCI; Putnam & Wilson, 1982; see Appendix D), (b) a transformational conflict management strategies scale constructed for this study (see Appendix E), (c) the Multiple Perspectives Inventory (MPI; Gorenflo & Crano, 1998; see Appendix F), (d) the Perspective-Taking (PT; see Appendix G) subscale of the Interpersonal Reactivity Index (IRI) developed by Davis in 1980, and (e) the 64-item version of the CDSR approved by expert reviewers (see Appendix H for the CDSR as it was presented in the survey and Appendix I for the 57-item CDSR organized by developmental Level). The rationale for selecting these instruments, reported reliability and validity information from previous studies, reliabilities for the current study, and method of determining the final 57-item CDSR are presented in the following paragraphs.

***The organizational communication conflict instrument (OCCI).*** The Organizational Communication Conflict Instrument (OCCI; Putnam & Wilson, 1982; see Appendix D) was used to assess three conflict strategies for this professional adult population. The OCCI considers both verbal and nonverbal conflict tactics and situational factors that influence conflict behavior (Wilson & Waltman, 1988). This instrument was originally developed to measure the conflict strategies used by subordinates when engaged in conflict with their supervisors. Minor

adjustments were made to better fit the purposes of this study. For example, the item "I dominate arguments until my superior understands my position" was changed to "I dominate arguments until people in my organization understand my position." Putnam and Wilson's (1982) measure features 30 items that assess three communication strategies that people use while engaged in conflict: control strategies (7 items), nonconfrontation strategies (12 items), and solution-oriented strategies (11 items). Respective items for these strategies include "I dominate arguments until people in my organization understand my position," "I withdraw when people in my organization confront me about controversial issues," and "I blend my ideas with people in my organization to create new alternatives for resolving a disagreement." Respondents are instructed to indicate how frequently they engage in the behaviors described in each item by responding to a 7-point scale ranging from 1 (*Never*) to 7 (*Always)*. Responses to the items were averaged to three scores, one score per communication strategy subscale, for each respondent.

In this study, the OCCI showed favorable reliabilities for control strategies ($\alpha$ = .83, $M$ = 3.51, $SD$ = 1.08), nonconfrontation strategies ($\alpha$ = .91, $M$ = 3.41, $SD$ = 1.10), and solution-oriented strategies ($\alpha$ = .79, $M$ = 4.83, $SD$ = .66). These results are similar to previous research using this instrument. For example, Wilson and Waltman (1988) found that internal reliability coefficients for the OCCI were usually very favorable across several studies, with control strategies ranging from .70 to .84, nonconfrontation strategies ranging from .83 to .93, and solution-oriented strategies ranging from .79 to .88. Additionally, they found high test-retest reliabilities for each strategy and claim that these reliabilities are as good as or similar to other conflict measures. According to Wilson and Waltman (1988), content validity for the OCCI is strengthened by how the items focus on both verbal and nonverbal communication acts, how the strategies reflect conflict styles that are similar to Blake and Mouton's (1964) five conflict

orientations, and how the items are similar to other conflict measures such as Rahim's (1983) ROCI II. Additionally, investigations of construct validity demonstrate that the OCCI converges at moderate levels with instruments of the same and theoretically similar constructs (Wilson & Waltman, 1988).

***Transformational conflict strategies.*** Because the OCCI was judged to be inadequate to measure the type of conflict strategies that individuals at the fifth stage of development may employ, I constructed ten items to form the transformational conflict strategies scale ($\alpha$ = .91, *M* = 4.94, *SD* = .94; see Appendix E). Items were constructed by assessing data from coded SOIs, in the same fashion as described in developing items for the CDSR, and by mimicking the structure presented in the OCCI. Putnam and Wilson (1982) included both verbal and nonverbal acts of communication during conflict, which is also reflected in the transformational conflict strategies scale. An example item from this scale includes: "I ask questions when engaged in conflict to understand my subordinate's perspective." Respondents were instructed to indicate how frequently they engage in the behavior described in each item by responding to a 7-point scale ranging from 1 (*Never*) to 7 (*Always)*. Responses to the items were averaged to a single score for each respondent.

***The multiple perspectives inventory (MPI).*** Perspective-taking was measured using the Multiple Perspectives Inventory (MPI; Gorenflo & Crano, 1998; see Appendix F) and the Perspective-Taking (PT; see Appendix G) subscale of the Interpersonal Reactivity Index (IRI; Davis, 1980). The MPI assesses an individual's ability to adopt multiple perspectives when making judgements, processing information, or forming decisions–one's "capacity to open-mindedly consider and elaborate different strands of (potentially conflicting, internally inconsistent) information" (Gorenflo & Crano, 1998, p. 176). Two items on the MPI were

deleted because they were intended for student respondents. For example, the following item, “In class, I am good at considering issues from the teacher’s perspective,” was deleted. This self-report measure instructs respondents to rate their agreement or disagreement to 18 items (after deleting the two items) on a 5-point scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree)*. Responses to the items were averaged to a single score for each respondent.

The MPI presented good reliability in this study ($\alpha$ = .82, $M$ = 3.83, $SD$ = .46). Gorenflo and Crano (1998) write that the MPI is a reliable and valid measure of perspective-taking ability. The authors demonstrated that internal reliability is typically strong and ranges from .79 to .90. Further, the MPI loads onto a single factor and has good discriminant validity and construct validity. Gorenflo and Crano (1998) indicate the measure is able to predict how likely a person is to break away from ‘cognitive set’ which is understood as becoming stuck in a certain way of doing things or becoming set in a certain process to solve problems even when the process is inefficient and a better process is available. This instrument is appropriate not only to measure a person’s ability to take on another person’s perspective (others’ thoughts and feelings), but also the capacity to “adopt more than a single point of view when dealing with complex issues” (Gorenflo & Crano, 1998, p. 176). The MPI was also developed within the context of developmental psychology (e.g., Piagetian psychology), enhancing the rationale for including it in this study. Kegan (1982, 1994) frames CDT as an extension of Piagetian psychology, to the point where CDT can be labeled “neo-Piagetian” (Kegan, 1980;  McCauley et al., 2006; Spano, 2015).

***The perspective-taking (PT) subscale of the interpersonal reactivity index (IRI).*** The Perspective-Taking (PT; see Appendix G) subscale of the Interpersonal Reactivity Index (IRI), developed by Davis in 1980, served as another assessment of perspective-taking ability. The IRI

is a 28-item scale containing four, seven item subscales which include perspective-taking, fantasy, empathic concern, and personal distress. This study only utilized the PT subscale, which "assesses the tendency to spontaneously adopt the psychological point of view of others" (Davis, 1983, pp. 113–114). This scale instructs respondents to rate their agreement or disagreement to the seven items on a 5-point scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Responses to the items were averaged to a single score for each respondent. An example item is "Before criticizing somebody, I try to imagine how I would feel if I were in their place." The PT scale is more concerned with understanding the perspective of other people, whereas the MPI accounts for a person's ability to take in multiple perspectives on information (not necessarily other *people's* perspectives) when making judgements. For this reason, the PT scale was included in the present study.

The PT scale also provided good reliability in the present study ($\alpha$ = .78, $M$ = 3.84, $SD$ = .59). This reliability is consistent with other studies, which feature internal reliabilities for the PT scale ranging from .71 to .78 (Davis, 1980). To support the PT scale, Henderson (2013) found that the scale loaded onto a single factor with factor loadings above the .40 cutoff, and good internal reliability at .80. Test-retest reliability was satisfactory for the PT, with scores at .62 (Davis, 1980) and Davis (1983) presented supportive evidence for divergent and discriminant validity. Finally, as was the case with the MPI, the PT was constructed against the backdrop of developmental psychology, making this measure appropriate for use in the present study.

***The constructive developmental self-report (CDSR).*** Constructive developmental Level was assessed using 57 of the 64 items on the CDSR (after deleting seven weak items; see exploratory factor analysis procedures below) approved by expert reviewers in phase 1 of the study. Respondents were instructed to respond to each item on a 7-point scale ranging from 1

(*Not at All Like Me*) to 7 (*Very Much Like Me*). The 57-item CDSR measured respondents on four scales that originally contained 16 items: Level 2, Level 3, Level 4, and Level 5. Additionally, each of these scales were further organized to contain, originally, four items within the following topic dimensions: Feedback, Leadership, Success, and Relating to Others. First, exploratory factor analysis was used to eliminate weak items in each topic dimension across all four Levels. A total of seven items were removed because they: (a) provided unclear factor loadings, and (b) decreased a subscale's overall reliability. Then, the remaining 57 CDSR items measuring all four topic dimensions (see Appendix I) at each Level were combined. For example, the final Level 2 scale included 13 items designed to measure Feedback, Leadership, Success, and Relating to Others at Level 2. Cronbach's alphas were created for each Level. These steps are further described next.

*Exploratory factor analysis (EFA).* Exploratory factor analysis (EFA) was conducted for each of the four topic dimensions (i.e., Feedback, Leadership, Success, and Relating to Others) using principal component analysis with Promax (oblique) rotation in IBM SPSS 26. The primary goal of this effort was to determine the extent to which the various topic dimension items clustered together at each of the four constructive developmental Levels. Promax rotation was chosen for two reasons. First, theoretically, it is expected that the topic dimension items across the four constructive developmental Levels would be related to each other. A central premise of CDT is that orders of development build on each other and incorporate previous orders of development in a way that allows one to transform their understandings of the world instead of replacing their understandings (Eriksen, 2006; Kegan, 1994). For example, someone at Level 4 might not view Feedback like someone at level 3 but should be flexible enough to view Feedback from a Level 3 perspective if appropriate. Second, the component correlation matrices

loaded above .40 for two of the factor analyses, which indicates that oblique rotation is warranted.

Factors were retained if (a) eigenvalues were greater than 1.00 and if (b) factors loaded above the bend of the scree plot. The Kaiser-Meyer-Olkin measure of sampling adequacy was above acceptable levels for each of the topic dimensions (Feedback: .849, Leadership: .807; Success: .827, and Relating to Others: .815). Additionally, Bartlett's test of sphericity was significant for Feedback ($\chi_2(91) = 1{,}133.002$, $p < .001$), Leadership ($\chi_2(91) = 743.060$, $p < .001$), Success ($\chi_2(91) = 857.336$, $p < .001$), and Relating to Others ($\chi_2(105) = 1{,}041.092$, $p < .001$). The EFAs for each topic dimension of the 57-item CDSR are presented in Table 3 through Table 6

The EFA of the 14 Feedback items converged in five iterations to produce a three-factor solution that explains 59.23% of the variance for Feedback items (see Table 3). The three feedback factors represent Instrumental/Level 2, Socializing/Level 3, and Self-Authoring/Level 4, respectively. The first Feedback factor explains 13.44% of the variance (eigenvalue = 1.88) and most clearly reflects Instrumental/Level 2 items. The second Feedback factor explains 36.14% of total variance (eigenvalue = 5.06) and clearly represents Socializing/Level 3 items, although three Self-Transforming/Level 5 items also loaded on this factor to a lesser extent. The final Feedback factor explains 9.66% of the variance (eigenvalue = 1.35) and represent Self-Authoring/Level 4 items, although one Self-Transforming/Level 5 item also loaded on this factor. While it was disappointing that a four-factor structure did not emerge for Feedback by Level, this process did allow for the identification of the weakest Feedback items (e.g., those which loaded on several dimensions). Also, as is the case with the Relating to Others EFA, although Level 3 and Level 5 loaded on the same factor, Level 2 and Level 4 items loaded on their own factors.

**Table 3**

*Factor Loadings for Exploratory Factor Analysis with Promax Rotation of Feedback Items*

| | Constructive developmental level | | |
|---|---|---|---|
| Items | Instrumental (level 2) | Socializing (level 3) and self-transforming (level 5) | Self-authoring (level 4) |
| Feedback is unnecessary because people will see my decisions as generally correct. (Level 2) | **0.817** | 0.032 | 0.278 |
| Feedback is important because without it I am not sure how useful I am in the eyes of others. (Level 3) | 0.011 | **0.865** | −0.200 |
| Feedback is important because it expands my own value system as I learn to see things from other perspectives and develop a more comprehensive view of situations. (Level 5) | **−0.402** | **0.425** | 0.006 |
| Feedback is important because it is important to get along with everyone. (Level 3) | 0.246 | **0.939** | −0.140 |
| Receiving negative feedback allows me to re-examine what I believe to be worthy values and principles by exposing my values and principles to challenging ideas. (Level 5) | −0.130 | *0.399* | 0.355 |
| Feedback is important because it helps me assess different ideas and arrive at an effective solution I can then take responsibility for executing. (Level 4) | −0.377 | 0.334 | 0.244 |
| Feedback is important because hearing others' viewpoints helps me set aside my view of things to see how everyone's principles fit together to accomplish something we all believe in. (Level 5) | −0.266 | **0.479** | 0.200 |
| Feedback is unnecessary because there is no point in talking about why we disagree or do not get along–I am going to support the option that best benefits my goals. (Level 2) | **0.921** | 0.201 | 0.128 |
| Feedback is important because it helps me make decisions I otherwise might not feel confident making. (Level 3) | 0.255 | **0.886** | −0.043 |
| Feedback is important because it means everyone can voice disagreements and think for themselves so that we arrive at the most effective solution. (Level 4) | −0.152 | 0.265 | **0.511** |
| After receiving negative feedback, I compare it to my own standards and principles and do what I think will be best considering the new information without worrying what others will think of me. (Level 4) | 0.329 | −0.029 | **0.817** |
| Feedback is important because it can influence my preferred way to accomplish our goal as I integrate other people's ideas to develop a broader understanding of what is effective. (Level 5) | −0.115 | 0.219 | **0.519** |
| After receiving negative feedback, I objectively assess what was said without feeling offended because I am ultimately in control of making decisions consistent with my own values, standards and principles. (Level 4) | 0.110 | −0.363 | **1.005** |
| Feedback is unnecessary especially if it gets in the way of making the decision I know to be the best one. (Level 2) | **0.863** | 0.192 | −0.055 |

*Note.* Factor loadings > .400 are boldface. Factor loadings > .385 are italicized.

The EFA of the 14 Leadership items converged in six iterations to produce a three-factor solution that explains 52.60% of the variance for Leadership items (see Table 4). The first Leadership factor explains 26.35% of total variance (eigenvalue = 3.69) and represents Level 3 items, although Level 2 items also loaded on this factor to a lesser extent. The second Feedback factor explains 10.30% of the variance (eigenvalue = 1.44) and represents Level 4 items. The final Leadership factor explains 15.95% of the variance (eigenvalue = 2.23) and clearly reflects Level 5 items. While it was disappointing that a four-factor structure did not emerge for Leadership, this process did allow for the identification of the weakest Leadership items. Additionally, as is the case with the Success EFA, although Level 2 and Level 3 loaded on the same factor, Level 4 and Level 5 items loaded on their own factors.

**Table 4**

*Factor Loadings for Exploratory Factor Analysis with Promax Rotation of Leadership Items*

| | Constructive developmental level | | |
|---|---|---|---|
| Items | Socializing (level 3) and instrumental (level 2) | Self-authoring (level 4) | Self-transforming (level 5) |
| As a leader, it is important to get my team to see things my way. (Level 2) | **0.452** | 0.343 | −0.166 |
| When leading others, I rely on credible people in my team to decide what decision should be made–otherwise, how could I know the best option? (Level 3) | **0.652** | −0.207 | 0.090 |
| As a leader, although it is nice to have my team view me favorably, it is important to lead from my own set of values and standards which should not be compromised even if they upset my team. (Level 4) | −0.072 | **0.769** | −0.120 |
| When leading others, I recognize that I can personally grow if I step back from my own values and preferred leadership approach to remain open to contradictions that may change the way I lead. (Level 5) | 0.045 | −0.057 | **0.690** |
| As a leader, although I would like things to go my way, it is important that my team views me favorably because that is how I can be sure I am leading effectively. (Level 3) | **0.692** | −0.028 | 0.135 |
| I know I am being a good leader when I listen to others' input and make decisions that are consistent with my values and principles, even if they are unpopular or upset people. (Level 4) | −0.117 | **0.790** | 0.177 |

**Table 4 (Cont.)**

| Items | Constructive developmental level: Socializing (level 3) and instrumental (level 2) | Self-authoring (level 4) | Self-transforming (level 5) |
|---|---|---|---|
| I know I am being a good leader when I am open to evaluating how my standards may positively or negatively impact my team members and make adjustments in order to contribute to their ongoing personal development. (Level 5) | −0.043 | 0.127 | **0.729** |
| I know I am being a good leader when everyone on my team gets along with each other. (Level 3) | **0.700** | −0.154 | 0.234 |
| As a leader, it is important to identify the people who can provide the widest array of perspectives, because when I hear a variety of perspectives I can see the underlying truths that connect them and then make a better decision. (Level 5) | 0.055 | 0.171 | **0.748** |
| Although I seek to meet my own standards as a leader, it is sometimes important to change my standards in ways that unite my team under a broader vision. (Level 5) | 0.202 | −0.037 | **0.727** |
| I know I am being a good leader when my team successfully does what I tell them to do in ways that further my agenda. (Level 2) | **0.568** | 0.332 | −0.183 |
| When leading others, I sacrifice what is important to me in order to achieve others' goals or prove my worth to my organization. (Level 3) | **0.706** | −0.073 | 0.014 |
| I know I am being a good leader when I listen to others' input, come to a solution that is consistent with my own values and principles, and take responsibility for implementing the solution. (Level 4) | −0.156 | **0.696** | 0.317 |
| As a leader, it is important to identify the people whom I can rely on to help me achieve my goals in ways that best benefit me in the end. (Level 2) | **0.469** | **0.422** | −0.132 |

*Note.* Factor loadings > .400 are boldface.

The EFA of the 14 Success items converged in seven iterations to produce a three-factor solution that explains 54.15% of the variance for Leadership items (see Table 5). The first Success factor explains 26.28% of total variance (eigenvalue = 3.68) and represents Level 2 items, although Level 3 items also loaded on this factor to a lesser extent. The second Success factor explains 7.99% of the variance (eigenvalue = 1.12) and approximately represent Level 4 items, although one Level 5 item also loaded on this factor. The final Success factor explains 19.88% of the variance (eigenvalue = 2.78) and reflects Level 5 items, although one Level 4 item

also loaded on this factor. While it was disappointing that a four-factor structure did not emerge for Success, this process did allow for the identification of the weakest Success items.

**Table 5**

*Factor Loadings for Exploratory Factor Analysis with Promax Rotation of Success Items*

| | Constructive developmental level | | |
|---|---|---|---|
| Items | Instrumental (level 2) and socializing (level 3) | Self-authoring (level 4) | Self-transforming (level 5) |
| Success means that my team members agree with each other. I am uncomfortable when we start disagreeing–because this makes people think less of each other. (Level 3) | **0.631** | −0.206 | 0.146 |
| Even if I get pushback from my team members, success is achieved if this pushback helps us reach our standards. (Level 4) | 0.008 | **0.672** | 0.219 |
| Success is achieved when I evaluate myself and know that I was authentic to my personal standards. I support or criticize myself based on how closely I align with my standards–regardless of what is said about me. (Level 4) | 0.205 | **0.633** | 0.071 |
| I know I am successful when I pay attention to things experts pick up on that I typically do not notice. They offer different approaches, standards, or values that I can combine with my original approach to discover the best outcome that benefits everyone on the team. (Level 5) | −0.023 | **0.504** | *0.388* |
| I know I am successful when I convince others that I am right in a situation because if I cannot convince them it feels like a personal loss. (Level 2) | **0.821** | −0.023 | −0.037 |
| I know I am successful when I combine expert opinion with my own critical evaluation and arrive at an idea of what I should do. (Level 4) | 0.180 | 0.234 | **0.510** |
| I feel successful when I step back from my initial idea of what the best solution would be. My initial evaluation is only one way of understanding the situation. Alternative solutions give me a more complex, better overall picture and can lead to more successful outcomes. (Level 5) | −0.113 | 0.126 | **0.637** |
| I feel successful when I meet my organization's expectations. If I do what I have been told to do, then I did my part and I am not responsible if anything goes wrong. (Level 3) | **0.656** | 0.081 | −0.177 |
| Success is achieved when I get my own needs met first and foremost. (Level 2) | **0.817** | 0.146 | −0.092 |
| I know I am successful when I look beyond my own standards for a successful outcome and integrate other standards that benefit more people. I choose the values, ideas, and solutions that allow others to be successful as well. (Level 5) | −0.036 | −0.019 | **0.781** |
| Success is achieved when I benefit from how things turned out. (Level 2) | **0.660** | 0.294 | 0.005 |
| Success means I won. It is as simple as that. (Level 2) | **0.716** | 0.173 | −0.187 |

**Table 5 (Cont.)**

| Items | Constructive developmental level: Instrumental (level 2) and socializing (level 3) | Self-authoring (level 4) | Self-transforming (level 5) |
|---|---|---|---|
| Although I have my own preferences, I feel successful when I remain flexible in selecting the standards I use to reach an effective solution. My team members have equally valid, yet different 'right' or 'successful' ways of doing things that we can use to achieve outcomes that are successful for everyone. (Level 5) | −0.169 | 0.179 | **0.706** |
| Success is achieved when I feel accepted by my team. When they do not accept me, it means they do not think I do a good enough job. (Level 3) | **0.621** | **−0.448** | 0.353 |

*Note.* Factor loadings > .400 are boldface. Factor loadings > .385 are italicized.

The EFA of the 15 Relating to Others items converged in seven iterations to produce a three-factor solution that explains 54.650% of the variance for Relating to Others items (see Table 6). The first Relating to Others factor explains 16.76% of the variance (eigenvalue = 2.51) and reflects Level 2 items, although two Level 3 items also load onto this factor. The second Relating to Others factor explains 10.01% of the variance (eigenvalue = 1.50) and represents Level 4 items. The final Relating to Others factor explains 27.88% of total variance (eigenvalue = 4.18) and represents Level 5 items, although three Level 3 items and one Level 4 item also load onto this factor. While it was disappointing that a four-factor structure did not emerge for Relating to Others, this process did allow for the identification of the weakest Relating to Others items.

**Table 6**

*Factor Loadings for Exploratory Factor Analysis with Promax Rotation of Relating to Others Items*

| | Constructive developmental level | | |
|---|---|---|---|
| Items | Instrumental (level 2) | Self-authoring (level 4) | Self-transforming (level 5) and socializing (level 3) |
| I primarily view my relationships as a series of transactions between people who either benefit me or act as barriers to my goals. (Level 2) | **0.845** | 0.164 | −0.199 |
| My relationships are important because they help me gauge my overall fit in the organization. If an important work relationship goes wrong, I may wonder if I still belong in the organization. (Level 3) | **0.569** | −0.002 | 0.199 |
| While my relationships are important to me, I am comfortable setting my own expectations for my performance at work, rather than letting others determine if and how I fit in. (Level 4) | 0.119 | **0.689** | −0.023 |
| My relationships are important to me because they help me understand who I am at work. (Level 3) | 0.313 | −0.062 | **0.594** |
| I primarily view my relationships in terms of recognizing multiple approaches to work. While I have my own standards, I want to know how others view their responsibilities, what is important to them, and how they interpret different situations. Knowing this helps me see the common threads between us that ultimately run the organization. (Level 5) | −0.202 | 0.217 | **0.733** |
| While my relationships are important to me, we give each other autonomy to operate how we want to operate, even if that means we do not always agree on how to do things. (Level 4) | −0.058 | *0.392* | **0.476** |
| I try to create relationships where we support each other, but I am not in control of how others feel–that is up to them. We both need to be able to speak frankly, evaluate what is said without feeling offended, and make up our own minds about how to do our jobs well. (Level 4) | −0.204 | 0.329 | 0.350 |
| I try to create relationships that have some sort of tangible benefit for me. (Level 2) | **0.790** | 0.185 | −0.017 |
| My relationships are important to me, but I do not expect others to make me feel good about the way I am doing things. Everyone has their own standards for how work should be done. (Level 4) | 0.211 | **0.800** | −0.007 |
| I try to create relationships that provide mutual affirmation. I feel better when others let me know I am doing my job well, so I spend a lot of time making sure that others feel good about themselves too. (Level 3) | 0.180 | *−0.387* | **0.642** |
| My relationships are important to me because I learn how to address others' performance in the way that is most important for them to hear. I connect their most important values with mine. Together we can improve to become the people we want to be. (Level 5) | 0.089 | −0.091 | **0.802** |

**Table 6 (Cont.)**

| Items | Constructive developmental level | | |
|---|---|---|---|
| | Instrumental (level 2) | Self-authoring (level 4) | Self-transforming (level 5) and socializing (level 3) |
| My relationships are important to me because they help me understand how different people make sense of what is important to them in their work. I want to get a complete picture of what others find meaningful so that I can support their growth in terms of effectiveness and overall well-being. (Level 5) | −0.064 | 0.007 | **0.824** |
| I primarily view my relationships in terms of how much they help me understand my strengths and weaknesses, so I can see how I can fit in better at work. (Level 3) | **0.403** | 0.000 | **0.505** |
| My relationships are important to me because I can learn what is most important for others and can then be helpful to them. I need to look beyond my own perspective to see what might be helpful from their perspective. (Level 5) | −0.141 | 0.112 | **0.769** |
| I primarily view my relationships as exchanges between myself and others who are also looking out for their own good. (Level 2) | **.727** | −0.038 | .012 |

*Note.* Factor loadings > .400 are boldface. Factor loadings > .385 are italicized.

Although all four EFAs failed to produce the expected four-factor structures for each topic dimension, each EFA allowed me to identify and delete problematic items that loaded on multiple factors. Because Level 3 and Level 5 items loaded together for the Feedback and Relating to Others topic dimensions and Level 2 and Level 3 items loaded together for the Leadership and Success topic dimensions, I computed Cronbach's alpha for each level by topic dimension, which yielded 16 sub-scales that were tested for their reliabilities. This was necessary for two reasons. First, I saw the factor analysis as an advisory tool conducted using a sample of only 220 respondents. Additionally, I have confidence in the expert review and other content validity exercises described in this study, which indicated that these items are conceptually distinct. A total of seven items were removed because they: (a) provided unclear factor loadings, and (b) decreased a subscale's overall reliability. The 16 subscales and their reliabilities include: Level 2 Feedback (3 items; $\alpha$ = .72), Level 3 Feedback, (3 items; $\alpha$ = .74) Level 4 Feedback (4

items; $\alpha$ = .67), Level 5 Feedback (4 items; $\alpha$ = .79), Level 2 Leadership (3 items; $\alpha$ = .73), Level 3 Leadership (4 items; $\alpha$ = .66), Level 4 Leadership (3 items; $\alpha$ = .62), Level 5 Leadership (4 items; $\alpha$ = .74), Level 2 Success (4 items; $\alpha$ = .83), Level 3 Success (3 items; $\alpha$ = .61), Level 4 Success (3 items; $\alpha$ = .52), Level 5 Success (4 items; $\alpha$ = .69), Level 2 Relating to Others (3 items; $\alpha$ = .75), Level 3 Relating to Others (4 items; $\alpha$ = .67), Level 4 Relating to Others (4 items; $\alpha$ = .53), and Level 5 Relating to Others (4 items; $\alpha$ = .84).

Theoretically, it may make sense that Level 2 and Level 3 loaded together in the Leadership and Success EFAs. The second and third orders of development share the characteristic of being more externally defined, or "outside-in," than internally defined, or "inside-out" (Eigel & Kuhnert, 2005, 2016; Kegan, 1994). Level 2 and Level 3 items in the Leadership and Success topic domains in particular demonstrate shared similarities with this outside-in concept. Level 2 items reflect how effective leadership and success are only achieved if one's goals, agendas, and needs are met. At Level 2, actions are based solely on these criteria, so there's no true internal reflection on what standards should be met to achieve effective leadership or success. Without the confirmation that people or other outside circumstances are contributing to one's own needs, there is no way for a Level 2 individual to conceptualize leadership or success. Comparatively, Level 3 items reflect the ability of outside sources of authority (i.e., relationships or the organization) to determine what effective leadership and success looks like.

Even though the Leadership and Success EFAs contained factors that combined Level 2 and Level 3, these factor loadings demonstrated that items from one Level loaded more strongly than items from the other Level. This suggests that the strongest loading Level best defines that factor, and the weaker loadings of the other Level may load onto the factor due to the outside-in

nature of Level 2 and Level 3 items. Future research should deploy the CDSR on larger sample sizes, which may allow Level 2 and Level 3 to load on separate factors.

Level 3 and Level 5 items may have loaded together in the Feedback and Relating to Others EFAs for two sensible reasons. First, the third and fifth orders of development share themes of interconnectedness, although for different reasons. At Level 3, interconnectedness with others and with external roles or ideologies is paramount to define oneself internally and find meaning in the world. At Level 5, however, interconnectedness is better understood as integration of other self-authored paradigms (Eriksen, 2006; Kegan, 1994; Eigel & Kuhnert, 2005, 2016). Because Level 5 individuals are oriented toward the connections and contradictions between the self-authored systems that were once subject at Level 4, certain Level 3 items that emphasize dependence with external sources may be mixed together. Additionally, Level 3 and Level 5 items may load onto a common factor due to conflating Level 3's emphasis on harmony, which may appear as high morale or pleasing external sources, with Level 5's emphasis on decoupling themselves from a single personal value-system and instead seeking values that pertain to broader entities, and thus form harmony between self-authored systems. This means that the concept of Level 3 harmony may be confused with the concept of Level 5 integrated universal values. Once again, the finding that items from one particular Level loaded noticeably more strongly than items from the other Level suggest that the Level 3 and Level 5 items share loadings due to this commonality with interconnectedness and may load on separate factors if sample size was increased.

*Creating the final level scales.* After computing four EFAs for the topic dimensions, four additional EFAs were conducted which included all common Level items together (e.g., all Level 2 items). After retaining factors that loaded with eigenvalues greater than 1.00 and loaded above

the bend of the scree plot, no clear one-factor structure emerged by Level. However, based on the reasoning just articulated (e.g., conceptual strength, sample size), Cronbach's alphas were run which included each remaining item by Level (e.g., all Level 2 items). The 57-item CDSR (see Appendix I for the CDSR organized by Level for easier interpretation) includes: 13 items for Level 2 ($\alpha$ = .89, $M$ = 3.59, $SD$ = 1.15), 14 items for Level 3 ($\alpha$ = .86, $M$ = 4.82, $SD$ = .92), 14 items for Level 4 ($\alpha$ = .76, $M$ = 5.48, $SD$ = .61), and 16 items for Level 5 ($\alpha$ = .91, $M$ = 5.73, $SD$ = .70). These reliabilities were judged to be moderate to strong. All subsequent data analyses were conducted with the 57-item CDSR.

## Chapter 4: Results

Intercorrelations between the variables used in the multiple regressions are reported in Table 7. A total of six, two stage hierarchical multiple regressions were conducted. The first, second, third, and fourth hierarchical multiple regressions test H1a through H1d and are presented in Table 8. These hierarchical multiple regressions include the following conflict communication strategies, respectively, as the dependent variables: control strategies, nonconfrontation strategies, solution-oriented strategies, and transformational strategies. The fifth and sixth hierarchical multiple regressions test H2 and are presented in Table 9. These hierarchical multiple regressions include the following perspective-taking scales, respectively as the dependent variables: the MPI scale and the PT scale. All relevant demographic and experiential variables (i.e., sex, age, education, years employed in the workforce, number of professional development activities engaged in, number of people managed, number of years in a management position, and management seniority) were entered at stage one of each regression to control for the impact of these variables. All CDSR Level scales (i.e., Instrumental Mind/Level 2, Socializing Mind/Level 3, Self-Authoring Mind/Level 4, and Self-Transforming Mind/Level 5) were entered at stage two.

**Table 7**

*Means, Standard Deviations, and Correlations of the CDSR, Conflict Communication, and Perspective-Taking Variables.*

| Variable | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. CDSR: instrumental (level 2) | 3.59 | 1.15 | — | | | | | | | | |
| 2. CDSR: socializing (level 3) | 4.82 | 0.92 | .57** | — | | | | | | | |
| 3. CDSR: self-authoring (level 4) | 5.48 | 0.61 | .18** | .32** | — | | | | | | |
| 4. CDSR: self-transforming (level 5) | 5.73 | 0.70 | −.09 | .41** | .65** | — | | | | | |
| 5. Conflict: control | 3.51 | 1.08 | .55** | .37** | .24** | .06 | — | | | | |
| 6. Conflict: nonconfrontation | 3.41 | 1.10 | .41** | .38** | −.18** | −.15* | .34** | — | | | |
| 7. Conflict: solution-oriented | 4.83 | 0.66 | .10 | .40** | .54** | .64** | .23** | .07 | — | | |
| 8. Conflict: transformational | 4.94 | 0.94 | −.05 | .26** | .62** | .66** | .11 | −.21** | .70** | — | |
| 9. Perspective-taking: MPI | 3.83 | 0.46 | −.20** | .05 | .47** | .52** | −.13† | −.41** | .44** | .54** | — |
| 10. Perspective-taking: PT | 3.84 | 0.59 | −.24** | .24** | .37** | .56** | −.15* | −.34** | .39** | .49** | .65** |

*Note*. M and SD are used to represent mean and standard deviation, respectively.
†$p = .05$. *$p < .05$. **$p < .01$.

Correlations between conflict communication strategy variables and CDSR scales reveal results generally supporting this study's hypotheses. Hypothesis 1a predicted that people at the second order of development (i.e., instrumental/Level 2) will prefer control strategies, and the two variables were significantly positively correlated ($r = .55$, $p < .001$). Instrumental/Level 2 also significantly positively correlated with nonconfrontation strategies, although to a lesser extent ($r = .41$, $p < .001$). Hypothesis 1b predicted that people at the third order of development (i.e., socializing/Level 3) will prefer nonconfrontation strategies and the two variables were significantly positively correlated ($r = .38$, $p < .001$). However, socializing/Level 3 also significantly positively related to all conflict management strategies (control: $r = .37$, $p < .001$; solution-oriented: $r = .40$, $p < .001$; transformational: $r = .26$, $p < .001$). Hypothesis 1c predicted that people at the fourth order of development (i.e., self-authored/Level 4) will prefer solution-

oriented strategies and results show a significant positive relationship ($r = .54$, $p < .001$). However, self-authored/Level 4 also significantly positively related to control strategies ($r = .24$, $p < .001$) and transformational strategies ($r = .62$, $p < .001$). Interestingly, self-authored/Level 4 significantly negatively related to nonconfrontation strategies ($r = -.18$, $p < .01$). Finally, hypothesis 1d predicted that people at the fifth order of development (i.e., self-transforming/Level 5) will prefer transformational strategies and the two were significantly positively related ($r = .66$, $p < .001$). In addition to this finding, self-transforming/Level 5 also significantly positively related to solution-oriented strategies ($r = .64$, $p < .001$) and significantly negatively related to nonconfrontation strategies ($r = -.15$, $p < .05$).

Correlations between perspective-taking variables and CDSR scales support hypothesis 2, which predicted that an increase in perspective-taking ability positively relates to constructive developmental order. Scores on the MPI scale corresponded with increasing constructive developmental orders: instrumental/Level 2 ($r = -.20$, $p < .01$), socializing/Level 3 ($r = .05$, $p = .44$), self-authoring/Level 4 ($r = .47$, $p < .001$), and self-transforming ($r = .52$, $p < .001$). Scores on the PT scale also corresponded with increasing constructive developmental orders: instrumental/Level 2 ($r = -.24$, $p < .001$), socializing/Level 3 ($r = .24$, $p < .001$), self-authoring/Level 4 ($r = .37$, $p < .001$), and self-transforming/Level 5 ($r = .56$, $p < .001$).

Additionally, there were a number of significant correlations between the Level scales. Instrumental/Level 2 was significantly positively related to Socializing/Level 3 ($r = .57$, $p < .001$) and significantly positively related to self-authoring/Level 4, although to a lesser extent ($r = 18.$, $p < .01$). Socializing/Level 3 was also strongly positively related to self-authoring/Level 4 ($r = .32$, $p < .001$) and self-transforming/Level 5 ($r = .41$, $p < .001$). Finally, self-authoring/Level 4 was significantly positively related to self-transforming/Level 5 ($r = .65$, $p < .001$). Although

the correlations are in the directions hypothesized for each conflict style and for overall perspective-taking scores, a more rigorous test of each hypothesis was needed to control for demographic (e.g., age) and experiential factors (e.g., management seniority).

However, given the significant correlations between the Level scales, it was necessary to test for multicollinearity before computing any regressions. Multicollinearity is the presence of "high levels of interdependence among predictors in a regression model" (Thompson, Kim, Aloe, Becker, 2017, p. 82). Multicollinearity is problematic because it can impact the stability of coefficients, making their results questionable, and can provide misleading statistical significance for the independent variables in regression models (Thompson et al., 2017). A common and effective way to detect multicollinearity is to compute the variance inflation factor (VIF). There is no agreed upon cutoff score to determine multicollinearity for VIF, but researchers generally state that a VIF above 10 indicates the presence of multicollinearity, while others propose a score above 5, and an even more conservative cutoff suggestion is above a score of 3 (Thompson et al., 2017; Yu, Jiang, & Land, 2015). For the present study, VIF scores for each Level scale combination ranged from 1.11 to 2.16. These scores indicate that multicollinearity is not a concern, and the hierarchical multiple regressions can be conducted and interpreted normally.

The first four hierarchical multiple regressions (Table 8) reveal multiple, significant predictors of respondents' preferences for the various conflict communication strategies. The first hierarchical multiple regression produced a final model that accounted for 39% of the total variance for respondents' use of control strategies, $F(4,207) = 17.95$, $p < .001$, $R^{2}_{Adjusted} = .35$. Step 1 of this hierarchical multiple regression included demographic and experiential control variables, which accounted for 18% of the variance for use of control strategies, $F(8,211) = 5.68$,

$p < .001$, where males were more likely to use control strategies ($\beta = -.27$, $p < .001$), higher education is significantly positively related ($\beta = .15$, $p < .05$), and number of years employed is partially significantly negatively related ($\beta = -.31$, $p = .05$). No other control variables were significant.

**Table 8**

*Hierarchical Multiple Regression Analyses Predicting Conflict Communication Strategies from Instrumental/Level 2, Socializing/Level 3, Self-Authoring/Level 4, and Self-Transforming/Level 5*

| | Conflict communication strategies | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Control | | Nonconfrontation | | Solution-oriented | | Transformational | |
| Predictor | $\Delta R^2$ | β | $\Delta R^2$ | β | $\Delta R^2$ | β | $\Delta R^2$ | β |
| Step 1 | .18*** | | .13*** | | .15*** | | .22*** | |
| Sex | | −.27*** | | −.11 | | .03 | | −.02 |
| Age | | .24 | | .23 | | .24 | | .08 |
| Education | | .15* | | .21** | | .13 | | −.04 |
| Years employed | | −.31† | | −.19 | | −.22 | | −.17 |
| Professional development | | .03 | | −.18** | | .18** | | .40*** |
| People managed | | .09 | | −.06 | | .01 | | .09 |
| Years managing | | −.11 | | −.19* | | −.09 | | .05 |
| Management seniority | | .01 | | −.02 | | .21** | | .14* |
| Step 2 | .21*** | | .22*** | | .36*** | | .35*** | |
| Sex | | −.14* | | −.06 | | .04 | | −.03 |
| Age | | .03 | | .12 | | .04 | | −.10 |
| Education | | .16** | | .18** | | .20*** | | .04 |
| Years employed | | −.07 | | .03 | | −.05 | | −.07 |
| Professional development | | .05 | | −.05 | | .03 | | .22*** |
| People managed | | .07 | | −.04 | | −.04 | | .05 |
| Years managing | | −.00 | | −.18* | | −.04 | | .11 |
| Management seniority | | −.11 | | −.03 | | .04 | | −.02 |
| Instrumental/Level 2 | | .44*** | | .19* | | .02 | | −.11 |
| Socializing/Level 3 | | .06 | | .37*** | | .11 | | .07 |
| Self-authoring/Level 4 | | .14 | | −.27** | | .19** | | .36*** |
| Self-transforming/Level 5 | | .00 | | −.09 | | .46*** | | .34*** |
| Total $R^2$ | .39*** | | .35*** | | .51*** | | .57*** | |

*Note*. $N = 220$.

†$p = .05$. *$p < .05$. **$p < .01$. ***$p < .001$.

Step 2 introduced the CDSR scales, which accounted for 21% of the variance for use of control strategies, $F(12,207) = 10.99$, $p < .001$. Hypothesis 1a, which predicted that instrumental/Level 2 significantly predicts use of control strategies, was supported ($\beta = .44$, $p < .001$). Additional findings in step 2 reveal that sex ($\beta = -.14$, $p < .05$) and education ($\beta = .16$, $p < .01$) are still significant predictors for use of control strategies. However, the following variable

became insignificant at step 2: number of years employed. No other variables were significant in step 2.

The second hierarchical multiple regression produced a final model that accounted for 35% of the total variance for respondents' use of nonconfrontation strategies, $F(4,207) = 17.40$, $p < .001$, $R^2_{Adjusted} = .31$. Step 1 of this hierarchical multiple regression included the same demographic and experiential control variables, which accounted for 13% of the variance for use of nonconfrontation strategies, $F(8,211) = 3.91$, $p < .001$. Education ($\beta = .21$, $p < .01$), number of professional development activities participated in ($\beta = -.18$, $p < .01$), and number of years in a management/supervisory position ($\beta = -.19$, $p < .05$) were the only significant demographic and experiential control variables.

Step 2 introduced the CDSR scales, which accounted for 22% of the variance for the use of nonconfrontation strategies, $F(12,207) = 9.22$, $p < .001$. Hypothesis 1b, which proposed that socializing/Level 3 significantly predicts use of nonconfrontation strategies, was supported ($\beta = .37$, $p < .001$). Education ($\beta = .18$, $p < .01$), number of years in a management/supervisory position ($\beta = -.18$, $p < .05$), instrumental/Level 2 ($\beta = .19$, $p < .05$), and self-authoring/Level 4 ($\beta = -.27$, $p < .01$) were also significant predictors of use of nonconfrontation strategies. The following variable became insignificant at step 2: number of professional development activities participated in. No other variables were significant in step 2.

The third hierarchical multiple regression produced a final model that accounted for 51% of the total variance for respondents' use of solution-oriented strategies, $F(4,207) = 38.30$, $p < .001$, $R^2_{Adjusted} = .48$. Step 1 of this hierarchical multiple regression included demographic and experiential control variables, which accounted for 15% of the variance for use of solution-oriented strategies, $F(8,211) = 4.52$, $p < .001$. Number of professional development activities

participated in (β = .18, $p < .01$) and management seniority (β = .21, $p < .01$) were the only significant demographic and experiential control variables.

Step 2 introduced the CDSR scales, which accounted for 36% of the variance for the use of solution-oriented strategies, $F(12,207) = 17.91$, $p < .001$. Hypothesis 1c, which proposed that self-authored/Level 4 significantly predicts use of solution-oriented strategies, was not supported (β = .19, $p < .01$) because self-transforming/Level 5 (β = .46, $p < .001$) was a more significant predictor for use of solution-oriented strategies. Education (β = .20, $p < .001$) became significant at step 2. The following variables became insignificant at step 2: number of professional development activities participated in and number of years in a management/supervisory position. No other variables were significant in step 2.

The fourth hierarchical multiple regression produced a final model that accounted for 57% of the total variance for respondents' use of transformational strategies, $F(4,207) = 42.16$, $p < .001$, $R_{2Adjusted} = .54$. Step 1of this hierarchical multiple regression included demographic and experiential control variables, which accounted for 22% of the variance for use of transformational strategies, $F(8,211) = 7.24$, $p < .001$. Number of professional development activities participated in (β = .40, $p < .001$) and management seniority (β = .14, $p < .05$) were the only significant demographic and experiential control variables.

Step 2 introduced the CDSR scales, which accounted for 35% of the variance for the use of transformational strategies, $F(12,207) = 22.64$, $p < .001$. Hypothesis 1d, which proposed that self-transforming/Level 5 significantly predicts use of transformational strategies, was partially supported (β = .34, $p < .001$) because self-authoring/Level 4 (β = .36, $p < .001$) was also a very significant predictor for use of transformational strategies. Number of professional development activities participated in (β = .22, $p < .001$) was another significant predictor for use of

transformational strategies. The following variable became insignificant at step 2: management seniority. No other variables were significant in step 2.

The final two hierarchical multiple regressions (Table 9) reveal multiple, significant predictors of respondents' perspective-taking scores. The fifth hierarchical multiple regression produced a final model that accounted for 41% of the total variance for respondents' scores on the MPI scale, $F(4,207) = 21.20$, $p < .001$, $R^{2}_{Adjusted} = .38$. Step 1 of this hierarchical multiple regression included demographic and experiential control variables, which accounted for 17% of the variance for MPI scores, $F(8,211) = 5.41$, $p < .001$. Females scored significantly more highly on the MPI than males (sex: $\beta = .17$, $p < .01$), and education ($\beta = -.14$, $p < .05$), number of professional development activities participated in ($\beta = .24$, $p < .001$), and management seniority ($\beta = .20$, $p < .01$) were also significant predictors for MPI scores. No other variables were significant in step 1.

**Table 9**

*Hierarchical Multiple Regression Analyses Predicting Perspective-Taking Scores from Instrumental/Level 2, Socializing/Level 3, Self-Authoring/Level 4, and Self-Transforming/Level 5*

| | Perspective-taking | | | |
|---|---|---|---|---|
| | MPI | | PT | |
| Predictor | $\Delta R^2$ | β | $\Delta R^2$ | β |
| Step 1 | .17*** | | .14*** | |
| Sex | | .17** | | .13* |
| Age | | −.11 | | .16 |
| Education | | −.14* | | −.19** |
| Years employed | | .09 | | −.12 |
| Professional development | | .24*** | | .25*** |
| People managed | | .10 | | .07 |
| Years managing | | .03 | | .03 |
| Management seniority | | .20** | | .15* |
| Step 2 | .24*** | | .28*** | |
| Sex | | .15* | | .05 |
| Age | | −.19 | | .06 |
| Education | | −.07 | | −.13* |
| Years employed | | .08 | | −.06 |
| Professional development | | .07 | | .12* |
| People managed | | .06 | | .06 |
| Years managing | | .06 | | .02 |
| Management seniority | | .10 | | .07 |
| Instrumental/Level 2 | | −.13 | | −.39*** |
| Socializing/Level 3 | | −.09 | | .31*** |
| Self-authoring/Level 4 | | .30*** | | .11 |
| Self-transforming/Level 5 | | .31** | | .26** |
| Total $R^2$ | .41*** | | .42*** | |

*Note*. $N$ = 220.

*$p$ < .05. **$p$ < .01. ***$p$ < .001.

Step 2 introduced the CDSR scales, which accounted for 24% of the variance for MPI scores, $F(12,207) = 12.05$, $p < .001$. Hypothesis 2, which proposed that increased perspective-taking scores positively relates to constructive developmental order, was supported (instrumental/Level 2: β = −.13, $p$ = .10; socializing/Level 3: β = −.09, $p$ = .26; self-authoring/Level 4: β = .30, $p < .001$; self-transforming/Level 5: β = .31, $p < .01$). Sex was the only other significant predictor in step 2, as females scored higher (β = .15, $p < .05$). The following variables became insignificant at step 2: education, number of professional development activities participated in, and management seniority.

The sixth and final hierarchical multiple regression produced a final model that accounted for 42% of the total variance for respondents' scores on the PT scale, $F(4,207) = 25.06$, $p < .001$,

$R^2_{Adjusted}$ = .39. Step 1 of this hierarchical multiple regression included demographic and experiential control variables, which accounted for 14% of the variance for PT scores, $F(8,211) = 4.27$, $p < .001$. Females scored significantly higher on the PT than males (sex: $\beta = .13$, $p < .05$), and education ($\beta = -.19$, $p < .01$), number of professional development activities participated in ($\beta = .25$, $p < .001$), and management seniority ($\beta = .15$, $p < .05$) were also significant predictors for MPI scores. No other variables were significant in step 1.

Step 2 introduced the CDSR scales, which accounted for 28% of the variance for PT scores, $F(12,207) = 12.50$, $p < .001$. Hypothesis 2, which proposed that increased perspective-taking scores positively relates to constructive developmental order, was not supported (instrumental/Level 2: $\beta = -.39$, $p < .001$; socializing/Level 3: $\beta = .31$, $p < .001$; self-authoring/Level 4: $\beta = .11$, $p = .18$; self-transforming/Level 5: $\beta = .26$, $p < .01$). Education ($\beta = -.13$, $p < .05$) and number of professional development activities participated in ($\beta = .12$, $p < .05$) were also significant predictors for PT scores. The following variables became insignificant at step 2: sex and management seniority. No other variables were significant in step 2.

# Chapter 5: Discussion

The primary goal of this project was to develop and validate a new self-report measure of Kegan's constructive developmental orders. To do this, I employed evidence-based best practices from scale development literature to develop the CDSR and tested two sets of hypotheses that, if supported, provide concurrent validity for the CDSR. The following section provides a discussion of the results on measurement development and validation. In addition, the limitations of this study and recommendations for future research are also provided.

## Measurement Development and Validation

Before any construct validation exercises were possible, rigorous and valid measurement development techniques needed to be ensured. To do this, I adopted theoretical-based item generation that utilized both inductive and deductive methods (Boateng et al., 2018; Morgado et al., 2018) to construct the CDSR. Rigorous item reduction and improvement was ensured through repetitive re-assessment by myself, my thesis advisor, and a panel of five expert reviewers. I assessed and provided evidence for content validity for the CDSR, which supports that the instrument does indeed reflect each CDT Level of development. Expert reviewers confirmed that each item included in the CDSR appropriately represents its intended constructs and recommended their inclusion in the deployment of the CDSR in subsequent reliability, dimensionality, and construct validity procedures.

Each scale used in the study proved to have adequate to very good internal consistency. Exploratory factor analyses were used to assess factor structures and construct validity. Although each Level of development failed to provide expected factor structures, it is quite possible that this is an outcome of a relatively small sample size, as previous expert validity exercises, overall scale reliabilities, and theoretical connections between orders of development adequately explain

why certain Levels may load together under different topic dimensions. These explanations support that each scale is still conceptually distinct and reliable. Additionally, factor analyses allowed me to identify and delete weaker items, which led to the 57-item CDSR used in all subsequent data analysis procedures/concurrent validity exercises.

**Hypothesis testing.** To provide concurrent validity evidence for the CDSR, I tested two sets of hypotheses. The first set of hypotheses, H1a through H1d, predicted that constructive developmental order should predict the types of conflict communication strategies people engage in. Many CDT researchers have connected how individuals make meaning of conflict differently depending on their Level of development (e.g., Eigel, 1998; Eigel & Kuhnert, 2005; Hayes & Popp, 2019; Hughes, 2019; Kuhnert, 2018; McCauley et al., 2006). By conducting a thorough literature review of conflict management within the CDT literature, it was predicted that people at Level 2 will prefer to use control strategies, Level 3 will prefer nonconfrontation strategies, Level 4 will prefer solution-oriented strategies, and Level 5 will prefer transformational strategies.

It is worth noting that the conflict communication literature asserts that people are not limited to using only one conflict management strategy. A number of contextual and dispositional factors influence one's approach of conflict management (Hughes, 2019; Putnam & Wilson, 1982; Taylor, 2010; Wilson & Waltman, 1988). However, people often do have preferences for which strategies they use more or less often (Putnam & Wilson, 1982; Rahim, 1983). Thus, although the CDT literature predicts that people at different Levels will prefer to use certain conflict communication strategies, it is also expected that they can use other conflict strategies as well. It is important to keep this in mind when interpreting the results from this

study. In fact, doing so provides a more nuanced explanation of the following interrelations. A deeper explanation of this is presented in the following paragraphs.

Two hypotheses (H1a and H1b) were fully supported, while the final two hypotheses (H1c and H1d) provided more complex answers. Hypothesis 1a predicted that people at the second order of development (i.e., instrumental/Level 2) are more likely to prefer control strategies. This hypothesis was supported, as Level 2 and control strategies were highly correlated. Additionally, after controlling for demographic and experiential variables, step 2 of a hierarchical multiple regression demonstrated that constructive developmental Level 2 is the greatest predictor for preference of control strategies. Although the regression models demonstrate that Level 2 is also a predictor for use of nonconfrontation strategies, this relationship is far less powerful than the relationship between Level 2 and control strategies. There is still clearly a preference for control strategies at Level 2 compared to nonconfrontation.

Hypothesis 1b predicted that people at the third order of development (i.e., socializing/Level 3) are more likely to prefer nonconfrontation strategies. Results support this hypothesis, as Level 3 and nonconfrontation strategies were highly correlated. The hierarchical multiple regressions provide greater clarity in support of H1b. The step two regression for nonconfrontation strategies demonstrated that Level 3 is the strongest predictor for preference of nonconfrontation strategies. Additionally, Level 3 was not a predictor for any other conflict communication strategy in the other regression models.

Hypothesis 1c predicted that people at the fourth order of development (i.e., self-authoring/Level 4) are more likely to prefer solution-oriented strategies. Level 4 and solution-oriented strategies were highly correlated, yet there were correlations between Level 4 and other conflict communication strategies as well. After interpreting the regression models, Level 4 has

clear preferences for not using nonconfrontation styles and for using solution-oriented strategies and transformational strategies. Although Level 4 does significantly predict the use of solution-oriented strategies, it more strongly predicts transformational strategies. This is a troubling finding for H1c. However, the result that Level 4 is significantly negatively predictive of using nonconfrontation strategies provides partial support for H1c. This is because the CDT literature supports that Level 4 individuals can be so defined by their self-authored system that accommodating or avoiding conflict may be in direct opposition of their self-authored paradigm (Eigel & Kuhnert, 2016). Level 4 individuals resist external influences on their internal value systems, so using nonconfrontation strategies to manage conflict is potentially threatening to their living by the personal values-systems that construct their realities.

Hypothesis 1d predicted that people at the fifth order of development (i.e., self-transforming/Level 5) are more likely to prefer transformational strategies. Results partially support this hypothesis, as Level 5 and transformational strategies were highly correlated, yet there were additional correlations. After turning to the regression models, Level 5 significantly predicts the use of both transformational and solution-oriented strategies, although Level 5 is a slightly stronger predictor for use solution-oriented strategies. Again, the results demonstrate a more complex interrelation. This finding is contrary to H1d, but the result that nonconfrontation strategies is not negatively predictive, as in the case with Level 4, provides partial support to H1d. CDT literature would support that because Level 5 individuals are no longer subject to their self-authored paradigms/internal value systems (Eigel & Kuhnert, 2005, 2016; Kegan, 1994), they would be more willing to apply nonconfrontation strategies because this tactic would no longer be threatening to their understanding of themselves and their worlds. Additionally, this

finding suggests that the Level 4 and Level 5 scales are distinct, and this distinction may in fact be the progression to a later Level of development.

To attain a more complete picture of the complex interactions revealed while testing H1c and H1d, I conducted a post-hoc EFA for the solution-oriented strategies and transformational strategies items using principal component analysis with Promax (oblique) rotation. Factors were retained if eigenvalues were above 1.00 and if factors loaded above the bend of the scree plot. Results from this EFA provided a two-factor structure. This factor structure revealed that transformational items loaded on the same factor as the six collaboration items within the solution-oriented strategies scale. The five compromise items within the solution-oriented strategies scale loaded on the second factor, with two of these items sharing loadings. Additionally, the reliability of these scales when combined is very high ($\alpha$ = .91).

This post-hoc analysis helps explain why results did not provide the relationships predicted in H1c and H1d. It appears that the transformational strategies scale did not effectively differentiate itself from solution-oriented strategies as intended. Thus, this scale failed to measure its intended construct of conflict strategies that would be used by Level 5 individuals. Given this result, an alternative explanation for the findings of H1c and H1d that accounts for the problematic factor loadings of the transformational strategies scale is in order. Although the scale was developed in a similar fashion as the CDSR, was based on CDT literature, and had high reliability, it may be more useful to throw out the transformational strategies scale altogether. As discussed, Level 5 is a stronger predictor for solution-oriented strategies compared to Level 4. Therefore, it may be the case that the solution-oriented scale does in fact adequately measure how Level 5 individuals manage conflict. As Level increases so does a preference for solution-oriented strategies, with later Levels appearing more predictive for use of solution-oriented

strategies in the hierarchical multiple regression model. Researchers of CDT would expect that later Levels of development would correspond to more nuanced conflict management capabilities. This interpretation provides a more supportive view for the concurrent validation of the CSDR. In future studies, researchers should identify other promising conflict-management instruments that may be able to tap into the distinctions of each Level of development.

Hypothesis 2 predicted that increased perspective-taking ability positively relates to constructive developmental order. This hypothesis was tested using two perspective-taking scales, the MPI and the PT, and was partially supported. An assessment of the correlations between both of the perspective-taking scales and the CDSR scales revealed an upward trend with higher scores corresponding with later Levels of development, which is supportive of H2. However, after conducting the hierarchical multiple regressions, more nuanced relationships appeared between the perspective-taking and CDSR scales. Step 2 of the regression for the MPI scale confirms the pattern of increasing perspective-taking scores with CDSR Level. Step 2 of the regression for the PT scale reveals that Level 2 is highly negatively predictive of PT scores (as expected), but Level 3 is the greatest predictor while Level 4 is insignificantly predictive and Level 5 is positively predictive although to a lesser extent compared to Level 3.

There are differences in the makeup of the MPI and PT scales that account for these results in support of H2. The MPI scale measures a person's ability to adopt multiple perspectives when making judgements, processing information, or forming decisions (Gorenflo & Crano, 1998). This includes taking another person's perspective as well as assessing multiple points of view on complex situations. This ability to assess multiple perspectives would be expected to increase as meaning-making complexity increases through the CDT Levels, and both the correlation table and step two of the hierarchical multiple regression demonstrate this. Level

2 scored the most negatively for the MPI scale, which supports claims from the CDT literature that Level 2 individuals have not yet developed their perspective-taking ability, as they are only concerned with meeting their needs/agendas and have no concept of outside perspectives (Hayes & Popp, 2019; Lewis & Kuhnert, 1987).

Level 3 became insignificant in the correlations table and became less negatively predictive in step two of the regression model. This suggests that perspective-taking ability indeed increased compared to Level 2. Yet, the ability for people to take multiple perspectives at Level 3 is insignificant in contrast to Level 4 and Level 5. The CDT literature explains that Level 3 individuals do not truly have an internal perspective that they own for themselves, but instead adopt external ideologies that define their perspectives on matters (Kegan, 1994). Without an internalized, self-authored value system to compare to, Level 3 individuals would have difficulty truly assessing multiple perspectives on given situations. They have not yet developed an ability to weigh outside perspectives against their own because they do not truly *have* an internal perspective to weigh. Rather, an externally based perspective *has them*. The lack of an internalized perspective also explains why Level 3 individuals are threatened by competing perspectives that contradict their externally based ideologies (Eigel & Kuhnert, 2016; Kegan, 1994; Kegan & Lahey, 2009). The results for the Level 3 scale and MPI scale support this interpretation.

Level 4 revealed a large increase in the correlation table and step 2 of the regression with the MPI scale. The CDT literature supports this increase in ability to take multiple perspectives because at Level 4, individuals have finally developed an internal value system and perspective they can compare other outside perspectives to. This is where comparisons between an internal perspective and multiple external perspectives truly becomes possible. Level 5 demonstrated

another increase, albeit slight, in the correlations table and step two of the regression model with the MPI scale. Level 5 individuals, with their ability to utilize everything they hold as object from the previous orders of development, possess the greatest perspective-taking ability. Again, this finding supports the overall hypothesis that perspective-taking and constructive developmental Level are significantly positively related.

The PT scale, on the other hand, is designed to measure one's ability to take the psychological point of view of another individual (Davis, 1983). Because Level 2 individuals have not yet developed the mental capabilities to understand the internal states of others (Kegan, 1994), it is expected that Level 2 and the PT scale would be significantly negatively predictive, which was supported by both the correlations table and step two of the hierarchical multiple regression. At Level 3, individuals learn to hold their own personal needs and agendas as object and become acutely aware of the internal states of other people (Eigel & Kuhnert, 2016; Kegan, 1994). Additionally, their meaning-making is primarily constructed around the external influences of their relationships, roles, and other outside authorities. Thus, it makes sense that Level 3 would be the greatest predictor for the PT scale, which primarily measures ability to take other peoples' perspectives. Taking the psychological point of view of other people is the primary meaning-making structure within Level 3 individuals that helps them understand themselves, others, and their worlds.

There is also a favorable interpretation for the Level 4 results on the PT scale. Level 4 individuals have developed the mental faculties to hold their relationships as object, instead of allowing them to define their understandings of themselves and their worlds. Thus, Level 4 may regress here as they reject the influence of external sources determining their internal values-systems. They are engrossed in their self-authored paradigm, and thus may become resistant to

other internal values-systems that are incompatible with their own (Eigel & Kuhnert, 2016; Kegan, 1994). Level 5 individuals regain this ability, as they are able to hold their internal self-authored paradigm objectively and re-assess it in light of other self-authored paradigms and universal principles. This interpretation supports H2.

Although the MPI and PT scales both claim to measure perspective-taking, the results of this study suggest that these scales measure two similar yet distinct concepts. Given constructive developmental research and theory, the MPI seems better suited to measure the increase in mental complexity derived from developmental progression into later Levels. Conversely, the PT is better suited to measure the transition between Level 2 and Level 3 because of its focus on becoming more aware of the internal states of others. The MPI scale, therefore, is the more appropriate scale to use in CDT research when assessing the full range of developmental progression.

**Relationships between CDSR level scales.** As discussed in the literature review, the Subject-Object Interview measures developmental Level along four gradients between any two Levels. This emphasizes how developmental movement is gradual and people demonstrate elements from both Levels as they transition between Levels (e.g., Level 3.2, 3.4, 3.6, 3.8). Additionally, individuals at later Levels are able to reach back to, or take as object, their ways of constructing meaning at the previous Levels. This means that they don't lose their understandings from the previous Levels, but they assimilate those previous ways of constructing meaning into their current Level of development. The former Level simply becomes one part of them instead of dominating the way they construct meaning.

It is important to grasp the interrelatedness of the Levels of development while interpreting the results from this study. Correlations between the CDSR Level scales generally

show that any one Level has a strong positive correlation with its earlier Level and later Level, if applicable (e.g., Level 2 has no earlier Level to compare to). This result suggests that a number of respondents answered the CDSR with preferences between two Levels of development. In turn, this provides evidence that items in the CDSR correctly demonstrate their intended gradual shifts in meaning-making from one Level to the next, which would be expected given SOI methodology and the premises of CDT. Additionally, this offers another potential explanation for why the EFAs revealed shared factor loadings. The exception to this interpretation is the presence of a strong positive correlation and shared factor loadings between the Level 3 scale and Level 5 scale. However, as explained in previous paragraphs, the connection between Level 3 and Level 5 items is likely due to the shared themes of interconnectedness and harmony.

Overall, after interpreting the results between the CDSR scales and the conflict communication strategy scales and perspective-taking scales, this study provides a good amount of support for the initial validation of the CDSR. What follows in the remainder of this study are implications of this new scale, key limitations of the study, and recommendations for future researchers.

**Implications**

The implications of providing initial validation for a new assessment of Kegan's constructive developmental Levels are important for a number of reasons, but primarily because the CDSR allows for a more feasible assessment of constructive developmental maturity, accelerates CDT research, ultimately expands access of vertical development resources to more people, and contributes to research on how communication changes over the life span. The SOI and other assessment tools measuring similar constructs are time-intensive, require trained experts to conduct procedures and analyze results, and are unaffordable. As a self-report

instrument, the CDSR addresses each of these problems which have made research and practical application in this field so difficult.

The benefits of adding a self-report instrument of the CDT Levels of development has enormous implications for CDT researchers. Researchers have long noted the feasibility limitations of applying the SOI to large studies, which has relegated CDT research to small sample sizes and provided conclusions that lack generalizability. As an easily deployable instrument, the CDSR can be used to accelerate research into a number of relevant domains for CDT outcome research, such as the impact of Level of development on leadership effectiveness and training and development interventions.

The results of this study show that the CDSR is a promising self-report instrument of constructive developmental Levels of maturity. With the addition of future validation studies, professional development and leadership development programs and interventions can apply the CDSR to assess constructive developmental Level and thus address needed areas of vertical growth. Similar CDT-based programs and interventions already exist, such as the immunity to change framework (Kegan & Lahey, 2009) and the interventions established around the Global Leadership Profile (GLP; Torbert & Herdman-Barker, 2013), the Harthill Leadership Development Profile (LDP; Torbert & Livne-Tarandach, 2009), and the Maturity Assessment Profile (MAP; Cook-Greuter, 2004). These interventions all address the need for vertical development. This tool can perhaps expand the reach of these programs, and the positive outcomes that they yield, to lower-level and mid-level leaders in organizations, or to leaders of organizations that otherwise would not have the time or resources to invest in the expensive aforementioned programs.

Additionally, the CDSR may be extended to practical application with entirely new vertical-development interventions. Kegan and Lahey (2016) suggest that to assist in vertical development for employees and leaders in organizations, one must be able to identify the individual's Level of developmental maturity and then provide appropriate development activities that are a good match for that Level. For example, in some of his earlier work, Kegan (1980) describes how an intervention that matched the second stage of adult development spurred on developmental movement for an individual from Level 2 to Level 3. As a result, this person became more employable and a better fit for work in organizations.

Likewise, practitioners using the CDSR should carefully interpret individuals' results and provide appropriate interventions that match respondents' Levels of development. For example, someone may score with a clear preference at Level 3, another person at Level 4, and still another with high scores on both, indicating a transition between Levels 3 and 4. The intervention created to develop a Level 3 person should not be the same intervention for the Level 4 person, nor should it be the same intervention for the person making the 3–4 transition. Each Level and each transition requires its own unique development program. Ultimately, it is beyond the scope of this study to design such interventions, but future researchers should address the potential of the CDSR to extend vertical development.

Finally, this study provides useful contributions in the realm of Life Span Communication (LSC) Theory. Not only does the CDSR provide a new assessment tool that can explain why and predict how communication develops throughout a lifetime, but this study provides a fresh theoretical framework, CDT, that can be applied in communication research. Conversely, this study demonstrates that communication research can make worthy contributions to adult development literature. Not only is communication research propelled by the CDT

framework (and the CDSR), but the adult developmental psychology literature also receives assistance from the communication discipline. As the premises of CDT explain, humans develop over the course of a lifetime as a result of time and experience (Kegan, 1982, 1994). Construction of reality, one's way of meaning-making, develops not in isolation, but as a result of experience with life events and other people. Thus, this construction may be better understood as "co-construction." Indeed, Kegan and Lahey (2016) have recently addressed how organizations can deliberately develop their employees, in essence participating in co-construction. In this sense, communication research has enormous, largely untapped, potential to explain how communicative acts of co-construction may spur developmental movement.

**Limitations and Future Research**

The limitations of this study reveal a need to continue the validation process for the CDSR. Future studies should make every effort to acquire a larger and more diverse sample. This study had an adequate, yet still relatively small sample size of 220 people representative of the target population of working adults in positions of leadership/management. A larger sample may provide clearer factor structures in the exploratory factor analyses. Unfortunately, EFAs did not produce the expected four-factor structure representing each Level of development for each topic dimension. Additionally, EFAs of each Level failed to load onto a single factor. Not only can larger sample studies resolve this potentially problematic outcome, but it can also allow for more sophisticated data analysis procedures such as confirmatory factor analysis and path modeling. Future researchers may also elect to choose alternative EFA approaches to investigate the factor structure of the CDSR, such as Principal Axis Factoring and Maximum Likelihood.

Future researchers can provide further validation for the CDSR by comparing CDSR scores to results from other CDT-based assessment tools (e.g., the SOI, GLP, LDP, MAP). The

ultimate test of validity for the CDSR, which was infeasible and beyond the scope of this study, would be to compare individual scores between the SOI and the CDSR.

Another limitation has to do with item development. Although this study took appropriate measures to ensure valid scale development, I only had access to a handful of published SOI transcripts and excerpts to generate items from. I requested full SOI transcripts from several authors, but none were able to grant me access due to privacy and confidentiality concerns. This limitation certainly influenced scale development processes and restricted the types of subject-object material represented in the CDSR. It would be a monumental and infeasible task to generate an exhaustive list of potential items that cover the full range of possibilities that are represented in the subject-object structures of SOIs, but future researchers with access to SOI transcripts are encouraged to take an inquisitive look at their transcripts to identify ways to convert more SOI data into a self-report format. This will allow for the refinement and improvement of the CDSR or addition of future self-report instruments of Kegan's constructive developmental Levels.

**Conclusion**

The aim of this project was to begin to fill an important need in the fields of professional development and Constructive Developmental Theory. I argued that comprehensive professional development must address vertical development in addition to horizontal development. Currently, vertical development resources are only available to a select few, largely due to the expertise, time, and cost of vertical development assessment tools (i.e., the SOI or any of the other assessments of developmental maturity). This study addresses this problem by developing a valid and reliable assessment of constructive developmental Level for working professionals in positions of leadership/management. In sum, the outcome of this study offers a promising

instrument for assessing adult developmental maturity using the framework provided by Kegan's constructive developmental theory.

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# Appendices

## Author Note

This research was supported in part by grants from the Department of Communication at The University of Arkansas.

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## Appendix A: Expert Review of the Constructive Developmental Self-Report (CDSR)

Hello Expert Reviewers:

Thank you for assisting me with developing this scale. Below, you will find four topic areas (Feedback, Leadership, Success, and Relating to Others) that past researchers have investigated to identify different orders of development within Kegan's constructive developmental theory. Constructive developmental theory states that people experience qualitative shifts in their personal epistemological structures over time, and that these shifts have identifiable patterns that can be organized into distinct developmental orders. Each topic area contains items designed to approximate how someone at each of the four relevant constructive developmental orders—also called Levels of development and Leadership Development Level (LDL)—might respond.

These items have already been refined from a broader list and are formatted to begin with a common sentence stem. These stems help ensure that the "content" of the items remains relatively similar throughout the Levels while the Subject-Object "structure" changes to reflect the intended Level of development. Each item is intended to be a rich "bit" of relevant Subject-Object structure. This may sound confusing, but I think you will see what I mean once you begin reading through the items.

Here is what I'm asking you to do:

1. Read through the document and answer the questions along the way. You are asked to read the descriptions of each Level of development and each item of the proposed Constructive Developmental Self-Report (CDSR) instrument.
2. The following document has self-report scales for providing your review. After reviewing an item, please respond to the corresponding 5-point scales which ask you to assess how accurately each item matches its intended Level of development, how clear each item is, and whether each item should be deleted or kept.
3. If you have a suggestion for how an item(s) could be improved, please let me know. I'm interested to know what may be missing from each item, what should be added, and what should be removed. Text boxes are provided throughout the document to record your comments or suggestions.

I have attached descriptions of each Level of development for your reference.

### Level 2 Key Descriptors

People at the second order of development…

1. See themselves, the world, and others through the lens of personal goals and agendas
2. Are unable to reflect on their goals/agendas.
3. Are concrete in their thinking, utilize basic categorical and rules-based thinking, see the world through simple rules and laws, and–although they know that others have feelings and desires–they are unable to empathize with other people to take the perspective of said feelings and desires.
4. See their position with others in win/lose, right/wrong, and black/white terms.
5. Are largely self-centered, are motivated by self-interest and believe that others are also primarily motivated by self-interest.

6. See others as either helpers or barriers to their own needs and desires.

From Harris and Kuhnert (2008, pp. 49-50):

> Leaders at LDL 2 occupy the least sophisticated level of development; they understand the world simplistically. At this level, leaders see the world as black and white, win or lose. They cannot recognize shades of gray or the subtleties of most situations. Leaders cannot consider alternatives, nor can they see others' perspectives. Individuals at LDL 2 see different opinions as wrong. Leaders do not integrate differing opinions because they have not developed the ability to weigh the importance of others' opinions against their own. Such leadership might prove extremely detrimental to an organization. Without the ability to integrate the input of followers, a leader is sure to fail. LDL 2 leaders operate by an unbending set of rules they expect others to follow. LDL 2 leaders focus exclusively on their own needs, commit to winning at all costs, and struggle to maintain relationships, due to a lack of trust from their followers. Leaders at this level prove ineffective, and less than 10 percent of leaders in organizations today operate at this level (Eigel, 1998; Kegan, 1994).

***As you look at the ITEMS in each section (e.g., FEEDBACK) think about the questions that fit BEST within that section. Look closely at the items within that section and recommend which to delete from within that section since I'm going to have to pair the list down on the final survey. Respond to the scale below by clicking the box with the number associated with your view of the statement. Clicking the box should place an X through the box.***

| **Level 2 Items** | Accuracy for Level 2 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |
|---|---|---|---|
| **The first 7 items look at the topic of FEEDBACK.** | | | |
| 1. Feedback is important because it can ultimately help me get what I want. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 2. Feedback is unnecessary because I am certain in my perspective–which is almost always right. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 3. Feedback is unnecessary because there is no point in talking about why we disagree or don't get along–I'm going to support the option that best benefits my goals. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 4. Feedback is unnecessary because people should see my decisions as generally correct. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 5. Feedback is unnecessary especially if it gets in the way of making the decision I know to be the best one. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |

| | | | |
|---|---|---|---|
| 6. When receiving evaluative feedback, I rarely find it useful because I prefer to do things my way at work. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 7. Receiving evaluative feedback is difficult to accept because such feedback makes it seem like I'm in the wrong and I lose. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| **The next 6 items look at the topic of LEADERSHIP.** | Accuracy for Level 2 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |
| 8. As a leader, it is important to get my team to see things my way. Otherwise, I see them as opposed to me because there is really only one way I think we should go. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 9. As a leader, it is important to identify the people whom I can rely on to help me achieve my goals in ways that best benefit me in the end. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 10. When leading others, I'm confident my way is the best, so if they don't support it I see it as a personal loss. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 11. When leading others, I can get frustrated when my team won't support my solutions because they are the best–otherwise I wouldn't have proposed them. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 12. I know I'm being a good leader when I can use my team to help me achieve my goals. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 13. I know I'm being a good leader when my team successfully does what I tell them to do in ways that further my agenda. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| **The next 8 items look at the topic of SUCCESS** | Accuracy for Level 2 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |
| 14. Success means I won. It's as simple as that. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 15. Success means I came out on top. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 16. Success is achieved when I benefit from how things turned out. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |

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| 17. Success is achieved when I get my own needs met first and foremost. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 18. I feel successful when I convince others to adopt my ideas because I want to be right and win. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 19. I feel successful when I get what I want, because it's important to look out for yourself. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 20. I know I'm successful when it turns out that I was right and my way worked. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 21. I know I'm successful when I convince others that I'm right in a situation. If I can't convince them, it feels like a personal loss. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| **The next 7 items look at the topic of RELATING TO OTHERS** | Accuracy for Level 2 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |
| 22. I primarily view my relationships as a series of transactions between people who either benefit me or act as barriers to my goals. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 23. I primarily view relationships as exchanges between myself and others who are also looking out for their own good. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 24. My relationships are important, but if someone is not helping me reach my needs or goals, I find it difficult to really care about them. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 25. My relationships are important, but everyone is trying to get what they want for themselves, so I view my relationships as a series of transactions. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 26. My relationships are important because we help each other get what we want. I will help those who will help me in return. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 27. I try to create relationships that have some sort of tangible benefit for me. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 28. I try to create relationships with people who can help me reach my goals. If they do, I am likely to help them in return. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |

Do you have any comments for how any Level 2 items could be improved? I'm interested to know what may be missing from each item, what should be added to each item, and what should be removed from each item. If so, please include the item number(s) along with your comments.

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**Level 3 Key Descriptors**

People at the third order of development…

1. Establish and maintain connection with other important people and important external affiliations (such as a political party, religion, or even the external identity of being perceived as a 'good manager' or 'good mother').
2. Seek out interconnectedness, which may reveal itself in identification with roles/responsibilities or enmeshment in personal relationships. Interconnectedness may be directed toward important people, ideologies, groups, affiliations, roles, and responsibilities. They may connect with some sort of group or ideology, idealize it, and seek identification with it.
3. Commonly confuse their identities with their roles. 'I am an accountant,' as opposed to, 'I am a person who practices accounting'" (Eigel & Kuhnert, 2016, p. 111).
4. Are harmonious in their groups and are concerned with how they perceive others perceiving them. Relationships have the power to determine what a person is like, what they are good at, how they feel, and what they should do.
5. Make their well-being especially vulnerable to outside circumstances and the well-being of others. They crave harmony, are highly empathetic, more indirect in communicating feedback, prefer high morale, seek out positive feedback in their roles, and want to feel valued.
6. When forced into making a decision that involves upsetting others, such as addressing subordinates' problematic behaviors, they face intense discomfort and would prefer to ignore that behavior–often compromising their values and to the detriment of the organization.
7. Realize the world becomes more complex, gray areas appear, abstract and hypothetical ideas become more apparent, can compromise with others, and seek connection with institutions.

From Harris and Kuhnert (2008, p. 50):

> At LDL 3, leaders are capable of recognizing others' viewpoints. They recognize the limitations of LDL 2 rationale, because they now have perspective on lower level sense making, as such rationale becomes object. Leaders here are better equipped to see shades of gray and understand it is impossible to always win. They internalize, empathize, and often adopt others' perspectives (Eigel and Kuhnert, 2005). Acknowledging the ideas of others is paramount to increasing success within the organization and makes leaders at this level more effective. This level of development is not without its drawbacks, because leaders still depend on input from outside sources to make decisions. The opinions of others matter more, and leaders risk making decisions by depending on those who may lack the appropriate expertise. Leaders cannot always rely on others' guidance but must turn within to seek solutions. Leaders remain defined by their relationships, which they must maintain to preserve their identity. They receive external information not only from those in direct contact, but also from a variety of sources, including, but not limited to, periodicals and books prescribing

leadership rhetoric, community leaders, politicians, and others portrayed in the media. Leaders at this stage can make decisions but may not own their decisions like an LDL 4 or LDL 5 leader (Eigel and Kuhnert, 2005). The focus on relationships that defines this level is the lens the leader cannot see; therefore, it is the subject of LDL 3.

***As you look at the ITEMS in each section (e.g., FEEDBACK) think about the questions that fit BEST within that section. Look closely at the items within that section and recommend which to delete from within that section since I'm going to have to pair the list down on the final survey. Respond to the scale below by clicking the box with the number associated with your view of the statement. Clicking the box should place an X through the box.***

| **Level 3 Items** | Accuracy for Level 3 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |
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| **The first 7 items look at the topic of FEEDBACK.** | | | |
| 29. Feedback is important because it can boost our group's morale, but it stops being useful when people start getting upset. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 30. Feedback is important because without it I have little insight into how effectively I am meeting my group's expectations. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 31. Feedback is important because without it I'm not sure how useful I am in the eyes of others. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 32. Feedback is important because it helps me make decisions I otherwise might not feel confident making. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 33. Feedback is important because it's important to get along with everyone. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 34. After receiving evaluative feedback, I start worrying about how others see me. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 35. When receiving evaluative feedback, I often feel personally attacked, which impacts how I see myself and others. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| **The next 6 items look at the topic of LEADERSHIP.** | Accuracy for Level 3 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |

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| 36. As a leader, although I'd like things to go my way, it is important that my team views me favorably because that's how I can be sure I'm leading effectively. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 37. As a leader, rather than relying on myself, it is important to identify the people who can help me make up my mind. If they are on board, then I know I can trust my decision. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 38. When leading others, I rely on credible people in my team to decide what decision should be made–otherwise, how could I know the best option? | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 39. When leading others, I sacrifice what's important to me in order to achieve others' goals and prove my worth to my organization. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 40. I know I'm being a good leader when my team likes and accepts me, has high morale, and isn't distracted by our differences. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 41. I know I'm being a good leader when I get confirmation that my team fulfilled the expectations that were set for us by my organization. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| **The next 8 items look at the topic of SUCCESS** | Accuracy for Level 3 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |
| 42. Success means my team members are in complete agreement. If there is not complete buy-in from everyone, then the process probably will not succeed. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 43. Success means that my team members agree with each other. I am uncomfortable when we start disagreeing because this makes people think less of each other. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 44. Success is achieved when I prove myself to my team and they recognize me for my contribution. Their affirmation helps me feel successful. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |

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| 45. Success is achieved when I feel accepted by my team. When they don't accept me, it means they don't think I do a good enough job. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 46. I feel successful when I meet my organization's expectations. If I do what I've been told to do, then I did my part and am not responsible if anything goes wrong. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 47. I feel successful when I receive clear expectations for the most desirable outcome. Without clear expectations about what the outcome should be, it's difficult to measure success. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 48. I know I'm successful when I take the advice of an expert who knows the process and how to make the best decisions. Why reinvent the wheel when we already have a perfectly good one? | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 49. I know I'm successful when I look to experts who offer trustworthy opinions or clear expectations for how similar decisions have been made in the past. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| **The next 7 items look at the topic of RELATING TO OTHERS** | Accuracy for Level 3 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |
| 50. I primarily view my relationships in terms of how much they help me understand my strengths and weaknesses, so I can see how I can fit in better at work. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 51. My relationships are important because they help me gauge my overall fit in the organization. If an important work relationship goes wrong, I may wonder if I still belong in the organization. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 52. My relationships are important to me because they let me know how well I'm performing at work. If an important work relationship goes wrong, I may wonder if the organization still values me and my contributions. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |

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| 53. My relationships are important to me because they help me understand who I am at work. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 54. My relationships are important to me. If someone is upset by their unsatisfactory performance, it's not appropriate for me to pile on or else they might totally crumble. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 55. My relationships are important to me because they let me know when I'm doing a good job at work. It is important we confirm that others are doing a good job because this positively impacts how people feel about themselves. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 56. I try to create relationships that provide mutual affirmation. I feel better when others let me know I'm doing my job well, so I spend a lot of time making sure that others feel good about themselves too. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |

Do you have any comments for how any Level 3 items could be improved? I'm interested to know what may be missing from each item, what should be added to each item, and what should be removed from each item. If so, please include the item number(s) along with your comments.

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**Level 4 Key Descriptors**

People at the fourth order of development…

1. Are able to internalize the outside opinions around them and take an objective perspective on them.
2. Have an internal understanding of their own beliefs and values–they derive their sense of self from within instead of from supervisors, friends, self-help books, or political affiliations
3. Are more likely to take responsibility for their behaviors, circumstances, well-being, and relationships instead attributing cause to external forces. If things are going poorly in their lives, they first look at how they could be responsible for making improvements in those circumstances.
4. Are highly self-motivated, self-directed, and self-evaluative. They apply their own standards to live by and criticize and support themselves from how authentically they live up to their self-authored values.

From Harris and Kuhnert (2008, p. 50):

> Level 4. Understanding comes from within at LDL 4. LDL 4 leaders distinguish themselves through independence and their capacity to sever ties with outside sources to make effective decisions. Outside sources merit consideration, but the leader analyzes such information objectively and sees it as only one factor in the decision-making process. Everything subject in lower LDLs has become object. Therefore, an LDL 4 leader can see the lens through which he or she looked while at LDL 3. Leaders can now use the understanding of traditional rules,

winning and losing, perspectives of others, and input from outside sources to create a more complex comprehension of the world (Eigel and Kuhnert, 2005). Previous experiences help leaders create their own point of view, which is instrumental in developing a vision for the organization. Researchers suggest leaders here evince a more transformational style of leadership (Kuhnert and Lewis, 1987). LDL 4 is where effective leadership truly begins.

***As you look at the ITEMS in each section (e.g., FEEDBACK) think about the questions that fit BEST within that section. Look closely at the items within that section and recommend which to delete from within that section since I'm going to have to pair the list down on the final survey. Respond to the scale below by clicking the box with the number associated with your view of the statement. Clicking the box should place an X through the box.***

| **Level 4 Items** | Accuracy for Level 4 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |
|---|---|---|---|
| **The first 7 items look at the topic of FEEDBACK.** | | | |
| 57. Feedback is important because it means everyone can voice disagreements and think for themselves so that we arrive at the most effective solution. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 58. Feedback is important because others raise issues I can compare my own internal standards and principles against. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 59. Feedback is important because it provides me with another tool I can use to gauge how well I am living up to my own internal standards and principles. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 60. Feedback is important because it helps me assess different ideas and arrive at an effective solution I can then take responsibility for executing. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 61. Although feedback is important, I look to my own internal value system rather than following peoples' expectations of me when knowing the right thing to do. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 62. After receiving evaluative feedback, I compare it to my own standards and principles and do what I think will be best considering the new information without worrying what others will think of me. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |

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| 63. After receiving evaluative feedback, I objectively assess what was said without feeling offended because I am ultimately in control of making decisions consistent with my own values, standards and principles. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| **The next 6 items look at the topic of LEADERSHIP.** | Accuracy for Level 4 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |
| 64. As a leader, although it is nice to have my team view me favorably, it is important to lead from my own set of values and standards which shouldn't be compromised even if they upset my team. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 65. As a leader, it is important to identify people who I can rely on to speak their mind, even if we disagree, because I can assess what is said without getting upset and then make the best decision. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 66. When leading others, I want everyone on my team to be able to make their own decisions–that way, we are not restricted by anyone else and can apply our own ideas of what will work. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 67. When leading others, people's opinions are important, but ultimately I must buy into the direction we are going so I can take full responsibility for the decision. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 68. I know I'm being a good leader when I listen to other's input and make decisions consistent with my values and principles, even if they are unpopular or upset people. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 69. I know I'm being a good leader when I listen to other's input, come to a solution that is consistent with my own values and principles, and take responsibility for implementing the solution. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| **The next 8 items look at the topic of SUCCESS** | Accuracy for Level 4 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |

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| 70. Success means that although I consider my teams' wishes and viewpoints, I remain true to my way of doing things even if it upsets others. If we can't disagree with each other, how can we respect each other? | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 71. Success means that my team members disagree, but we can evaluate each other's ideas without hurt feelings. Without everyone speaking their minds, how can I support the approach that best meet the standards I believe in? | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 72. Success is achieved when I evaluate myself and know that I was authentic to my personal standards. I support or criticize myself based on how closely I align with my standards–regardless of what is said about me. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 73. Even if I get pushback from my team members, success is achieved if this pushback helps me better reach my standards. I'm not concerned about pleasing others–I want to do my job to the best of my ability. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 74. I feel successful when, rather than only meeting the organization's standards, I remain true to my own personal standards, do what I know to be effective, and take responsibility if I fail. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 75. I feel successful when I develop my own ideas for what will work, even if I go against a recommended way to accomplish an assigned task. I'd rather apply my own process than follow what was done before. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 76. I know I'm successful when I can objectively assess what a credible source says and develop my own solution. As trustworthy as an expert may be, their information is just one part of my decision-making process and shouldn't determine what I think. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |

| | | | |
|---|---|---|---|
| 77. I know I'm successful when I combine expert opinion with my own critical evaluation and arrive at an idea of what I should do. I prefer to come up with my own process that I feel confident in implementing. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| **The next 7 items look at the topic of RELATING TO OTHERS** | Accuracy for Level 4 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |
| 78. I primarily view relationships as occurring between people who make their own choices about how to feel at work. Just because someone disagrees with me doesn't mean I feel worse about myself. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 79. While my relationships are important to me, I'm comfortable setting my own expectations for my performance at work, rather than letting others determine if and how I fit in. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 80. While my relationships are important to me, we give each other autonomy to operate how we want to operate, even if that means we don't always agree on how to do things. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 81. While my relationships are important to me, and others may be right, I speak my mind because I can't let people define who I am or what I'm going to say. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 82. My relationships are important to me, and I realize when I share my assessment of other's performance I can't control how they are going to feel. Telling others my honest opinion is the best thing for me to do. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 83. My relationships are important to me, but I don't expect others to make me feel good about the way I'm doing things. Everyone has their own standards for how work should be done. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |

| | | | |
|---|---|---|---|
| 84. I try to create relationships where we support each other, but I'm not in control of how others feel–that's up to them. We both need to be able to speak frankly, evaluate what is said without feeling offended, and make up our own minds about how to do our jobs well. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |

Do you have any comments for how any Level 4 items could be improved? I'm interested to know what may be missing from each item, what should be added to each item, and what should be removed from each item. If so, please include the item number(s) along with your comments.

| |
|---|
| |

**Level 5 Key Descriptors**

People at the fifth order of development…

1. Know their personal values are still meaningful, but those values become incorporated within bigger-picture, more global values that benefit more than just themselves and include their family, community, organization, society, or even the world.
2. Resist either-or, dichotomous perspectives and instead understand the world as different tensions on a spectrum. As a result, they are more comfortable in the face of apparent paradoxes and contradictions.
3. In setting aside their personal value system as object, these people connect their values to overarching, global 'fifth order values,' such as openness, honesty, courage, justice, selflessness, productivity, service, respect for the inherent value of others, authenticity, and vulnerability.
4. Are not beholden to a single particular value-system or way of knowing themselves, others, or the world, and have a variety of different paradigms to choose from which are not at all alien to them and instead are seen as parts of themselves. Thus, they seek integration between others. They connect their values-systems with others to gain a more complete view of reality and a more complete view of how people are integrated.

From Harris and Kuhnert (2008, p. 50):

> The very best leaders occupy LDL 5. Few leaders, however, reach this level. Past research shows approximately 5-8 percent of adults in the general population between the ages of 40 and 60 would be considered LDL 5 leaders (Eigel, 1998; Kegan, 1994). A paradigm shift characterizes this level; leaders demonstrate an entirely new understanding of the world. Leaders stand back, take perspective on, and objectively evaluate the paradigms that defined them at LDL 4. A paradigm at LDL 4 is a leader's stereotypical way of seeing things. At LDL 5, leaders welcome the influence of others' paradigms. They can see into a situation and themselves at the same time. Leaders remain open to internal reports on their performance (i.e. 360-degree feedback), their likes and dislikes, and their impact on followers (Eigel and Kuhnert, 2005). Leaders ground themselves in their values but stay open to others' opinions and experiences. While guided by a core set of values or principles, leaders integrate their vision with that of others. This ability to "walk in other people's shoes" characterizes LDL 5 leaders, making them the most effective in organizations (Eigel, 1998).

***As you look at the ITEMS in each section (e.g., FEEDBACK) think about the questions that fit BEST within that section. Look closely at the items within that section and recommend which to delete from within that section since I'm going to have to pair the list down on the final survey. Respond to the scale below by clicking the box with the number associated with your view of the statement. Clicking the box should place an X through the box.***

| **Level 5 Items** | Accuracy for Level 5 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |
|---|---|---|---|
| **The first 7 items look at the topic of FEEDBACK.** | | | |
| 85. Feedback is important because it can influence my preferred way to accomplish our goal as I integrate other peoples' ideas to develop a broader understanding of what is effective. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 86. Feedback is important because hearing others' viewpoints helps me set aside my view of things to see how everyone's principles fit together to accomplish something we all believe in. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 87. Feedback is important because it helps me see how I can reach my own standards while allowing others to express themselves in ways that contribute to their own growth and transformation. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 88. Feedback is important because it helps us arrive at good solutions that I can support while creating an atmosphere where people feel safe to challenge each other and grow personally. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 89. Feedback is important because it expands my own value system as I learn to see things from other perspectives and develop a more complete view of reality. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 90. Receiving evaluative feedback lets me make better decisions, changes how I view the world, helps others develop more complex perspectives, and reveals how our perspectives fit together. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |

| | | | |
|---|---|---|---|
| 91. Receiving evaluative feedback allows me to re-examine what I believe to be worthy values and principles by exposing my values and principles to challenging ideas. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| **The next 6 items look at the topic of LEADERSHIP.** | Accuracy for Level 5 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |
| 92. As a leader, I seek to meet my own standards, but sometimes it is important to transform my standards in ways that allow me to unite my team under a bigger picture vision. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 93. As a leader, it is important to identify the people who can provide the widest array of perspectives, because when I hear a variety of perspectives I can see the underlying truths that connect them and then make a better decision. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 94. When leading others, I not only meet my own standards, but I connect these standards with what each person on my team values so that everyone understands how our values relate. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 95. When leading others, I recognize that I can personally grow if I step back from my own values and preferred leadership approach to remain open to contradictions that may change the way I lead. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 96. I know I'm being a good leader when I can objectively evaluate my own standards in light of important values like openness, honesty, courage, justice, selflessness, productivity, service, respect for the inherent value of others, authenticity, and vulnerability. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 97. I know I'm being a good leader when I am open to evaluating how my standards may positively or negatively impact my team members and make adjustments in order to contribute to their ongoing personal development. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |

| **The next 8 items look at the topic of SUCCESS** | Accuracy for Level 5 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |
|---|---|---|---|
| 98. Success means that, while I can apply my own way of doing things, I must not get so wrapped up in my own ideas of how to proceed that I don't see the truth to other approaches. I have to step away from my perspective to see other equally valid ways of how success can be achieved for other people too. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 99. Success means that I'm able to step back from my initial criteria for success and re-evaluate it in light of my teammates' ways for achieving success. I want to see how the truth of my take on things intertwines with the truth of entirely different perspectives to create a more informed idea of how to best achieve success. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 100. Success is achieved not by how effectively the solution appears to be by my own evaluation, but by how it helps other people be successful–how it benefits my team, organization, community, or even society. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 101. Success is achieved when I value how my teammates assess a situation because they see things that I overlook. Success involves combining multiple true aspects from many different perspectives rather than a single way of doing things. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 102. I feel successful when I step back from my initial idea of what the best solution would be. My initial evaluation is only one way of understanding the situation. Alternative solutions give me a more complex, better overall picture and lead to more successful outcomes. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |

| | | | |
|---|---|---|---|
| 103. I feel successful when, although I have my own preferences, I remain flexible in selecting the standards I use to reach a successful solution. My team members have equally valid standards they use to generate solutions. Using our different 'right' or 'successful' ways of doing things we can achieve outcomes everyone sees as successful. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 104. I know I'm successful when I pay attention to things experts pick up on that I typically don't notice. They offer different approaches, standards, or values that I can combine with my original approach to discover the best outcome that benefits everyone on the team. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 105. I know I'm successful when I look beyond my own standards for a successful outcome to find a better solution that benefits more people. I choose the values, ideas, and solutions that allow others to be successful as well. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| **The next 7 items look at the topic of RELATING TO OTHERS** | Accuracy for Level 5 (1=Not at All Accurate; 5= Very Accurate) | Item is Clear (1=Not Clear at All; 5= Very Clear) | Delete/Keep (1=Definitely Delete; 5= Definitely Keep) |
| 106. I primarily view my relationships in terms of recognizing multiple approaches to work. While I have my own standards, I want to know how others view their responsibilities, what's important to them, and how they interpret different situations. Knowing this helps me see the common threads between us that ultimately run the organization. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 107. My relationships are important to me because they help me understand how different people make sense of what is important to them in their work. I want to get a complete picture of what others find meaningful so that I can support their growth in terms of effectiveness and overall well-being. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |

| | | | |
|---|---|---|---|
| 108. My relationships are important to me because they inform me of entirely different, equally true and valid ways to do things. When I connect my perspective with theirs, I can better understand how to help the organization to run effectively, and that insight is priceless. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 109. My relationships are important to me because I can learn what is most important for others so I can be helpful to them. I need to look beyond my own perspective to see what might be helpful from their perspective. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 110. My relationships are important to me because I learn how to address others' performance in the way that is most important for them to hear. I connect their most important values with mine. Together we can improve to become the people we want to be. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 111. My relationships are important to me because I want to see how our different yet equally valid standards connect to overarching universal principles we can agree upon. My standards are not the same that others have for themselves. Once we find our common ground, we can achieve more together than if we only used own separate standards. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |
| 112. I try to create relationships that allow us to use different equally true and valid ways to do our jobs well. My interpretation of things will always be incomplete, so relationships are important because of the different standards, values, and ways of viewing the world. | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ | 1 2 3 4 5<br>☐☐☐☐☐ |

Do you have any comments for how any Level 5 items could be improved? I'm interested to know what may be missing from each item, what should be added to each item, and what should be removed from each item. If so, please include the item number(s) along with your comments.

## Appendix B: Informed Consent Form

### A New Measure for Assessing Kegan's Constructive Developmental Orders

**Consent to Participate in a Research Study**
You are invited to participate in a research study. Research studies involve only individuals who choose to participate. Please take your time to make your decision.

**Why Have I Been Asked to Participate in This Study?**
You have been invited to participate in a research study about conflict communication strategies, perspective-taking, and adult development. You are being asked to participate in this study because you are an adult of legal age who works in a professional organization and who has some form of a leadership position in that organization. We ask that you read this consent form and ask any questions you may have before agreeing to participate in this study. The following is a brief description of the project and your rights as a research participant.

**What Is the Purpose of This Study?**
The purpose of this study is to validate a new measure of adult development.

**Who Will Participate in This Study?**
We will ask 200 people who work in various organizations across the United States and who also have some form of a leadership position in their organization. All participants will be 18 to 70 years old.

**What Am I Being Asked to Do?**
To participate in this study, you will be asked to answer a series of survey questions. These questions ask about your experiences with others at your place of work, your perceptions, your attitudes, and your intended behaviors.

**How Long Will This Study Last?**
The study should take approximately 35 minutes to complete. You will only participate in this study once.

**What Are the Possible Risks or Discomforts of This Study?**
There are no known risks associated with this study.

**Will I Be Compensated for Taking Part in This Study?**
You will be monetarily compensated for completing this study. Compensation will range from $7.00 to $8.00. There is no other compensation for participating in this study.

**Will I Have to Pay for Anything?**
You will not have to pay anything to participate in this study.

**What Are My Rights as A Participant?**
Taking part in this study is voluntary. You may choose not to participate or may leave the study at any time. If you agree to take part in the study and then decide against it, you can withdraw for any reason without penalty.

**How Will My Confidentiality Be Protected?**
All information will be kept confidential to the extent allowed by applicable State and Federal law and University of Arkansas policy. The data collected will not include any identifying information.

**Will I Know the Results of The Study?**
At the conclusion of the study you will have the right to request feedback about the results. You may contact the Principal Investigator, Tom Coker, by email at tom.p.coker@gmail.com.

**Whom Do I Contact If I Have Questions or Problems?**
You have the right to contact the Principal Investigator or Faculty Supervisor as listed below for any concerns that you may have or for any questions about your rights as a study participant.

Principal Investigator:
Tom Coker
tom.p.coker@gmail.com

Faculty Supervisor:
Dr. Myria Allen
myria@uark.edu

You may also contact the University of Arkansas Research Compliance office listed below if you have questions about your rights as a participant, or to discuss any concerns about, or problems with the research.

Ro Windwalker, CIP
Institutional Review Board Coordinator
Research Compliance
University of Arkansas
109 MLKG Building
Fayetteville, AR 72701-1201
479-575-2208
irb@uark.edu

By clicking the "I agree" button below, you are agreeing to participate in this study under the conditions described. You have not given up any of your legal rights or released any individual or institution from liability or negligence. You also understand the purpose of the study, the potential benefits and risks that are involved, and that participation is voluntary. Finally, you have been given an opportunity to ask questions and receive answers. Thank you for your assistance in this research project.

The information in the above consent form has been explained to me and I understand it. I agree to participate in this study. I am 18 years of age or older.
( ) I agree
( ) I disagree

## Appendix C: Demographic Items

1. What is your sex?
   Male
   Female
   Other (please specify) _____

2. What is your race? (Select all that apply)
   White or Caucasian
   Black or African American
   Spanish, Hispanic, or Latino
   Asian or Asian American
   American Indian or Alaska Native
   Native Hawaiian or other Pacific Islander
   Some other race (please specify) _____

3. What is your age in years? _____

4. What is the highest level of school you have completed or the highest degree you have received?
   Less than high school degree
   High school graduate (high school diploma or equivalent including GED)
   Some college but no degree
   Associate degree in college (2-year)
   Bachelor's degree in college (4-year)
   Master's degree
   Doctoral degree
   Professional degree (JD, MD)

5. Which of the following categories best describes your employment status?
   Employed, working 40 or more hours per week
   Employed, working 1-39 hours per week
   Not employed, looking for work
   Not employed, NOT looking for work
   Retired
   Disabled, not able to work

6. How many years have you been employed in the workforce? _____

7. What is the industry of your profession?
   Public for-profit
   Private for-profit
   Not-for-profit
   Government or Municipal
   Educational or Academic
   Self-employed

Military
Other (please specify) _____

8. What is the approximate size of your organization?
   1-10 employees
   11-50 employees
   51-200 employees
   201-500 employees
   501-1,000 employees
   1,001-5,000 employees
   5,001-10,000 employees
   10,000+ employees

9. Q9 Have you participated in any of the following professional development activities? (Select all that apply)
   Formal leadership development program
   Received mentoring
   Received cross-training
   Received one-on-one business or executive coaching
   Organization-sponsored management training or workshop
   Other (please specify) _____

10. Are you currently in a management or supervisory position?
    No
    Yes

    10a. If Yes: How many people do you currently manage or supervise? _____

    10b. If Yes: How many years have you held a management or supervisory position? _____

    10c. If Yes: Which of the following categories best describes your management level?
    First-level
    Mid-level
    Upper-level
    Senior Management

    10d. If No: Have you been in a management or supervisory position recently (within the past 12 months)?
    No
    Yes

        10e. If Yes: How many people did you manage or supervise? _____

        10f. If Yes: How many years did you hold a management or supervisory position? _____

10g. Which of the following categories best describes your recent management level?
First-level
Mid-level
Upper-level
Senior Management

## Appendix D: Organizational Communication Conflict Instrument (OCCI): Form B

*Instructions*: Think of disagreements you have encountered in a particular task situation with other people employed at your organization. Then, indicate below how frequently you engage in each of the described behaviors. For each statement select the number that represents the behavior you are **most likely** to exhibit. There are no right or wrong answers. Please respond to the following items on the 7-point scale ranging from *Never* to *Always*.

11. I blend my ideas with people in my organization to create new alternatives for resolving a disagreement.

12. I shy away from topics which are sources of disputes with people in my organization.

13. I make my opinion known in a disagreement with people in my organization.

14. I suggest solutions which combine a variety of viewpoints.

15. I steer clear of disagreeable situations.

16. I give in a little on my ideas when people in my organization also give in.

17. I avoid people in my organization when I suspect that they want to discuss a disagreement.

18. I integrate arguments into a new solution from the issues raised in a dispute with people in my organization.

19. I will go 50–50 to reach a settlement with people in my organization.

20. I raise my voice when I'm trying to get people in my organization to accept my position.

21. I offer creative solutions in discussions of disagreements.

22. I keep quiet about my views in order to avoid disagreements.

23. I give in if people in my organization will meet me halfway.

24. I downplay the importance of a disagreement.

25. I reduce disagreements by making them seem insignificant.

26. I meet people in my organization at a midpoint in our differences.

27. I assert my opinion forcefully.

28. I dominate arguments until people in my organization understand my position.

29. I suggest we work together to create solutions to disagreements.

30. I try to use ideas from people in my organization to generate solutions to problems.

31. I offer trade-offs to reach solutions in a disagreement.

32. I argue insistently for my stance.

33. I withdraw when people in my organization confront me about controversial issues.

34. I side-step disagreements when they arise.

35. I try to smooth over disagreements by making them appear unimportant.

36. I insist my position be accepted during a disagreement with people in my organization.

37. I make our differences seem less serious.

38. I hold my tongue rather than argue with people in my organization.

39. I ease conflict by claiming our differences are trivial.

40. I stand firm in expressing my viewpoints during a disagreement with people in my organization.

*Note.* Items 13, 20, 27, 28, 32, 36, and 40 are control strategies. Items 12, 15, 17, 22, 24, 25, 33, 34, 35, 37, 38, and 39 are nonconfrontation strategies. Solution-oriented strategies contain collaboration (items 11, 14, 18, 21, 29, and 30) and compromise (items 16, 19, 23, 26, and 31).

## Appendix E: Transformational Conflict Strategies

41. I ask questions when engaged in conflict to understand the perspectives of people in my organization.

42. I talk about how this conflict may encourage greater mutual understanding.

43. I communicate that this conflict can be used to transform our way of understanding each other.

44. I state that our being in conflict is important to gain a more holistic understanding of the problem at hand.

45. I express that I welcome conflict so that the people involved feel comfortable expressing their disagreements.

46. I voice my values while still being open to the other experiences and opinions being suggested.

47. I speak to others during disagreements in ways that result in mutual growth and understanding.

48. I encourage a healthy process of conflict, which is more important than getting to a ‘right’ answer.

49. In disagreements, I seek out differing opinions besides my own to uncover underlying connections.

50. When faced with disagreements, I inquire how different viewpoints contribute to a common goal, which is more important than any single person’s stance on a matter.

## Appendix F: The Multiple Perspectives Inventory (MPI)

*Instructions*: Please indicate the extent to which you agree or disagree with each of the following statements. Respond to the following items on the 5-point scale ranging from *Strongly Disagree* to *Strongly Agree*.

51. I am good at solving riddles.

52. I have a hard time understanding where some people are "coming from."

53. When I have a problem, I can usually think of different ways I might solve it.

54. It's easy to think about political issues from perspectives different from my own.

55. I think about different alternatives when making decisions.

56. I am good at "crawling inside" people's heads.

57. During conversation, I find it easy to take the other person's point of view.

58. I reserve judgment until I've considered all angles.

59. It is hard to see the world from someone else's perspective.

60. I find it difficult to "put myself in other people's shoes."

61. I usually don't think of all the things I have to do before I do them.

62. In an argument, I always consider the other person's viewpoint.

63. It is hard for me to think of more than one thing at a time.

64. I am open-minded.

65. In order to make the right decision, I consider the viewpoint that is opposite to mine.

66. I would have a difficult time being an actor because my "self" would keep intruding into the character.

67. I like considering opposing viewpoints.

68. I am not very good at thinking abstractly.

*Note*: Items 52, 59, 60, 61, 63, 66, and 68 are reverse-coded.

## Appendix G: The Perspective-Taking (PT) Subscale of the Interpersonal Reactivity Index (IRI)

69. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

70. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.

71. I sometimes try to understand my friends better by imagining how things look from their perspective.

72. I believe that there are two sides to every question and try to look at them both.

73. I sometimes find it difficult to see things from the "other guy's" point of view.

74. I try to look at everybody's side of a disagreement before I make a decision.

75. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

*Note*: Items 70 and 73 are reverse-coded.

## Appendix H: The Constructive Developmental Self-Report (CDSR)

*Instructions*: Think about the people you know and interact with at your place of work. With these people in mind, indicate how much each of the following describes your thoughts, feelings, and actions of giving and/or receiving feedback. Please respond to all items on the 7-point scale ranging from *Not at All Like Me* to *Very Much Like Me*.

76. Feedback is unnecessary because people will see my decisions as generally correct.

77. Feedback is important because without it I am not sure how useful I am in the eyes of others.

78. Feedback is important because it expands my own value system as I learn to see things from other perspectives and develop a more comprehensive view of situations.

79. Feedback is important because it is important to get along with everyone.

80. Receiving negative feedback allows me to re-examine what I believe to be worthy values and principles by exposing my values and principles to challenging ideas.

81. Feedback is important because it helps me assess different ideas and arrive at an effective solution I can then take responsibility for executing.

82. Feedback is important because hearing others' viewpoints helps me set aside my view of things to see how everyone's principles fit together to accomplish something we all believe in.

83. Feedback is unnecessary because there is no point in talking about why we disagree or do not get along–I am going to support the option that best benefits my goals.

84. Feedback is important because it helps me make decisions I otherwise might not feel confident making.

85. Feedback is important because it means everyone can voice disagreements and think for themselves so that we arrive at the most effective solution.

86. After receiving negative feedback, I compare it to my own standards and principles and do what I think will be best considering the new information without worrying what others will think of me.

87. Feedback is important because it can influence my preferred way to accomplish our goal as I integrate other people's ideas to develop a broader understanding of what is effective.

88. After receiving negative feedback, I objectively assess what was said without feeling offended because I am ultimately in control of making decisions consistent with my own values, standards and principles.

89. Feedback is unnecessary especially if it gets in the way of making the decision I know to be the best one.

*Note*: Items 76, 83, and 89 are Level 2; items 77, 79, and 84 are Level 3; items 81, 85, 86, and 88 are Level 4; and items 78, 80, 82, and 87 are Level 5.

*Instructions*: Think about the situations where you are a leader at your place of work. With these leadership situations in mind, indicate how much each of the following items describes your thoughts on effective leadership and your actions as a leader. Please respond to all items on the 7-point scale ranging from *Not at All Like Me* to *Very Much Like Me*.

90. As a leader, it is important to get my team to see things my way.

91. When leading others, I rely on credible people in my team to decide what decision should be made–otherwise, how could I know the best option?

92. As a leader, although it is nice to have my team view me favorably, it is important to lead from my own set of values and standards which should not be compromised even if they upset my team.

93. When leading others, I recognize that I can personally grow if I step back from my own values and preferred leadership approach to remain open to contradictions that may change the way I lead.

94. As a leader, although I would like things to go my way, it is important that my team views me favorably because that is how I can be sure I am leading effectively.

95. I know I am being a good leader when I listen to others' input and make decisions that are consistent with my values and principles, even if they are unpopular or upset people.

96. I know I am being a good leader when I am open to evaluating how my standards may positively or negatively impact my team members and make adjustments in order to contribute to their ongoing personal development.

97. I know I am being a good leader when everyone on my team gets along with each other.

98. As a leader, it is important to identify the people who can provide the widest array of perspectives, because when I hear a variety of perspectives I can see the underlying truths that connect them and then make a better decision.

99. Although I seek to meet my own standards as a leader, it is sometimes important to change my standards in ways that unite my team under a broader vision.

100. I know I am being a good leader when my team successfully does what I tell them to do in ways that further my agenda.

101. When leading others, I sacrifice what is important to me in order to achieve others' goals or prove my worth to my organization.

102. I know I am being a good leader when I listen to others' input, come to a solution that is consistent with my own values and principles, and take responsibility for implementing the solution.

103. As a leader, it is important to identify the people whom I can rely on to help me achieve my goals in ways that best benefit me in the end.

*Note*: Items 90, 100, and 103 are Level 2; items 91, 94, 97, and 101 are Level 3; items 92, 95, and 102 are Level 4; and items 93, 96, 98, and 99 are Level 5.

*Instructions*: Think about the instances where you have experienced success at your place of work. Then, indicate how much each of the following items describes how you identify or experience success. Please respond to all items on the 7-point scale ranging from *Not at All Like Me* to *Very Much Like Me*.

104. Success means that my team members agree with each other. I am uncomfortable when we start disagreeing–because this makes people think less of each other.

105. Even if I get pushback from my team members, success is achieved if this pushback helps us reach our standards.

106. Success is achieved when I evaluate myself and know that I was authentic to my personal standards. I support or criticize myself based on how closely I align with my standards–regardless of what is said about me.

107. I know I am successful when I pay attention to things experts pick up on that I typically do not notice. They offer different approaches, standards, or values that I can combine with my original approach to discover the best outcome that benefits everyone on the team.

108. I know I am successful when I convince others that I am right in a situation because if I cannot convince them it feels like a personal loss.

109. I know I am successful when I combine expert opinion with my own critical evaluation and arrive at an idea of what I should do.

110. I feel successful when I step back from my initial idea of what the best solution would be. My initial evaluation is only one way of understanding the situation. Alternative solutions give me a more complex, better overall picture and can lead to more successful outcomes.

111. I feel successful when I meet my organization's expectations. If I do what I have been told to do, then I did my part and I am not responsible if anything goes wrong.

112. Success is achieved when I get my own needs met first and foremost.

113. I know I am successful when I look beyond my own standards for a successful outcome and integrate other standards that benefit more people. I choose the values, ideas, and solutions that allow others to be successful as well.

114. Success is achieved when I benefit from how things turned out.

115. Success means I won. It is as simple as that.

116. Although I have my own preferences, I feel successful when I remain flexible in selecting the standards I use to reach an effective solution. My team members have equally valid, yet different 'right' or 'successful' ways of doing things that we can use to achieve outcomes that are successful for everyone.

117. Success is achieved when I feel accepted by my team. When they do not accept me, it means they do not think I do a good enough job.

*Note*: Items 108, 112, 114, and 115 are Level 2; items 104, 111, and 117 are Level 3; items 105, 106, and 109 are Level 4; and items 107, 110, 113, and 116 are Level 5.

*Instructions*: Think about the people you personally know at your place of work. With these people in mind, indicate how much each of the following items describes how you view your relationships. Please respond to all items on the 7-point scale ranging from *Not at All Like Me* to *Very Much Like Me*.

118. I primarily view my relationships as a series of transactions between people who either benefit me or act as barriers to my goals.

119. My relationships are important because they help me gauge my overall fit in the organization. If an important work relationship goes wrong, I may wonder if I still belong in the organization.

120. While my relationships are important to me, I am comfortable setting my own expectations for my performance at work, rather than letting others determine if and how I fit in.

121. My relationships are important to me because they help me understand who I am at work.

122. I primarily view my relationships in terms of recognizing multiple approaches to work. While I have my own standards, I want to know how others view their responsibilities, what is important to them, and how they interpret different situations. Knowing this helps me see the common threads between us that ultimately run the organization.

123. While my relationships are important to me, we give each other autonomy to operate how we want to operate, even if that means we do not always agree on how to do things.

124. I try to create relationships where we support each other, but I am not in control of how others feel–that is up to them. We both need to be able to speak frankly, evaluate what is said without feeling offended, and make up our own minds about how to do our jobs well.

125. I try to create relationships that have some sort of tangible benefit for me.

126. My relationships are important to me, but I do not expect others to make me feel good about the way I am doing things. Everyone has their own standards for how work should be done.

127. I try to create relationships that provide mutual affirmation. I feel better when others let me know I am doing my job well, so I spend a lot of time making sure that others feel good about themselves too.

128. My relationships are important to me because I learn how to address others' performance in the way that is most important for them to hear. I connect their most important values with mine. Together we can improve to become the people we want to be.

129. My relationships are important to me because they help me understand how different people make sense of what is important to them in their work. I want to get a complete picture of what others find meaningful so that I can support their growth in terms of effectiveness and overall well-being.

130. I primarily view my relationships in terms of how much they help me understand my strengths and weaknesses, so I can see how I can fit in better at work.

131. My relationships are important to me because I can learn what is most important for others and can then be helpful to them. I need to look beyond my own perspective to see what might be helpful from their perspective.

132. I primarily view my relationships as exchanges between myself and others who are also looking out for their own good.

*Note*: Items 118, 125, and 132 are Level 2; items 119, 121, 127, and 130 are Level 3; items 120, 123, 124, and 126 are Level 4; and items 122, 128, 129, and 131 are Level 5.

**Appendix I: The Constructive Developmental Self-Report (CDSR) Organized by Level of Development**

| Topic dimension | CDSR items |
|---|---|
| | Level 2 |
| Feedback | |
| | 1. Feedback is unnecessary because people will see my decisions as generally correct. |
| | 2. Feedback is unnecessary because there is no point in talking about why we disagree or do not get along–I am going to support the option that best benefits my goals. |
| | 3. Feedback is unnecessary especially if it gets in the way of making the decision I know to be the best one. |
| Leadership | |
| | 4. As a leader, it is important to get my team to see things my way. |
| | 5. I know I am being a good leader when my team successfully does what I tell them to do in ways that further my agenda. |
| | 6. As a leader, it is important to identify the people whom I can rely on to help me achieve my goals in ways that best benefit me in the end. |
| Success | |
| | 7. I know I am successful when I convince others that I am right in a situation because if I cannot convince them it feels like a personal loss. |
| | 8. Success is achieved when I get my own needs met first and foremost. |
| | 9. Success is achieved when I benefit from how things turned out. |
| | 10. Success means I won. It is as simple as that. |
| Relating to others | |
| | 11. I primarily view my relationships as a series of transactions between people who either benefit me or act as barriers to my goals. |
| | 12. I try to create relationships that have some sort of tangible benefit for me. |
| | 13. I primarily view my relationships as exchanges between myself and others who are also looking out for their own good. |
| | Level 3 |
| Feedback | |
| | 14. Feedback is important because without it I am not sure how useful I am in the eyes of others. |
| | 15. Feedback is important because it is important to get along with everyone. |
| | 16. Feedback is important because it helps me make decisions I otherwise might not feel confident making. |
| Leadership | |
| | 17. When leading others, I rely on credible people in my team to decide what decision should be made–otherwise, how could I know the best option? |

| | |
|---|---|
| | 18. As a leader, although I would like things to go my way, it is important that my team views me favorably because that is how I can be sure I am leading effectively. |
| | 19. I know I am being a good leader when everyone on my team gets along with each other. |
| | 20. When leading others, I sacrifice what is important to me in order to achieve others' goals or prove my worth to my organization. |
| Success | |
| | 21. Success means that my team members agree with each other. I am uncomfortable when we start disagreeing–because this makes people think less of each other. |
| | 22. I feel successful when I meet my organization's expectations. If I do what I have been told to do, then I did my part and I am not responsible if anything goes wrong. |
| | 23. Success is achieved when I feel accepted by my team. When they do not accept me, it means they do not think I do a good enough job. |
| Relating to others | |
| | 24. My relationships are important because they help me gauge my overall fit in the organization. If an important work relationship goes wrong, I may wonder if I still belong in the organization. |
| | 25. My relationships are important to me because they help me understand who I am at work. |
| | 26. I try to create relationships that provide mutual affirmation. I feel better when others let me know I am doing my job well, so I spend a lot of time making sure that others feel good about themselves too. |
| | 27. I primarily view my relationships in terms of how much they help me understand my strengths and weaknesses, so I can see how I can fit in better at work. |
| | Level 4 |
| Feedback | |
| | 28. Feedback is important because it helps me assess different ideas and arrive at an effective solution I can then take responsibility for executing. |
| | 29. Feedback is important because it means everyone can voice disagreements and think for themselves so that we arrive at the most effective solution. |
| | 30. After receiving negative feedback, I compare it to my own standards and principles and do what I think will be best considering the new information without worrying what others will think of me. |
| | 31. After receiving negative feedback, I objectively assess what was said without feeling offended because I am ultimately in control of making decisions consistent with my own values, standards and principles. |
| Leadership | |
| | 32. As a leader, although it is nice to have my team view me favorably, it is important to lead from my own set of values and standards which should not be compromised even if they upset my team. |

| | |
|---|---|
| | 33. I know I am being a good leader when I listen to others' input and make decisions that are consistent with my values and principles, even if they are unpopular or upset people. |
| | 34. I know I am being a good leader when I listen to others' input, come to a solution that is consistent with my own values and principles, and take responsibility for implementing the solution. |
| Success | |
| | 35. Even if I get pushback from my team members, success is achieved if this pushback helps us reach our standards. |
| | 36. Success is achieved when I evaluate myself and know that I was authentic to my personal standards. I support or criticize myself based on how closely I align with my standards–regardless of what is said about me. |
| | 37. I know I am successful when I combine expert opinion with my own critical evaluation and arrive at an idea of what I should do. |
| Relating to others | |
| | 38. While my relationships are important to me, I am comfortable setting my own expectations for my performance at work, rather than letting others determine if and how I fit in. |
| | 39. While my relationships are important to me, we give each other autonomy to operate how we want to operate, even if that means we do not always agree on how to do things. |
| | 40. I try to create relationships where we support each other, but I am not in control of how others feel–that is up to them. We both need to be able to speak frankly, evaluate what is said without feeling offended, and make up our own minds about how to do our jobs well. |
| | 41. My relationships are important to me, but I do not expect others to make me feel good about the way I am doing things. Everyone has their own standards for how work should be done. |
| | Level 5 |
| Feedback | |
| | 42. Feedback is important because it expands my own value system as I learn to see things from other perspectives and develop a more comprehensive view of situations. |
| | 43. Receiving negative feedback allows me to re-examine what I believe to be worthy values and principles by exposing my values and principles to challenging ideas. |
| | 44. Feedback is important because hearing others' viewpoints helps me set aside my view of things to see how everyone's principles fit together to accomplish something we all believe in. |
| | 45. Feedback is important because it can influence my preferred way to accomplish our goal as I integrate other people's ideas to develop a broader understanding of what is effective. |
| Leadership | |

| | |
|---|---|
| | 46. When leading others, I recognize that I can personally grow if I step back from my own values and preferred leadership approach to remain open to contradictions that may change the way I lead. |
| | 47. I know I am being a good leader when I am open to evaluating how my standards may positively or negatively impact my team members and make adjustments in order to contribute to their ongoing personal development. |
| | 48. As a leader, it is important to identify the people who can provide the widest array of perspectives, because when I hear a variety of perspectives I can see the underlying truths that connect them and then make a better decision. |
| | 49. Although I seek to meet my own standards as a leader, it is sometimes important to change my standards in ways that unite my team under a broader vision. |
| Success | |
| | 50. I know I am successful when I pay attention to things experts pick up on that I typically do not notice. They offer different approaches, standards, or values that I can combine with my original approach to discover the best outcome that benefits everyone on the team. |
| | 51. I feel successful when I step back from my initial idea of what the best solution would be. My initial evaluation is only one way of understanding the situation. Alternative solutions give me a more complex, better overall picture and can lead to more successful outcomes. |
| | 52. I know I am successful when I look beyond my own standards for a successful outcome and integrate other standards that benefit more people. I choose the values, ideas, and solutions that allow others to be successful as well. |
| | 53. Although I have my own preferences, I feel successful when I remain flexible in selecting the standards I use to reach an effective solution. My team members have equally valid, yet different 'right' or 'successful' ways of doing things that we can use to achieve outcomes that are successful for everyone. |
| Relating to others | |
| | 54. I primarily view my relationships in terms of recognizing multiple approaches to work. While I have my own standards, I want to know how others view their responsibilities, what is important to them, and how they interpret different situations. Knowing this helps me see the common threads between us that ultimately run the organization. |
| | 55. My relationships are important to me because I learn how to address others' performance in the way that is most important for them to hear. I connect their most important values with mine. Together we can improve to become the people we want to be. |
| | 56. My relationships are important to me because they help me understand how different people make sense of what is important to them in their work. I want to get a complete picture of what others find meaningful so that I can support their growth in terms of effectiveness and overall well-being. |
| | 57. My relationships are important to me because I can learn what is most important for others and can then be helpful to them. I need to look beyond my own perspective to see what might be helpful from their perspective. |

# Appendix J: Institutional Review Board Expedited Approval

UNIVERSITY OF ARKANSAS

| | |
|---|---|
| **To:** | Tom Pierce Coker<br>BELL 4188 |
| **From:** | Douglas James Adams, Chair<br>IRB Committee |
| **Date:** | 01/30/2020 |
| **Action:** | **Exemption Granted** |
| **Action Date:** | 01/30/2020 |
| **Protocol #:** | 2001242788 |
| **Study Title:** | Master of Arts in Communication Thesis for Tom Coker |

The above-referenced protocol has been determined to be exempt.

If you wish to make any modifications in the approved protocol that may affect the level of risk to your participants, you must seek approval prior to implementing those changes. All modifications must provide sufficient detail to assess the impact of the change.

If you have any questions or need any assistance from the IRB, please contact the IRB Coordinator at 109 MLKG Building, 5-2208, or irb@uark.edu.

cc: Myria Allen, Investigator