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The Creation and Validation of a Compromising Scale for Nurses

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THE CREATION AND VALIDATION OF A COMPROMISING SCALE FOR NURSES

by

MATTHEW NG
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ABSTRACT

For reasons such as job context and different interactions, compromising as performed by nurses is likely fundamentally different than compromising performed by other occupations. The following study proposes the creation and validation of a compromising scale for nurses. The first study aims to create the compromising scale for nurses through contemporary methods then test the reliability as well as the factor structure using an exploratory factor analysis on currently employed nurses recruited through a Qualtrics panel study. The second study then takes the final compromising scale for nurses and conducts a confirmatory factor analysis among a sample of employed nurses participating in a mindfulness intervention to verify the previously discovered factor structure. This study provides a unique approach to conflict resolution instruments and discusses the implications this may have.

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LIST OF ACRONYMS OR ABBREVIATIONS

AA	Appropriate Assertiveness
ABD	All But Dissertation
AL	Active Listening
ARCAS	Activity Reducing Conflict-Associated Strain model
B	Brainstorming
BIC	Bayesian Information Criterion
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CRSS	Conflict Resolution Strategy Scale
CS-N	Compromising Scale for Nurses
DOT	Dictionary of Occupational Titles
EFA	Exploratory Factor Analysis
JAWS	Job-related Affective Well-Being
KMO	Kaiser-Meyer-Olkin Measure of Sampling Adequacy
MOAQ	Michigan Organizational Assessment Questionnaire
MODE	Management-of-Differences-Exercise
O*NET	Occupational Information Network
OCB	Organizational Citizenship Behavior
OCBI	Organizational Citizenship Behaviors-Interpersonal
OHPIP	Occupational Health Psychology In Practice
RMSEA	Root Mean Square Error of Approximation
ROCI-II	Rahim Organizational Conflict Instrument-II
RWA	Relative Weights Analysis
SMEs	Subject Matter Experts
SRMR	Standardized Root Mean Square Residual

CHAPTER ONE: INTRODUCTION

Compromising as a conflict resolution strategy has received attention within the literature along with the other common conflict resolution styles, and generally, has been perceived in a positive light (Feeney & Davidson, 1996; Howat & London, 1980; Montoro-Rodriguez & Small, 2006; Ogungbamila, 2006; Salami, 2010). Even with a body of literature supporting uses for the compromising strategy in combination with other strategies, there seems to be a much smaller body of literature that focuses on compromising alone. As a result, measures used for compromising have often been subscales of larger conflict resolution inventories (Kilmann & Thomas, 1977; Putnam & Wilson, 1982; Rahim & Magner 1995). As is, subscales for compromising are at risk of not encompassing the intricacies that exist within compromising and its facet-level constructs such as active listening, cooperation, appropriate assertiveness, and brainstorming (Davidson & Wood, 2004; Feeney & Davidson, 1996).

While measuring all strategies provides comparison data, it does not give as much insight within each conflict resolution strategy alone. This concept of a tradeoff between measurement depth and breadth is referred to as the Bandwidth-Fidelity principle and has been supported multiple times throughout the literature (Fishbein & Ajzen, 1974; Judge & Kammeyer-Mueller, 2012). To put it simply, the principle states that constructs that are broader should be measured broadly and constructs that are more narrow should be measured with more narrow measures. In this case, conflict resolution serves as a broad construct in which multiple broad measures exist to measure it, however an individual conflict resolution strategy would be more narrow and has not been measured using more narrow measures previously. In addition to narrowing the measurement with a scale that focuses on the construct of compromising, this paper seeks to

further narrow measurement by creating a scale that is suited to measure the construct of compromising in a specific occupation. Traditional measures tend to follow a few assumptions such as executive decision which in turn limit the applicability to certain occupations. For these reasons, we believe the need for a compromising specific scale is apparent.

This paper will summarize the literature on conflict resolution and more specifically, compromising. Next, some literature will be covered justifying the choice of nurses for the scale. Healthcare occupations were considered because of the unique interpersonal dynamics compared to traditional occupations as seen in previous studies which result in healthcare employees exhibiting higher risk for job stress outcomes (Brinkert, 2010; Fiabane, Giorgi, Sguazzin, & Argentero, 2013; Guidroz, Burnfield-Grimer, Clark, Schwetchenau, & Jex, 2010). Nurses were selected due to the complexity of their different interpersonal relationships at the workplace such as, nurse-nurse, nurse-physician, nurse-nurse supervisor, and nurse-patient (Guidroz, Burnfield-Grimer, Clark, Schwetchenau, & Jex, 2010). Each of these relationships carry different context and nuance that make the possibility for conflict increase. This paper will then detail the procedure for the studies conducted which involved both scale creation and validation. Finally, strengths, implications, and potential limitations are discussed.

CHAPTER TWO: LITERATURE REVIEW

Conflict Resolution

Conflict resolution was defined by Salami (2010) as "a process in which interpersonal communication is used to allow two conflicted parties to reach an amicable and satisfactory point of agreement" (p. 77). This definition makes mention of two parties which aligns with conventional categorization of conflict resolution strategies found in the literature. Early models of conflict resolution strategies include the conflict resolution grid presented by Blake & Mouton (1970) in Figure 2-1. This model categorized and differentiated the strategies based on a concern for people and a concern for results.

Since Blake and Mouton's Conflict Grid, models have evolved to be more people-centric. Specifically, Rahim & Magner (1995) looked at conflict resolution as either having a *concern for self* or *concern for others*. This model can be seen in Figure 2-2. These two dimensions are seen in the figure as the top x-axis and the y-axis on the left respectively. The dimensions are further split into a "high" side and a "low" side. These categories help describe the strategies themselves. For example, integrating is located in the high "concern for self" box as well as the high "concern for others" box so the reader can start to understand that someone who uses this strategy would be interested in solutions that benefit everyone involved.

The two dimensions of Rahim & Magner's model, which follows Dual Concern Theory, have been the subject of many studies and have consequently been supported (Ruble & Thomas, 1976; Van de Vliert & Kabanoff, 1990). To illustrate each of the quadrants, I will use a scenario of a subordinate and supervisor disagreeing over the completion of a task. If the *integrating* strategy is employed, the supervisor and subordinate would creatively find a solution that

satisfies both of them without a clear cost. If the *obliging* strategy is employed, one of the members would be conceding their own self-interest to reach resolution in favor of the other member. If the *dominating* strategy is employed, one of the members would emphasize their personal interest over the interests of the other member. If the *avoiding* strategy is employed, one member in the dyad would sacrifice their own self-interest as well as concern for the other's interest by physically or mentally removing themselves from the conflict causing a resolution by default. Finally, if the *compromising* strategy is employed, the two members would come to a consensus on what is necessary from both of their interests as well as what is nonessential which ultimately is sacrificed to reach a resolution.

This model fits a wide breadth of possible conflict scenarios but may not adequately describe some more intricate scenarios across all occupations, such as those found often at the workplace for nurses. In particular, "concern for others" as a dimension can manifest in several different contexts whether a nurse is interacting with a patient, another nurse, or a physician. This specific nuance may not be captured by current measures which diminishes reliability and validity among professions such as nursing. While Dual Concern Theory is an effective way to capture conflict resolution generally, it may not serve the same utility for specific occupations like nursing.

Figure 2-3 shows the previously mentioned typology systems represented graphically. Typically, more complex models with a larger number of factors are seen as subsumed under the higher order factors present in more simple models. Specifically, in Figure 2-3, the two-typology system is the largest circle and is meant to encompass all conflict resolution strategies with the least amount of discretion. The three-typology system is the next largest circle with the next least

amount of discretion among conflict resolution styles. This pattern continues until the center circle which represents the smallest circle and the most discretion among conflict resolution styles. The conflict resolution strategies included in the five-typology system are integrating, obliging, compromising, dominating, and avoiding. Unfortunately, the literature suffers from construct proliferation which refers to the strategies having different labels with overlapping definitions. Other common groupings of conflict resolution strategies include broad categories such as cooperation and competition in a two-typology system, (Van de Vliert & Euwema, 1994), a three-typology system including, confrontation, solution-oriented, and non-confrontation (Putnam & Wilson, 1982), and a four-typology system which includes problem solving, contending, yielding, and inaction (Pruitt, 1983).

Antecedents of Conflict Resolution

As can be seen, there is an ever-growing body of literature surrounding conflict resolution in several fields like human resources, management, and organizational behavior. With the growing interest in conflict resolution, it is logical to assume that organizations and researchers alike have been interested in preventing and minimizing conflict. Before we look at the outcomes linked to conflict resolution, we will want to first focus on one of the antecedents to conflict resolution, interpersonal relationships. Interpersonal relationships are defined as not only requiring an interaction between parties but the recurrence of said interaction with both parties' mutual awareness and these relationships are an integral part of the workplace (Heaphy & Dutton, 2008; Reich & Hershcovis, 2011). The way one interacts with others at the workplace has shown to lead to positive outcomes including psychological safety, increased learning behaviors, increased levels of declarative knowledge regarding teamwork, a buffer from illness,

and organizational commitment (Carmeli, Brueller, & Dutton, 2009; Cohen & Wills, 1985; Ellis, Bell, Ployhart, Hollenbeck, & Ilgen, 2005; Liden, Wayne, & Sparrowe, 2000). With so many positive outcomes linked to interpersonal relationships, it makes sense that organizations and researchers alike are interested in maintaining and strengthening the relationships. Conflict resolution serves as a necessary step for anyone who wishes to maintain and improve interpersonal relationships since conflict itself is inevitable (Roloff & Soule, 2002).

As mentioned previously, conflict is inevitable, but this is even more evident in organizations (Forté, 1997; de dreu, 2017). Thus, we cannot discuss conflict resolution without its most obvious antecedent, conflict. Conflict can take many forms in a wide variety of contexts so for the sake of this review, we will only be discussing conflict interpersonally with an emphasis within organizations. Conflict has been discussed and analyzed by Thomas (1992) where he defined conflict as "'the process which begins when one party perceives that another has frustrated, or is about to frustrate, some concern of his" (p. 265). This definition, while broad, establishes some important assumptions about conflict and in turn conflict resolution. Conflict only exists when a problem or frustration is perceived. A problem may exist but if it is not actively perceived by the affected parties, there is no conflict. Conflict also involves multiple parties, however does not require perception of frustration from all parties. This supports conflict resolution strategies such as avoidance which can involve a party not interacting with the other party.

Pondy (1967) wrote an excellent article discussing the different models of conflict within an organization. He breaks conflict down into three models, the bargaining model, the bureaucratic model, and the systems model. The first model, the bargaining model, describes the

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conflict that exists among parties specifically around shared scarce resources such as funding. This perspective on conflict is a prime example of the wants of one party not meeting the reality of an organization. The next model is the bureaucratic model which refers to conflict that occurs vertically within an organization. A very common example of this would be a conflict between a supervisor and a subordinate, which has been studied thoroughly in the conflict resolution literature (Howat & London, 1980; Ogungbamila, 2006; Salami, 2010). The last model is the systems model which explains the conflict that occurs horizontally in an organization. This kind of conflict refers to conflict among parties that are on the same organizational level i.e. colleagues. The systems and bureaucratic models of conflict have both been analyzed by several studies in a variety of context (Montoro-Rodriguez & Small, 2006). Interpersonal conflict has shown to have detrimental effects on individuals and the organization with outcomes such as lower job satisfaction, lower organizational commitment, increased turnover intentions, increased depression, lower self-esteem, and increased somatic symptoms (Frone, 2000; Spector & Jex, 1998).

<div align="center">Outcomes of Conflict Resolution</div>

Research on conflict resolution has typically focused on a wide variety of both common workplace outcomes as well as general human interaction outcomes. In a chapter by Tjosvold, West, & Smith (2003), support for cooperation is shown to some extent with a meta-analysis indicating "cooperation is much more facilitative of productivity and achievement than competition and independence" (p. 5). Other studies have tested a variety of outcomes with various conflict resolution strategies and have found connections with outcomes such as staff morale, burnout, job satisfaction, and workplace frustration (Montoro-Rodriguez & Small, 2006;

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Ogungbamila, 2006). Studies focused on dyadic relationships measure outcomes like organizational citizenship behaviors, (OCB), as reported by supervisors, preferred conflict resolution strategy among student-teacher dyads, and perceptions of conflict (Howat & London, 1980; Jamieson & Thomas, 1974; Salami, 2010).

Moving forward, the literature has started to look at conflict resolution in more specific settings including specific occupations across a variety of industries such as education, healthcare, manufacturing, etc. (Carmeli, Brueller, & Dutton, 2009; Clark, 2009; Ellis, Bell, Ployhart, Hollenbeck, & Ilgen, 2005; Gati, 1993; Jamieson & Thomas, 1974; Montoro-Rodriguez & Small, 2006). Some of the outcomes of these industry-specific examinations of conflict resolution include improvements in declarative knowledge on teamwork, planning, task coordination, collaborative problem solving, and communication after receiving training compared to those who did not receive training (Ellis, Bell, Ployhart, Hollenbeck, & Ilgen, 2005). Literature focusing on multiple occupations is suitable for a generalist approach, but the need for an occupation specific instrument comes into question considering the trend to measure conflict resolution in a single occupation. The next logical leap should then be research focused on individual strategies, such as compromising.

<u>Compromising</u>

Similar to many of the other conflict resolution strategies, compromising has been discussed, and labeled by many different researchers under a variety of labels. As can be seen in Figure 1, Blake and Mouton's early conflict grid showcased compromising as a middle ground conflict resolution strategy that could be described as "settling for what you can get" (Blake & Mouton, 1970, p. 420). This definition has evolved over time as other researchers have adapted

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the original typology system. In the two-typology system, compromising would fall under the cooperative area rather than the competitive area (Van de Vliert & Euwema, 1994). In this typology, which can be seen in Figure 2-4, compromising is categorized as an agreeable, active conflict behavior.

Putnam & Wilson's (1982) Organizational Communication Conflict Instrument uses a three-typology system with the closest equivalent of compromising being labeled "solution-oriented" that was defined as being "characterized by cooperation and concern for the relationship" (Motoro-Rodriguez & Small, 2006, p. 394). Finally, Rahim & Magner's (1995) updated five-typology system defined compromising as "involving moderate concern for self as well as the other party involved in conflict" (p. 123). Additionally, compromising is "associated with a give-and-take or sharing whereby both parties give up something to make a mutually acceptable decision" (p. 123). For the purposes of this thesis, the Rahim and Magner (1995) definition will be used when referring to compromising and or other labels with interchangeable definitions. Such labels include, "cooperative style" (in some cases), "solution-oriented," and "win-win" scenarios (Feeney & Davidson, 1996; Motoro-Rodriguez & Small, 2006).

Compromising as a construct has not been studied separate from other conflict strategies in work settings upon reviewing the literature. Most commonly, studies of compromising are bundled with other conflict resolution strategies. As a result, there is no known measures used specifically for compromising to the author's knowledge, making any outcomes gathered via general conflict resolution instruments possibly questionable due to the lack of specificity in the instruments used. With that in mind, based on the existing literature, compromising has been found to be linked to increased employee morale, increased job satisfaction, and decreased

burnout among nurses, organizational citizenship behaviors among supervisor-subordinate dyads, and no significant relationship with workplace frustration (Montoro-Rodriguez & Small, 2006; Ogungbamila, 2006; Salami, 2010). The current literature shows that compromising as a construct has potential benefit to be studied and measured for the above outcomes stated as well as exploring further outcomes.

As stated previously, the current literature has several gaps in relation to compromising. Upon reviewing the literature, no known reviews have been conducted regarding the focus of a particular conflict resolution strategy, let alone compromising. The very few compromising studies found were questionable at best in relevance with most of the studies concerning marital compromise. To find information about compromising, one must sift through conflict resolution literature and interpret the different strategy definitions in order to comprehend what is being interpreted as compromising. More literature surrounding specific isolated conflict resolution strategies can provide more insight into each individual strategy. For example, in Feeney & Davidson (1996), win-win scenarios, which can be categorized closely with compromising or collaborating, is broken down into active listening, cooperation, brainstorming options, and appropriate assertiveness. By breaking down the individual conflict strategies into component parts, we can more accurately measure the nuances that exist within each conflict strategy, including compromising.

<center>The Measurement of Compromising</center>

As mentioned previously, compromising as a construct has traditionally been measured solely as a subscale of a larger conflict resolution scale. The most common scale used in recent research is the Rahim Organizational Conflict Inventory or ROCI-II. This instrument is meant to

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measure all of the conflict resolution strategies seen in Figure 2 previously which include

dominating, integrating, compromising, obliging, and avoiding. Another measure used is the

Thomas-Kilmann Instrument, Management-of-Differences Exercise (MODE), that measured

competing, collaborating, compromising, avoiding, and accommodating with statements that

described the styles (Klimann & Thomas, 1977; Morris-Conley & Kern, 2003). Another

common instrument used is the Conflict Resolution Strategies Scale developed by Howat &

London (1980). The strategies measured include confrontation, withdrawal, forcing, smoothing

and compromise and each of these strategies were measured with five items. Finally, the

DUTCH instrument created by De Dreu & Van de Vliert (1997) and analyzed by De Dreu,

Evers, Beersma, Kluwer, & Nauta (2001) grouped the conflict resolution strategies as yielding,

problem-solving, forcing, avoiding, and compromising. These four instruments were the most

common instruments used in measuring compromising specifically within a five-typology

system of conflict resolution which further asserts the lack or research that currently exists

focusing on compromising alone since all four of these instruments are general instruments of

conflict resolution. To illustrate the overall general approach to these instruments, we have

provided a sample item from each of the instruments that is meant to measure compromising in

Table 1-1. Unfortunately, sample items from the MODE were not located so instead, the

description the MODE instrument uses for compromising is laid out below (Thomas, 2008).

<div align="center">Compromising and Nurses</div>

Naturally, considering that compromising alone has not received much attention in the

literature, it is fair to assume that the literature looking at compromising within a nursing

population would be even more lacking. After reviewing the literature, very few studies have

been conducted looking at compromising specifically within the nursing context. Since the research is clearly lacking in relation to compromising used among nurses, we will discuss the literature that does exist surrounding nursing and a variety of conflict resolution strategies with a focus on the relation to compromising.

Theoretical Guidance for an Occupation-Specific Focus

Before describing why the experience of compromising might look different for nurses compared to other occupations, it is first helpful to examine potential occupational differences from a theoretical perspective. The Activity Reduces Conflict-Associated Strain model or ARCAS model proposes that active conflict resolution moderates the strain an employee feels from workplace strain (Dijkstra, Beersma, & Cornelissen, 2012). The model can be found in Figure 2-5. This model proposes that while workplace conflict is positively related to employee strain, this relationship is not only moderated by active conflict resolution but also activity encouraging variables. This activity encouraging variable has been conceptualized previously as more constant variables such as Big 5 personality traits, however studies have started using dynamic variables as well (Dijkstra, Beersma, & Cornelissen, 2012). In the case of this study, we can conceptualize this activity encouraging variable as role ambiguity since nurses who are sure of their role should exhibit less conflict. Traditionally, this model has been used with a problem-solving strategy in mind however previous studies have shown the difference between compromising and problem-solving lies in the agreeableness of the strategy, not the activeness (Van de Vliert & Euwema, 1994). Thus, the researcher propose that nurses experience a multitude of activity encouraging moderators such as role ambiguity mentioned above which in turn, help describe the difference in compromising in nurses compared to other occupations.

The conflict that is often seen in healthcare professions can be explained using some classic social psychological theories including intergroup conflict and interpersonal conflict. Tajfel & Turner (1979) described these related, but distinct constructs as being on a continuum where interpersonal conflict at its purest form is driven by deeply personal beliefs and intergroup conflict focusing on goal or motive conflict. Logically, it is easy to see how nurses can experience some extent of both types of conflict. Intergroup conflict would occur most often in interactions that involve different parties such as physicians or patients while interpersonal conflict may occur more often among nurses. This framework is supplemental to the ARCAS model previously mentioned that states that the relationship between workplace conflict and employee strain can be moderated by active conflict resolution. This theoretical framework is supported by a number of studies. Fiabane, Giorgi, Sguazzin, & Argentero (2013) specifically cited these professions as being "frequently exposed to a number of job stressors that can adversely affect both their mental and physical health and also decrease work engagement and treatment outcomes" (p. 2614). Another study examined at nurses experiencing incivility in the workplace and based off of their literature review, they found that nurses receive frequent mistreatment from physicians, nurse supervisors, other nurses, and patients in the form of incivility (Guidroz, Burnfield-Grimer, Clark, Schwetchenau, & Jex, 2010). Additionally, this same study discussed the additional outcomes that exist from incivility which include "low job satisfaction, psychological distress, increased physical health symptoms, turnover intentions, psychological withdrawal from the field of nursing, and job burnout" (p. 179).

Practical Guidance for an Occupation-Specific Focus

Compared to other conflict resolution strategies, nurses have been found to use compromising most often in the workplace (Iglesias & Vallejo, 2012). The basic explanation typically involves the power difference nurses experience when solving problems causing them to aim toward "give a little to get a little". In a meta-analysis conducted around conflict resolution strategies, compromising was most commonly found in peer-peer conflicts as well as collectivistic cultures (Holt & DeVore, 2006). These findings may help explain the use of compromising in nurses due to the many different types of interpersonal conflict nurses encounter as well as perceptions of unit cohesion. Additionally, a study found that professional practice environments led to nurses using more cooperative conflict resolution strategies which led to more effective units (Siu, Laschinger, & Finegan, 2008). While this study did not specify which collaborative strategies were used, it is fair to assume that all three (accommodating, compromising, and collaborating) are included. Finally, older research has been conducted looking at perceptions of compromising. Kabanoff (1989) found that individuals found compromising favorable when both the relationship with the conflicting party and expediency are kept in mind. These findings together can help explain why nurses may tend to prefer compromising as a strategy.

While we have established that nurses do take part in compromising, we still need to establish why the experience or measurement of compromising is different among nurses compared to other occupations. To do this, we will analyze three items shown earlier in Table 1 and highlight how each of these items make general occupation assumptions that is not generalizable to nursing contexts. The three items along with brief explanations can be found in

Table 2-2. The first assumption refers to how each of the items assume that the party engaging in compromising is choosing to compromise. In reality, a nurse may not always contain the *executive decision* to enact a compromising strategy in all scenarios. It is suspected that many instances of nurse compromising may exist due to the power distance that exists between nurses and physicians or nurse-supervisors (Brinkert, 2010; Iglesias & Vallejo, 2012; Vivar, 2006). As a result, nurses may be opting into a compromising strategy because it is their best alternative (Iglesias, & Vallejo, 2012).

The second assumption focuses more on the work environment that nurses find themselves in. The general compromising items make the assumption that compromising itself is the same across all interactions or holds *universality* across situations. In actuality, nurse interactions vary greatly whether it be with physicians, fellow nurses, nurse-supervisors, and patients just to name a few (Brinkert, 2010; Frederich, Strong, & von Gunten, 2002; Guidroz, Burnfield-Grimer, Clark, Schwetchenau, & Jex, 2010; Vivar, 2006). In fact, an article by Frederich, Strong, & von Gunten (2002) focused on the conflict that exists among nurses and physicians and the nature in which they must work together. While other occupations may have similar interactions where norms are established, nurses have a wider variety of types of relationships they must maintain to perform which can be seen in the pursuit of interprofessional collaboration interventions (Reeves, 2018).

The research focusing on nurses and conflict resolution has not been very abundant however, that has started to change. Montoro-Rodriguez and Small (2006) were able to look at the effects of conflict resolution strategies on a variety of occupational outcomes like burnout, job satisfaction, and morale. Iglesias and Vallejo (2012) analyzed the context of nurses to see if

that had an influence on what conflict resolution strategy they were more likely to employ. This study showed compromising as the most common conflict resolution strategy in general, with an emphasis on nurses in academic settings using compromising while clinical nurses tended to use accommodating more often. Finally, Al-Hamdan, Shukri, and Anthony (2011) analyzed the preferred conflict resolution strategy among nurse supervisors in the sultanate of Oman. Despite some surprising findings regarding the integrative style, this research still provides some much needed insight into the conflict resolution tendencies of nurses.

To supplement the literature on nursing and compromising, the researcher decided to look at additional resources such as the Dictionary of Occupational Titles (DOT) as well as the Occupational Information Network (O*NET). The entries for "NURSE, GENERAL DUTY" was analyzed in the DOT to look for practical support that nurses may experience more or different variables that could be thought of as activity moderating variables, highlighting the utility of an occupation-specific measure. One of the most blatant things that stood out from the description is the amount of interpersonal interaction implied as part of the job including "providing general nursing care to patients", "preparing equipment and aids physician", "notifies supervisor or physician of patient's condition", and "may rotate among various clinical services of institutions such as obstetrics, surgery, orthopedics…" which implies that not only will nurses interact with other individuals with different titles, they will interact with different individuals with the same titles as well.

Within the O*NET databases, under the title "Licensed Practical Nurses", active listening was listed as the top skill for these licensed practical nurses which was shown to be supported construct of collaborative conflict resolution like compromising (Feeney & Davidson, 1996;

Wertheim, Love, Littlefield, & Peck, 1992). Tied with active listening as a skill was service orientation which was defined as "actively looking for ways to help people" which can also be deduced from the Van de Vliert & Euwema (1994) taxonomy where compromising is seen as an active cooperative process. Additional highly rated skills for nurses include "Problem Identification", "Social Perceptiveness", "Monitoring", "Critical Thinking", and "Speaking". (ranked 5th, and the other three tied for 6th) All of these skills can be seen as elements of previously discussed aspects of compromise: active listening, cooperation, brainstorming options, and appropriate assertiveness. This overlap creates a potent argument to focus on creating an instrument of compromising for nurses.

The possible benefits of work in compromising have been touched on but by no means should the previously mentioned benefits, such as organizational outcomes like job satisfaction or commitment, and health outcomes like lower burnout and stress, be considered an exhaustive list due to the pervasive nature of conflict in the workplace across many occupations. To encourage further research into the possible benefits of compromising, a proper measurement tool must be made.

The Conflict Grid
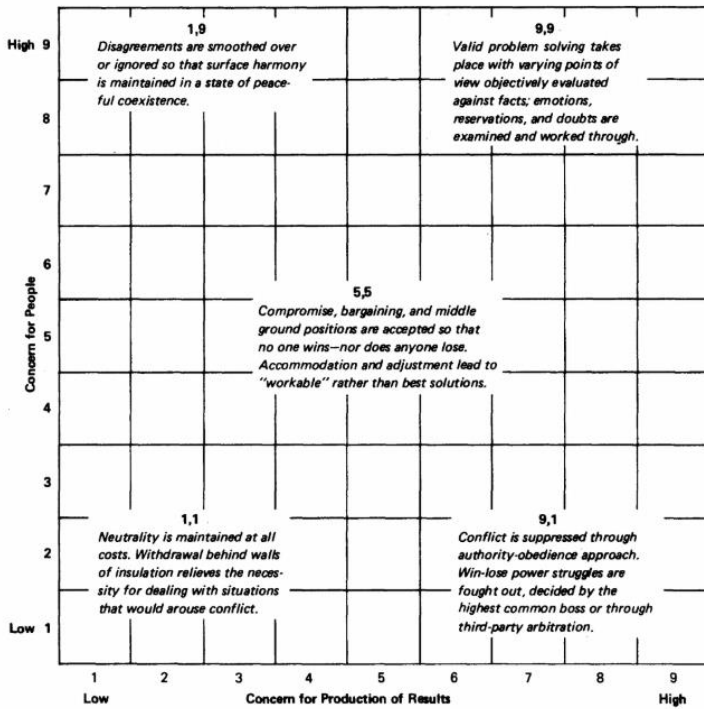
Figure 2-1: The Conflict Grid proposed by Blake and Mouton.

The fifth achievement by R. R. Blake & J. S. Mouton, 1970, *The Journal of Applied Behavioral Science, 6(4)*, p. 418.
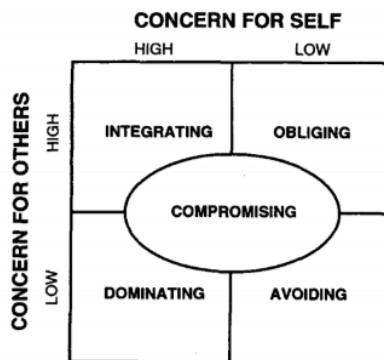
Figure 2-2: The two-dimensional model used in the ROCI-II.

Confirmatory factor analysis of the styles of handling interpersonal conflict: First-order factor model and its invariance across groups" M. A. Rahim & N. R. Magner, 1995, *Journal of Applied Psychology, 80(1)*, p. 123.
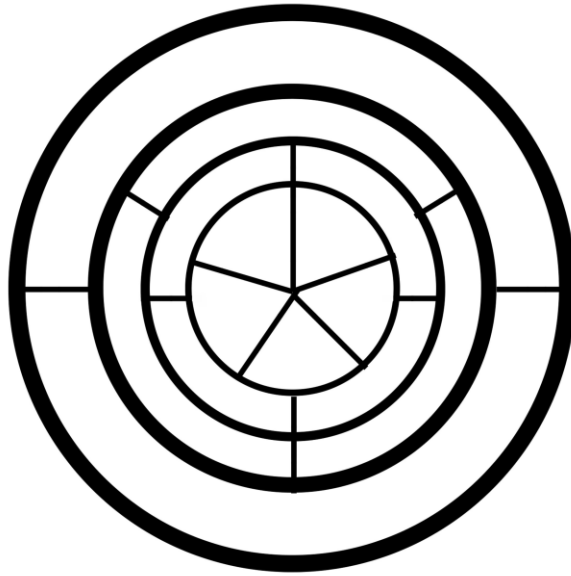
Figure 2-3: The above figure is a graphical representation of the 2-Typology, 3-Typology, 4-Typology, and 5-Typology systems nested.
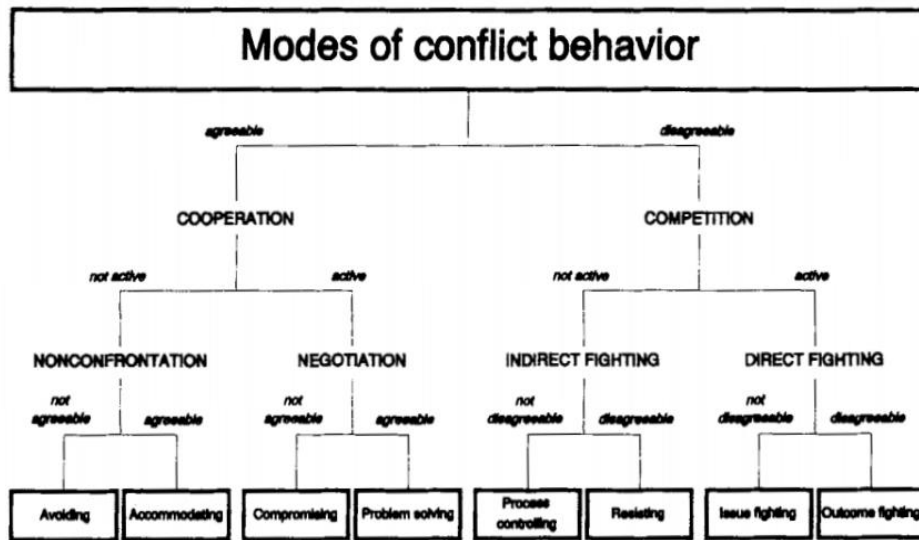
Figure 2-4: A breakdown of different conflict behaviors using cooperative behavior and competitive behavior as umbrella typologies.

Agreeableness and activeness as components of conflict behaviors" by E. Van de Vliert & M. C. Euwema, 1997, Journal of Personality and Social Psychology, 66(4), p. 684.
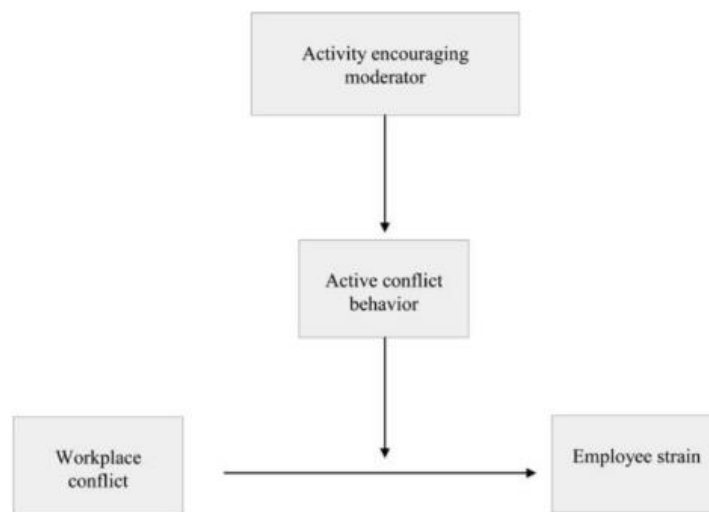
Figure 2-5: The Activity reduces conflict associated strain (ARCAS) model is shown above.

The emergence of the Activity Reduces Conflict Associated Strain (ARCAS) model: A test of a conditional mediation model of workplace conflict and employee strain by M. M. Dijkstra, B. Beersma, & R. M. Cornelissen, 2012, *Journal of Occupational Health Psychology, 17(3)*, p. 367.

Table 2-1

Sample Compromising Items from Various Scales

Scale	Sample Item Stem
ROCI-II	I try to find a middle course to resolve an impasse.
MODE[a]	When two opponents with equal power are strongly committed to mutually exclusive goals—as in labor–management bargaining.
DUTCH	I try to realize a middle of the road solution.
CRSS	Gives in a little to get a little.

[a] A sample item for the MODE could not be found so instead, the above sample item stem is how the MODE recognizes the use of compromising according to a sample interpretive report. From "Thomas-Kilmann Conflict Mode" by K. W. Thomas, 2008, TKI Profile and Interpretive Report, p. 11.

Table 2-2

General Occupation Applications Conflicting with Nursing Context Applications in Compromising Items

Scales	Items	General Applications	Nursing Applications
ROCI-II	I try to find a middle course to resolve an impasse.	1) Items assume executive decision.	1) Nurses may compromise due to lack of executive decision
DUTCH	I try to realize a middle of the road solution.		
CRSS	Gives in a little to get a little.	2) Items assume universality across situations.	2) Nurses exhibit compromising behaviors differently based on who they interact with.

CHAPTER THREE: THE PRESENT STUDY

Introduction

Multiple studies have analyzed the current need and possible benefits for conflict resolution among nurses linking outcomes like burnout symptoms and morale (Brinkert, 2010; Gerardi, 2004; Montoro-Rodriguez & Small, 2006). This literature should provide ample evidence that nurses do benefit from conflict resolution. Studies have supported cooperative styles to be used by nurses, as seen in Montoro-Rodriguez & Small (2006) which showcased decreased burnout, increased staff morale and job satisfaction among nurses who employed cooperative strategies. Additionally, Van de Vliert & Euwema (1994) described compromising as a cooperative strategy that uses active negotiation to resolve conflict and many of the previously cited studies have called for specifically negotiation skills as well as cooperation techniques. Based on this information, the need to measure compromising should be apparent.

Since there are not any general occupation compromising specific scale to the author's knowledge, it is also fair to believe that there are no known nursing specific compromising scales which is supported by the current review of the literature. The creation of this scale aims to improve research conducted on the nursing occupation which has been shown to not only affect nurses personally but also the overall organizational effectiveness (Clark, 2009; Wright & Khatri, 2015).

Hypotheses

The hypotheses in this study focuses on creating a nursing specific compromising scale as well as validating said scale's construct validity by creating tiers of convergence on a

hypothetical nomological network. The first two hypotheses are focused on the creation of the

compromising scale for nurses, CS-N. We expect the CS-N to produce strong internal

consistency. Cronbach's alpha will be calculated to measure internal consistency of each

subscale since a scale-wide Cronbach's alpha is not an appropriate measure for multidimensional

measures (Tavakol & Dennick, 2011). Cutoff values for Cronbach's alpha have ranged from .70

to .95 but since the CS-N is attempting to remain as concise as possible, an internal consistency

of 0.70 has been deemed acceptable. As mentioned previously, since a framework is being

followed from Wertheim, Love, Littlefield, and Peck (1992) regarding the factors of win-win

scenarios, a four-factor model including willingness to cooperate, active listening, appropriate

assertiveness, and brainstorming is expected.

H_1 = *The CS-N subscales will report acceptable internal consistency.*

H_2 = *The exploratory factor analysis will provide support for a three-factor model.*[1]

The next hypotheses are focused on establishing evidence supportive of criterion-related

validity. I hypothesize compromising and job satisfaction to be significantly, positively

correlated due to a previous study showing similar results (Montoro-Rodriguez & Small, 2006).

Since our scale is approaching compromising as a multi-faceted construct, we then hypothesize

that each of the subscale constructs be significantly positively correlated to job satisfaction. As

part of the validation effort, social support is hypothesized to be significantly, positively

correlated with active listening and appropriate assertiveness. A study looking at the role of

active listening in medical consultations found that active listening was associated with

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[1] Although the four-factor structure was initially hypothesized, the proposed factor structure was changed prior to

data collection due to SME pilot results.

satisfaction from the patient (Fassaert, van Dulmen, Schellivis, & Bensing, 2007). The study goes on to explain the importance of active listening in not only collecting diagnostic information but also in sympathizing with patients. As for appropriate assertiveness, Feeney and Davidson (1996) discussed the relationship active listening has with appropriate assertiveness as both components being a part of the communication component of win-win situations.

H_3 = *Each of the CS-N subscales will have a positive, significant correlation with job satisfaction.*

H_4 = *The active listening and appropriate assertiveness subscales will have a positive, significant correlation with social support.*

Furthermore, the following hypotheses aim to help build out a nomological network for compromising and more specifically, it's components. In establishing this nomological network, I hypothesize that the subscales of compromising should strongly correlate with a general compromising scale to establish that the construct of compromising is still being measured. For this hypothesis, I expect to see a correlation of approximately 0.6. After reviewing the literature, compromising, as well as the more extreme alternative of collaborating, should theoretically lend themselves to individuals to engage in interpersonal organizational citizenship behaviors more so than individuals who employ non-collaborative conflict resolution strategies. Since compromising is typically defined or viewed as the less extreme version of collaborating, the relationship between OCBI and compromising should be present but not as pronounced (Rahim, 1983; Blake & Mouton, 1970; De Dreu, Evers, Beersma, Kluwer, & Nauta, 2001). Thus, I hypothesize OCBI to have a moderate correlation with the active listening subscale and the

appropriate assertiveness subscale since both are more related to the interaction with the other party compared to brainstorming (Feeney & Davidson, 1996).

H_5 = *The CS-N subscales will have a positive, strong correlation with the ROCI-II compromising subscale.*

H_6= *The active listening and appropriate assertiveness subscales will have a positive, moderate correlation with OCBI.*

The next hypothesis is concerned with the confirmatory factor analysis. I hypothesize that the confirmatory factor analysis will confirm the initial factor structure explored in the exploratory factor analysis discussed in the second hypothesis. The last two hypotheses are concerned with the utility of the CS-N. Throughout this paper, the argument has been made that a specific measure like the CS-N should able to measure the phenomenon, compromising, better than more generic measurements. In an attempt to measure this, I hypothesize that the CS-N will explain more variance on the main criterion-related variables in this study, job satisfaction and affective strain, than the general compromising subscale used.

H_7= *The confirmatory factor analysis will confirm the factor structure discovered in the exploratory factor analysis.*

H_8= *The CS-N subscales will have a significant change in R^2 in the regression equation with job satisfaction and the ROCI-II compromising subscale.*

H_9= *The CS-N will have a significant change in R^2 in the regression equation with affective strain and the ROCI-II compromising subscale.*

In order to test H_9 and H_{10}, a Relative Weight Analysis or RWA, will be calculated to measure the impact of the CS-N subscale over the ROCI-II subscale, While hierarchical linear

regressions are typically calculated to test the amount of variance explained by predictors, the RWA takes into account the likely multicollinear relationship that will exist between the CS-N subscales and the general compromising subscale used (Tonidandel & LeBreton, 2011; Tonidandel & LeBreton, 2014). Finally, since the CS-N is the first scale to the author's knowledge to focus on a specific conflict resolution strategy, it may be important to tease out the impact of each of the subscales individually when compared to the general compromising subscale. Thus, I propose the following research questions to investigate which subscales provide the most variance explained over the general compromising scale as well as the least variance explained over the general compromising scale.

RQ1 =Which CS-N subscale has the most significant change in R^2 in the regression equation with job satisfaction or affective strain and the ROCI-II compromising subscale?

RQ2= Which CS-N subscale has the least significant change in R^2 in the regression equation with job satisfaction or affective strain and the ROCI-II compromising subscale?

CHAPTER FOUR: METHODOLOGY

Study 1

Preliminary Measure Draft.

Before the scale creation for the CS-N, previous work was done and adapted as a starting point for the CS-N. The initial general occupation compromising scale created by Ng, Post, Rize, and Patenaude (2018) for a graduate course project with three subscales in mind. Those subscales included willingness to cooperate, active listening, and social monitoring. Social monitoring was construed as a focus on the process of self-monitoring, introduced by Snyder (1974), with an emphasis on the interaction with others. Based on the framework proposed by Wertheim, Love, Littlefield, and Peck (1992), social monitoring was initially considered to be a factor that could aptly encompass the need for appropriate assertiveness as well as the ability to brainstorm options based on the purpose of self-monitoring discussed by Snyder. Following the guidance of DeVellis (2016), contemporary item development methods were carried out in which multiple subject matter experts in conflict resolution were consulted for the creation of the items. These subject matter experts included two employees that work in the office of integrity and ethical development which focused on settling disputes and a university ombuds officer, or an official who is appointed to investigate maladministration, with extensive conflict resolution experience. Among the office of integrity and ethical development employees, one was the director who had several years of experience in running a conflict resolution workshop open to the public.

The items generated specifically in the willingness to cooperate subscale as well as the social monitoring subscale produced reliability values that were deemed psychometrically sound considering the short form nature of the scales (willingness to cooperate, $\alpha = .71$; social monitoring, $\alpha = .63$). Additionally, some construct validation was attempted with a moderate correlation found between agreeableness and compromising ($r = .43$). Finally, we can be relatively certain that items were easily understood by participants, as evidenced by a reading level appropriate for the population (Flesch-Kincaid score of 7.8) and an average scale completion time ranging from five to ten minutes.

After further reviewing the literature however, the researcher decided to follow the model Wertheim, Love, Littlefield, and Peck (1992) more closely when they described win-win scenarios as being composed of higher active listening, a willingness to cooperate, an appropriate amount of assertiveness, and the use of brainstorming to come to a resolution. With this being said, the researcher decided to incorporate the preliminary scale items created for willingness to cooperate and the social monitoring in order to create a nursing specific compromising scale. Those items can be found in Appendix A.

<div align="center">Item Development for the CS-N.</div>

The researcher approached creating and adapting items through a variety of means. Typical item development either follows deductive methods or inductive methods or a combination of the two (Hinkin, 1995). This study looked to use elements of both methods. The deductive methods included consulting the nursing literature surrounding current sources of conflict for nurses to include common problems nurses face such as maintaining interactions at so many different levels whether it be with fellow nurses, patients, physicians, or nurse-

supervisors (Brinkert, 2010; Clark, 2009; Fiabane, Giorgi, Sguazzin, & Agenterro, 2013; Gerardi, 2004; Vivar, 2006). Additionally, items were influenced by other current compromising subscales, as well as other relevant scales such as the Active Listening Observation Scale and adapted when deemed appropriate (Fassaert, van Dulmen, Schellevis, & Bensing, 2007). Following contemporary guidelines, three times the total desired items were created (DeVellis, 2016). For the purpose of this scale and its level of specificity, the desired number of items is sixteen, with four items representing each factor.

<u>Nurse Subject Matter Expert Interviews.</u>

The items then followed an inductive approach to evaluate their relevance. This was done by consulting with subject matter experts (SMEs). In this study, it was decided to use two different sets of SMEs. The first set of SMEs were actively working nurses from a hospital in Florida. These nurses represented various units within the hospital such as the emergency room, the obstetrics unit, as well as a nurse who currently serves as a Chief Clinical Officer but had previous clinical experience. These nurses had a combined 78 years of industry experience. The nurses were interviewed individually at their convenience. These interviews consisted of questions about their work as nurses, the possible uses of compromising in their work, the proposed structure of compromising, and possible problems with current measures. See Appendix G for the full interview question list.

Based on the completed interviews, a few common themes were identified. First, across all three nurse interviews, all three nurses identified compromising as a vital part of their work. Along with these statements, specific examples were provided ranging from compromising with the "charge nurse," or the nurse who is serving as a supervisor to the other nurses in a unit, to

compromises occurring between difficult patients or physicians. When asked about the components of the CS-N, the nurses generally agreed that the four components were involved however there was disagreement in which factor was considered the most and least necessary. All three nurses mentioned active listening as the most important, while the remaining factors had disagreement. Generally speaking, brainstorming, and appropriate assertiveness were viewed as either most or least necessary depending on the respondent, while willingness to cooperate was neither least or most necessary by any of the nurses.

The final question of the interview concerning the possible problem of other general compromising items being applied to the nursing work context had varying answers. Two of the nurses mentioned that the lack of executive decision experienced by nurses is not only true but also impactful enough that it should be considered. One nurse highlighted some problematic word choice in some of the items which makes implications of little flexibility in the position or a lack of understanding of the other party's perspective which was deemed as incorrect. The nurse specifically referred to a common situation where a nurse may need to talk to a charge nurse about covering some patients and when the charge nurse compromises, both nurses understand the shared perspective. Based on these insights, the general assumptions mentioned in Table 2-2 have some support. The preliminary items were then altered to reflect the lack of executive decision by including phrases like "when I can" when applicable. The universality assumption will be discussed at greater length in the discussion section of this paper.

Advanced Doctoral Industrial and Organizational Psychology Student SMEs.

The second set of SMEs were advanced doctoral Industrial and Organizational psychology students. These students were selected due to their "ABD" status, or all but

dissertation, due to these students having completed all required coursework and passing their comprehensive exams. These advanced doctoral Industrial and Organizational Psychology ABDs were selected for the purpose of item categorization. Rather than subject individuals who are not accustomed to the methods of item categorization and risk a possible source of error, the ABDs were better equipped to take on the task of categorizing the items as well as providing valuable feedback on the success of possible items. The ABD SMEs completed a Qualtrics survey in which they were informed of the components of compromising along with definitions and then asked to categorize items into either the four components previously discussed or an "other" category where each SME had the opportunity to type in what they thought would be the correct category for an item. Additionally, the ABDs were provided an extra question to go along with each item that asked them to rate their confidence in their categorizing on a scale from 1-5 (1 = Least Confident; 5 = Most Confident).

Based on the ABD item categorization one item was identified in the Active Listening set of items, the Appropriate Assertiveness set of items, and the Brainstorming set of items, to be removed due to a lack of ⅔ agreement among SMEs. Aside from those three items, every other item on each subscale had at least ⅔ agreement across SMEs and no item had the "other" category used. Items that did not receive a 3/3 agreement across SMEs were considered for editing to clarify any confusion. The willingness to cooperate subscale was removed from the scale before data collection due to the SME item categorization results. The item categorizations highlighted the potential of willingness to cooperate to be a larger underlying variable when compared to the other three subscales. This was seen when every miscategorized item was categorized as willingness to cooperate due to its general nature. One potential explanation is

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that the willingness to cooperate scale is the only subscale that seemed to measure attitudes rather than behaviors like actively listening, being appropriately assertive, or brainstorming. With this kind of overlap, it was decided that in order to attempt to avoid potentially unclear data between the scales, the willingness to cooperate scale would best be removed. The items that were kept after the categorization as well as any modification made can be found in Appendix H. The items were then used to create a Qualtrics survey with a Likert scale of agreement for each item (1= Strongly disagree; 5= Strongly agree).

<div align="center">Sample.</div>

The sample of this study started with 104 participants. These participants were electronically sampled via a Qualtrics Panel that had screened the individuals to qualify for the study. After receiving the data, some basic data cleaning was conducted to evaluate the quality of responses. In order to remove a case from analysis, a case had to violate at least two out of four indicators of careless responding. Following the general guidelines laid out by Meade and Craig (2012), survey completion time and consistency were specifically monitored. The completion time for the survey was calculated across all cases and every case that fell under the 25th percentile (approximately 12.3 minutes compared to the mean completion time of approximately 23.5 minutes) was further analyzed for other indicators of careless responding.

The three violations that were most common include participants consistently answering extreme options across scales that do not relate such as the job satisfaction scale and the affective well-being measure, participants answering down the middle consistently throughout, or in the case of the job satisfaction scale, answering in a contradictory manner to the reverse coded item, "In general, I don't like my job." If cases violated two or more of these criteria, they were

removed from the analysis. The participants were also asked to report their job title and all cases

that did not report a nursing-related job title were removed. Finally, regression diagnostics were

conducted analyzing the standardized residuals, data point leverage, cook's distance, and

standardized DFBETAs. Only cases that violated each diagnostic criterion were removed. The

criteria can be found in Appendix I. After all forms of data cleaning, seven cases were removed

due to careless responding, thirteen cases were removed due to job title discrepancies, and one

case was removed due to outlier analysis on the regression resulting in 83 total nurses/healthcare[2]

workers (M age = 39.4 years, SD age = 12.9 years; 93% female; 62.7% Caucasian/White).

<div align="center">Procedure.</div>

The data was collected as part of a larger data collection effort focused on exploring

differences between high-risk occupations and non-high-risk occupations. All included items

were combined in a single Qualtrics survey and were administered to the nurses participating in

the larger high-risk occupation data collection.

<div align="center">Measures.</div>

In addition to the newly-developed CS-N, the following measures were included to

collect validity evidence in order to make inferences from the scale.

OCBI. The OCBI subscale from the Lee & Allen (2002) study was used for this study. As

mentioned previously, OCBI was specifically selected due to its behavioral nature as well as the

level of interpersonal interaction implied. This scale is specifically selected for not only it's

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[2] Based on previously discussed work context commonalities, other healthcare occupations were allowed in the data collection so long as they still experienced similar interpersonal relationships and job duties as nurses e.g. Physician Assistants, Home Health Worker, CNA, LPN

reliability but also for its general brevity. Lee and Allen (2002), reported the scale reliability as .83 which consists of eight total items. The scale's items ask participants to indicate how often the target person engages in activities on a frequency scale (1= Never; 5= Always). Example items include "Help others who have been absent" and "Assist others with their duties". These items can be found in Appendix B.

 General Compromising. The subscale for compromising found in the ROCI-II was used to demonstrate high convergent validity (Rahim & Magner, 1995). The subscale consists of four items that include items such as "I try to find a middle course to resolve an impasse." and "I use 'give and take' so that a compromise can be made.". This subscale has an internal consistency of 0.72. This subscale was created and validated under the strongest methodology compared to other conflict resolution measures (Womack, 1988). Additionally, this measure has received the most psychometric evidence through additional validation studies (Rahim 1983; Rahim & Magner, 1995). Participants responded to these statements using a standard five-point agreement Likert scale (1= Strongly disagree; 5= Strongly agree). These items can be found in Appendix C.

 Social Support. Social support was measured using the subscale for social support found in the work design questionnaire (Morgeson & Humphrey, 2006). Social support was measured as an antecedent in the context of this study. The scale consists of six items with sample items being "I have the opportunity to develop close friendships in my job." and "People I work with are friendly." This subscale has a Cronbach's alpha of 0.82. The items were answered on a standard five-point agreement Likert scale (1= Strongly disagree; 5= Strongly agree). These items can be found in Appendix D.

Job Satisfaction. Job Satisfaction was measured using the general job satisfaction subscale created by Cammann, Fichman, Jenkins, & Klesh (1979). Job satisfaction was measured as a general job attitude outcome in this scale and was measured across three total items. Sample items include "All in all I am satisfied with my job" and "In general, I don't like my job. (reverse scored)". Previous research has found acceptable levels of internal consistency (Bowling, & Hammond, 2008). The items were answered on a standard five-point agreement Likert scale (1= Strongly disagree; 5=Strongly Agree). These items can be found in Appendix E.

Affective Strain. Affective strain was measured using the Job-related Affective Well-being Scale (JAWS) by Van Katwyk, Fox, Spector, and Kelloway (2000). Based on previous approaches in other studies that have found interpersonal conflict to be related to the negative emotion items instead of the positive emotions, the items that will be used will be the items that were identified as items that fall into the factor "upset" as identified by Spector and Fox (2003). The participants were asked to respond to how often they experience an emotion at work. Some example emotions include "angry", "anxious", and "fatigued". There is a total of eight items and those eight items were found to have an internal consistency of 0.88 (Spector, Fox, Penney, Bruursema, Goh, & Kessler, 2006). The response choices were on a five-point frequency Likert scale (1= Never; 5= Extremely Often). These items can be found in Appendix F.

<div align="center">Data Analysis.</div>

Exploratory Factor Analysis and Reliability Analysis.

Reliability analyses were run in jamovi 0.9.6.9 with the exploratory factor analysis in SPSS 24. Jamovi is a statistical software that uses R as its base program and has already been used on several social science scale development research (García-León, González-Gómez,

Robles-Ortega, Padilla, & Peralta-Ramírez, 2019; Verrier, Johnson, & Reidy, 2018).

Additionally, the reliability analyses were replicated in SPSS 24 for fidelity purposes. Reliability

analyses were conducted for the active listening, appropriate assertiveness, and brainstorming

scales. Following the item-total correlation cutoff used by Doll and Torkzadeh (1988) of 0.5, two

active listening items were removed as well as two appropriate assertiveness items. Next, an

exploratory factor analysis (EFA) was calculated to see possible factor structure as well as

remove items based on factor loadings. The extraction method was principal axis factoring since

it is generally considered the best extraction method for non-normal distributions (Costello &

Osborne, 2005). Since the factors in question should be related theoretically, an oblique rotation

is recommended but there seems to be no preference among the oblique methods in the literature

so a direct oblimin rotation was conducted. Additionally, following the suggestion made in

Tabachnick and Fidell (2013), the direct oblimin rotation was conducted and the factor

correlations were calculated. Based on their recommendation, correlations above 0.32 warrant an

oblique rotation and the factors did have correlations above 0.32 as seen in Appendix K below.

The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO), and Bartlett's test of

sphericity were calculated as assumption checks. Both tests test the sample to see if factor

analysis is an appropriate measure for the data. The data set passed both tests with an overall

KMO of .83 and a significant chi-squared at the $p < .001$ level. Before diving into the factor

loadings, the overall factor structure was analyzed using both the amount of explained variance

per factor as well as the scree plot. Following Costello and Osborne's recommendation,

eigenvalues themselves were not primary deciding factor and instead, the scree plot was

interpreted where each "elbow" or natural bending point represents a possible factor (Costello &

Osborne, 2005). With this interpretation, the table of explained variance per eigenvalue further supports a possible three-factor model with the largest increases in explained variance occurring within the first three factors with the fourth factor reporting an eigenvalue of less than half of the third factor. Initial results provided some evidence for a single factor solution, with all items loading onto a single factor with factor loadings greater than 0.4. However, due to the information found in both the scree plot as well as the amount of variance explained by each factor, items were removed starting with the smallest factor loadings iteratively. Finally, communality was considered due to the small sample size so items that exhibited poor communality of below 0.4 were removed (MacCallum, Widaman, Zhang, & Hong, 1999)

While researchers have varied in their application of factor loading cutoffs, 0.4 has been considered a cutoff that is not minimal (Peterson, 2000). As for the item-total correlations, the cutoff established by McKelvey (1976) which is to remove items with item-total correlations lower than 0.35 was followed. Finally, the one, two, and four factor structures were tested by forcing the factor structure on the data set, and it was determined the three factor structure was optimal due to the clarity of factor loading interpretation due to a lack of significant cross-loadings. These final factor loadings can be seen in Table 4-1. After removing seven items from each of the preliminary scales, the final active listening, appropriate assertiveness, and brainstorming scales were created with four items each. More details on which items were removed and for which exclusion criteria can be found in Appendix L.

Bivariate Correlations and Relative Weights Analysis.

Bivariate correlations were calculated to assess the relationships between variables within a proposed nomological network. An additional variable was created averaging each

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participant's score for each scale. The correlations table can be found in Appendix K. While traditionally most scale correlations have been reported as Pearson correlations, due to the data violating the normality assumption, Spearman's rho (ρ) was also calculated (Pallant, 2005, Ch. 22). Strength of correlations were determined following Cohen's guidelines for correlational strength and effect size (Cohen, 1992). The RWA will be calculated using the opensource tool detailed in Tonidandel and LeBreton (2014), RWA-Web (http://relativeimportance.davidson.edu/). The first RWA will be calculated to test whether the CS-N as a whole explains more variance over the ROCI-II with job satisfaction as the dependent variable. Then the same RWA will be calculated with the individual subscales entered into the equation to test the impact of each of the subscales. Finally, these steps will be repeated for a separate RWA on negative affective well-being as the dependent variable.

<center>Study 1 Results and Discussion.</center>

<u>Scale Results and Discussion.</u>

Scale descriptive information can be found in Appendix J. Using the above data to inform item inclusion, the final pool of items is 12 items with four items loading primarily on active listening, four items loading primarily on appropriate assertiveness, and four items loading primarily on brainstorming. These final items can be found in Appendix M along with the variable labels used in the analysis for interpretation of other data tables. The active listening subscale produced a coefficient α of .84. The appropriate assertiveness subscale produced a coefficient α of .83. The brainstorming subscale produced a coefficient α of .86. Individual reliability data can be found in Appendix K. All α's were above .70 supporting H_1. After the removal of the willingness to cooperate subscale based on the SME pilot, H_2 hypothesized that

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three factors would be found. Based on the scree plot, the distribution of explained variance among factors, and the factor loadings found in the EFA, H_2 received some support. All EFA data can be found in Appendix K.

<u>Validation Results and Discussion.</u>

The correlation table can be found in Appendix K. H_3 hypothesized that each subscale would be positively and significantly correlated to job satisfaction which was supported. Active listening (AL) was positively and significantly correlated with job satisfaction, ($r = .41$ $p < .001$, $\rho = .50$ $p < .001$). Appropriate assertiveness (AA) was positively and significantly correlated with job satisfaction, ($r = .51$ $p < .001$, $\rho < .50$ $p < .001$). Brainstorming (B) was positively and significantly correlated with job satisfaction, ($r = .60$ $p < .001$, $\rho = .68$ $p < .001$) H_4 hypothesized that the active listening and appropriate assertiveness subscales would be positively and significantly correlated with social support and this was found to be true, however, the brainstorming subscale was also found to be positively and significantly correlated so this hypothesis is partially supported (AL, $r = .41$ $p < .001$, $\rho = .43$ $p < .001$; AA, $r = .54$ $p < .001$, $\rho = .52$ $p < .001$; B, $r = .66$ $p < .001$, $\rho = .62$ $p < .001$). H_5 is supported as well with all three subscales positively and significantly correlated with the ROCI-II general compromising subscale (AL, $r = .65$ $p < .001$, $\rho = .64$ $p < .001$; AA, $r = .57$ $p < .001$, $\rho = .61$ $p < .001$; B, $r = .63$ $p < .001$, $\rho = .60$ $p < .001$). H_6 is partially supported due to all three subscales significantly and positively correlating with OCBI rather than just active listening and appropriate assertiveness (AL, $r = .47$ $p < .001$, $\rho = .48$ $p < .001$; AA, $r = .44$ $p < .001$, $\rho = .42$ $p < .001$; B, $r = .48$ $p < .001$, $\rho = .46$ $p < .001$).

Before calculating the RWA, the correlations between the subscales as well as the ROCI-II were examined to confirm the concern for multicollinearity. With all predictors reporting moderate-strong correlations with each other, the initial assumption is supported thus making a RWA the most appropriate analysis to examine explained variance (Torindandel & LeBreton, 2011; Toridandel & LeBreton, 2015). Based on the RWA on job satisfaction, H_8 is supported with an additional 25.5% explained variance over the general compromising scale or in other words, approximately 69% of the explained variance found in the model can be attributed to the CS-N (Model R^2 = .37; ROCI-II, Raw Relative Weight = .11, Rescaled Relative Weight = 30.95%; CS-N, Raw Relative Weight = .26, Rescaled Relative Weight = 69.05%). Additionally, based on the confidence interval calculated, the CS-N as a whole was found to be significantly different from the ROCI-II. H_9 was not supported due to no significant amount of variance being explained onto affective well-being as measured by the JAWS items. Finally, in response to RQ_1 and RQ_2, the RWA on job satisfaction revealed the brainstorming subscale as the only subscale to produce a significant relative weight individually while both active listening and appropriate assertiveness produced nonsignificant relative weights (Confidence Interval Test of Significance, B: [.04, .28]; AL: [-.03, .10]; AA: [-.01, .21]). While brainstorming did produce a significant weight, all of the subscales were not found to be significantly different from the ROCI-II weight suggesting that the significant difference found between the CS-N as a whole may require the scales to be considered in conjunction. The full output for each RWA can be found in Appendix K.

<center>Study 2</center>

The aim of this study was to attempt to confirm the previously seen model in the EFA using structural equation modeling techniques. In order to do this, a new sample was needed following general factor analysis guidelines (Boateng, Neilands, Frongillo, Melgar-Quiñonez & Young, 2018).

<center>Sample.</center>

The sample for this study was employed nurses. Traditionally, confirmatory factor analysis (CFA) is an analysis that requires larger samples (200+). By the time data analysis had begun, the sample consisted of 118 actively employed nurses.

There were three cases of missing data and based on the lack of pattern, the missingness was considered missing at random. Due to the length of the scales, a mean imputation method was employed by calculating the mean score for each case on each scale. That mean would then be input into each missing cell rounded to the nearest response. More information on this process can be found in Appendix N. Once there were no missing values, the distribution for each scale was calculated. A filter was created to highlight all cases that responded above the 75th percentile on all three scales. Eleven total cases met this criterion so each of these cases was analyzed more closely for careless responding. After close inspection, five total cases were removed due to careless extreme responding leaving 113 employed nurses in the final data set (M age = 51.5 years, SD age = 13.9 years; 92.8% female; 88.4% Caucasian/White among the 69 participants who completed the demographics questionnaire). All demographic information can be found in Appendix O. More information on the specific cases removed can be found in Appendix N.

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Procedure.

The final sample was collected via recruitment into a mindfulness-focused intervention targeting nurses in the state of Florida. Nurses were recruited using the statewide registry that keeps track of active licensure information among nurses. All questionnaires for the present study were presented in the baseline survey, before any participants learned about their condition assignment or received the intervention, to avoid any potential contamination from the intervention itself.

Data Analysis.

The main data analysis calculated in this study was a CFA in jamovi 0.9.6.9. Before calculating the CFA, the normality of the distribution needed to be addressed. According to Tabachnick and Fidell (2013), structural equation modeling including CFA operates under normality assumptions. Likert responses were treated as normally distributed (Baggaley & Hull, 1983) unless they were identified as skewed. The scale was considered skewed if the skew value exceeded double the standard error of skewness (Brown, 1997). These skewed scales were then transformed using a square root transformation following transformation recommendations laid out by Tabachnick and Fidell (2013). The active listening scale was still considered skewed according to the above criteria so a log base 10 transformation was completed. Tables and charts for these variables can be found in Appendix P.

In structural equation modeling, it is important to approach the analyses with some sort of theoretical reasoning (Tabachnick & Fidell, 2013). In this study, a CFA was calculated for a

three-factor model that would replicate the EFA results from study 1[3]. The standardized

estimates were calculated to see individual variable input onto the proposed factor. Chi-Squared

test of exact fit was calculated however due to the sample, additional fit indices were included

following the guidance of Bollen and Long (1993) such as the comparative fit index (CFI), the

Bayesian Information Criterion (BIC) for model comparison with the BIC as an index that is less

sensitive to the number of parameters., and the root mean square error of approximation

(RMSEA) as well as the standardized root mean square residual (SRMR) as absolute fit indices

(Kenny, 2015). The RMSEA was included as the most popular absolute fit index, while the

SRMR was included due to it being the most appropriate for samples smaller than 250 (Hu &

Bentler,1999; Kenny, 2015)

Study 2 Results and Discussion.

All CFA results can be found in Appendix Q. The three-factor model was first tested as

the expected model while the one-factor model was tested for comparison purposes. Based on

the two CFAs calculated, the three-factor structure produced stronger fit indices. Specifically,

both models produced significant Chi-squared values (One-factor, $\chi^2(54) = 140$, $p < .001$; Three-

factor, $\chi^2(51) = 90.7$, $p < .001$) however, the three-factor model produced better CFI, BIC, and

RMSEA indices (One-factor, CFI = .764, BIC = -28.1, RMSEA = .118, SRMR = .085; Three-

factor, CFI = .891, BIC = -62.7, RMSEA = .083, SRMR = .074). While the three-factor model

did not meet ideal cutoffs for CFI, the RMSEA value can be interpreted as fair fit and the SRMR

meets the good fit cutoff (Browne, Cudeck, Bollen, & Long, 1993; Kenny, 2015; Tabachnick &

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[3] For comparison purposes, a one-factor model was tested. This one-factor model is meant to represent a possible factor structure that focuses on overall compromising behaviors.

Fidell, 2013). Based on these results along with the limitations with this study regarding the

sample size, there is limited support for H_7.

Table 4-1

Factor Loadings

Item	Factor 1	Factor 2	Factor 3
Active Listening_3	**.660**	.040	-.097
Active Listening_6	**.818**	.006	-.106
Active Listening_7	**.738**	-.049	-.037
Active Listening_8	**.653**	.237	.154
App Assert_4	.001	**.618**	-.085
App Assert_5	-.024	**.939**	.060
App Assert_6	.130	**.747**	-.029
App Assert_9	.176	**.474**	-.095
Brainstorm_1	.290	.240	**-.441**
Brainstorm_7	-.167	.298	**-.758**
Brainstorm_8	.244	-.187	**-.896**
Brainstorm_9	.291	.171	**-.402**

Note: All loadings above .320 are bold to indicate significant loading.

Extraction Method: Principle Axis Factoring

Rotation Method: Obilmin with Kaiser Normalization.

CHAPTER FIVE: DISCUSSION AND CONCLUSION

Based on the findings of study 1, we can reasonably conclude that a psychometrically sound instrument was created that demonstrated several pieces of validity evidence. The subscales producing acceptable coefficient alpha values allow for future validation studies to ensure the utility of the CS-N. Based on the correlational data, we have found several variables in which the CS-N subscales are positively and significantly correlated. Those variables being job satisfaction, OCBI, and social support, all of which, should be of interest for organizations and researchers alike due to their positive influence in the workplace (Heaphy & Dutton, 2008; McNeely & Meglino, 1994; Reich & Hershcovis, 2011; Saari & Judge, 2004). Additionally, the RWA revealed that the newly created subscale explained more variance in job satisfaction than the established ROCI-II. Finally, we examined the underlying factor structure using exploratory and confirmatory procedures. Based on these analyses, future works will be needed regarding the factor analytic structure but the EFA and CFA did provide initial support for the three-factor structure.

<u>Implications</u>

The implications of this study can be interpreted in a few ways. First and foremost, this study produced a scale for compromising, with special consideration where the occupational context may limit executive discretion to participate in compromising, such as in a nursing profession. With a growing interest of literature in active conflict resolution strategies, the creation of other active conflict resolution strategy scales such as the CS-N should allow for more precise measurement (Dijkstra, Beersma, & Cornelissen, 2012; Van de Vliert & Euwema, 1994). One example of this would include future work using the ARCAS model with a direct

measure of active conflict resolution to see the extent of moderation that exists. Furthermore, this scale also opens multiple avenues of research in the creation and usage of other individual conflict resolution scales, not just active strategies. The original argument for creating this scale was largely based in the bandwidth-fidelity principle where we made the argument that more specific measures should be used to measure more specific behaviors. Since the CS-N showed stronger correlation with outcomes such as OCBI and job satisfaction than the ROCI-II (CS-N-OCBI, $\rho = .52$, $p < .001$; ROCI-II-OCBI, $\rho = .48$, $p < .001$; CS-N-job satisfaction, $\rho = .67$, $p < .001$; ROCI-II-job satisfaction, $\rho = .50$, $p < .001$), then we can make the argument that this instrument captures more information than the more generic compromising subscales that exist. Finally, this measure has a direct implication of being able to serve as a diagnostic tool for nurses or other similar occupations to assess the need for possible trainings or workshops in successful conflict resolution which has already been highlighted throughout the nursing literature and done in several conflict resolution studies (Brinkert, 2010; Davidson & Wood 2004; Gerardi, 2004; Littlefield, Love, Peck, & Wertheim, 1993; Siu, Laschinger, & Finnegan, 2008; Vivar, 2006).

<u>Strengths and Limitations</u>

It is important to highlight both the strengths and limitation of these studies when considering the implications of this study. The first limitation to address is sample size. Study 1 concluded with 83 employed nurses. According to Costello & Osborne (2005), the recommended sample size for factor analyses is a sample size to item total ratio of 10:1 however that ratio can decrease depending on the strength of the structures. This ratio is traditionally on the conservative side with most suggested ratios ranging from 2:1 to 5:1. A separate Monte Carlo study indicated that communality of items, the degree to which items correlate with each other,

and overdetermination of factors is a better determiner of sample size (MacCallum, Widaman, Zhang, & Hong, 1999). This study suggested that large sample sizes are necessary for instances of very low communality and many weak factors. While the sample size could ideally be higher with a participant:item ratio of approximately 7:1, the communalities found in the exploratory factor analysis fit the description of wide to high communality items in MacCallum, Widaman, Zhang, & Hong (1999) making the sample size more acceptable for interpretation in Study 1.

Study 2 concluded with 113 employed nurses. Traditionally, CFA requires samples of a minimum of 200+ for interpretation purposes. With the sample acquired, it would be difficult to take any interpretation as definitive however, there is something to be said about the quality of the data. As previously mentioned, MacCallum et. al (1999) has commented on the nature of CFA and how theoretically, with simpler structures, the sample size may not need to be as large as is traditionally recommended. Also, most sample recommendations operate under the assumption that the population being sampled does not have any differentiating characteristics, while in this study, all 113 participants are employed nurses due to the collection methodology employed. By selecting from a more restrictive population, the quality of our response should, theoretically, be higher than if we had collected 113 general working population participants. It is for these reasons that the researcher felt that the CFA could still be calculated and interpreted, however, interpretations should still be taken with a grain of salt. With this being said, a strength of both study 1 and study 2's samples is the quality and variety of sample. Many field data studies suffer from collecting data from one single source while both study 1 and study 2 collected data from very diverse sources with a highly specialized population.

A limitation of this study is that it did not collect all types of validity evidence. Future validation efforts should test discriminant validity with variables such as agreeableness that has some theoretical guidance according to some conflict resolution frameworks (Van de Vliert & Euwema, 1994). The choice to use factor analysis as a form of validation is also a possible source of controversy. Due to its interpretive nature, structural equation modeling has been criticized for potential misinterpretation based on atheoretical model specifications and modifications (Kelloway, 1995). That being said, the researcher made sure to follow many different guidelines to avoid any sort of malpractice. (Boateng, Neilands, Frongillo, Melgar-Quiñonez & Young, 2018; Corner, 2009; Kelloway, 1995 Tabachnick & Fidell, 2013; Thompson & Daniel, 1996).

A common limitation to any study using the same method in measures is related to the possibility of common method bias. This bias refers to the possibility of correlations among different traits having an inflated score due to the common method rather than the true nature between traits (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Along with the concept of common method bias is the idea of self-report measures inflating correlations due to outside factors such as social-desirability and acquiescence. The problem with this assumption is that it assumes that only self-report measures suffer from these possible effects while, in reality, all measure sources could suffer (Conway & Lance, 2010). While it is true that the measures being used all use self-report measures, it is important to note that there is rationale behind their use.

Starting with the CS-N, this scale was created with self-report in mind because the scale is meant to capture the personal tendency in which an individual would engage in compromising behavior. Since compromising was created with factors such as active listening, appropriate

assertiveness, and brainstorming in mind, many of the signs of each of these factors would be difficult for others to perceive frequently. This also follows the fact that compromising does not always occur in the real world as cleanly as the definitions may imply. This notion was highlighted in the nurse SME interviews specifically. Compromising as a strategy exists because the needs of two parties are mutually exclusive but still important (Rahim & Bonoma, 1979). As a result, much of what constitutes compromising involves deciding what is necessary and what can be sacrificed. The researcher believes self-report was able to capture this process better than other sources at least for the purpose of the CS-N. For the rest of the measures; OCBI, social support, job satisfaction, affective well-being, and the ROCI-II, the researcher follows the justification that the measures are not being collected as a part of an evaluation to avoid self-inflation. Finally, according to a study by Cheung, Burns, Sinclair, & Sliter (2017), MTurk studies were actually found to have a reduced social-desirability effect which can help combat these possible measures being inflated. While MTurk was not employed in study 1, the Qualtrics panel method employed follows even more firm selection criteria than MTurk and provides a similar environment for participants to not be affected by social-desirability effects.

<u>Conclusion and Future Directions.</u>

In summary, the proposed study aimed to fill a gap within the conflict resolution literature by providing an instrument with a level of specificity that has not been seen in the literature. In the creation of this scale, the hope is to spur future work in exploring and establishing in more nuanced detail the uses and effectiveness of all conflict resolution strategies, as well as promote a more nuanced examination of specific strategies in occupations that may be influenced by unique contextual variables. While it is easy to write off some conflict resolution

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strategies as weaker or not as optimal, there are situations that call for the use of each strategy. Based on the literature that currently exists, this paper aimed to provide an instrument that will not only measure compromising but also assist in sharpening the conflict resolution skills of nursing professionals (Brinkert, 2010; Gerardi, 2004; Vivar 2006).

APPENDIX A:
GENERAL COMPROMISING SCALE ITEMS

Table A-1
Preliminary General Compromising Items
To what extent do the following statements reflect your tendencies on a scale from one to five where one represents strongly disagree and five represents strongly agree.

<u>Willingness to Cooperate</u>

I believe that cooperation is the best way to reach an agreement.

I am interested in finding a solution that is in the best interest of the other party and myself.

I have a positive relationship with most people I negotiate with.

I collaborate with the other person in formulating a solution.

<u>Social Monitoring</u>

I maintain a professional composure even when I am upset.

I am aware of my emotions at all times.

I am always aware of where my emotions come from.

I consider how my tone impacts other people.

APPENDIX B:
LEE & ALLEN'S (2002) INTERPERSONAL ORGANIZATIONAL
CITIZENSHIP BEHAVIORS ITEMS

Table B-1
OCBI Items
How often do you participate in the following actions on a scale from one to seven where one represents never and seven represents always:

Help others who have been absent.

Willingly give your time to help others who have work-related problems.

Adjust your work schedule to accommodate other employees' requests for time off.

Go out of the way to make newer employees feel welcome in the work group.

Show genuine concern and courtesy toward coworkers, even under the most trying business or personal situations.

Give up time to help other who have work or nonwork problems.

Assist others with their duties.

Share personal property with others to help their work.

APPENDIX C:
THE RAHIM ORGANIZATIONAL CONFLICT INSTRUMENT-II
COMPROMISING SUBSCALE

Table C-1

ROCI-II Items

To what extent do the following statements reflect your tendencies on a scale from one to five where one represents strongly disagree and five represents strongly agree.

I try to find a middle course to resolve an impasse.

I usually propose a middle ground for breaking deadlocks.

I negotiate with my supervisor so that a compromise can be reached.

I use "give and take" so that a compromise can be made.

APPENDIX D:
MORGESON & HUMPHREY'S (2006) SOCIAL SUPPORT SUBSCALE

Table D-1

Social Support Subscale Items

To what extent do the following statements reflect your work environment on a scale from one to five where one represents strongly disagree and five represents strongly agree.

I have the opportunity to develop close friendships in my job.

I have the chance in my job to get to know other people.

I have the opportunity to meet with others in my work.

My supervisor is concerned about the welfare of the people that work for him/her.

People I work with take a personal interest in me.

People I work with are friendly.

APPENDIX E:
CAMMANN, FICHMAN, JENKINS, & KLESH'S (1979) JOB
SATISFACTION SUBSCALE FROM THE MICHIGAN
ORGANIZATIONAL ASSESSMENT QUESTIONNAIRE.

Table E-1

MOAQ Job Satisfaction Subscale Items

To what extent do the following statements reflect your attitudes on a scale from one to five where one represents strongly disagree and five represents strongly agree.

All in all I am satisfied with my job.

In general, I don't like my job.*

In general, I like working here.

* An asterisk refers to items that are reverse coded.

APPENDIX F:
VAN KATWYK, FOX, SPECTOR, AND KELLOWAY'S (1999) JOB-RELATED AFFECTIVE WELL-BEING SCALE. THE FOLLOWING ITEMS ARE THE ITEMS THAT FORMED THE "UPSET" FACTOR FOUND IN A FACTOR ANALYSIS CONDUCTED BY SPECTOR AND FOX (2003).

Table F-1

JAWS "Upset" Items

Below are a number of statements that describe different emotions that a job can make a person feel. Please indicate the amount to which <u>any part of your job (e.g., the work, coworkers, supervisor, clients, pay) has made you feel</u> that emotion in the past <u>30</u> days. Please check one response for each item that best indicates how often you've experienced each emotion at work over the past 30 days. (1= Never; 2= Rarely; 3= Sometimes; 4= Quite Often; 5= Extremely often)

My job makes me feel angry.

My job makes me feel anxious.

My job makes me feel depressed.

My job makes me feel discouraged.

My job makes me feel fatigued.

My job makes me feel frightened.

My job makes me feel furious.

My job makes me feel gloomy.

APPENDIX G:
NURSE SME INTERVIEW QUESTIONS

- **Question 1:** How would you describe your experience as a Nurse in a few sentences?

- **Question 2:** Compromising is a type of conflict resolution strategy that involves sacrificing something to reach your goal. Would you consider compromising to have a role in your work as a nurse and if so, to what extent?

- **Question 3:** Try to think of a specific instance in which you compromised with someone else. What kind of behaviors did you do in order to come to a compromise?

- **Question 4:** In trying to create a compromising scale, I have tried to breakdown compromising into its components. Those components are Active listening, A willingness to cooperate, Appropriate Assertiveness, and Brainstorming. Do you agree with these components? Why or why not?

- **Question 5:** I will read a few items from compromising subscales found in current conflict resolution measures. For each item, I want you to tell me whether you think that item is applicable to nurses or not and why.

  Item 1: *I try to find a middle course to resolve an impasse.*

  Item 2: *I try to realize a middle of the road solution.*

  Item 3: *I negotiate with my supervisor so that a compromise can be reached.*

  Item 4: *I insist we both give in a little.*

- **Question 6:** Do you have any final questions?

APPENDIX H:
MODIFIED ITEMS AFTER SME CATEGORIZATION

Table H-1
CS-N Active Listening Subscale Items Before Study 1.

When I converse with someone, I pay attention when they talk.

If I don't understand something, I ask clarifying questions.

I can summarize the conversations I have with others.

I cannot compromise without actively listening to the other person.

When I converse with someone, I respond using the information presented to me.

I am focused on the topic at hand during a conversation.

I use nonverbal cues like head nodding to express that I am paying attention.

Part of identifying a problem is listening to those who have a problem.

I come to a compromise more often when I actively listen to the other person.

I do not get distracted easily when someone else is talking to me.

I do not rush the other person when they are talking.

Table H-2
CS-N Appropriate Assertiveness Subscale Items Before Study 1.

I am aware of my emotions at all times.

I am always aware of the source of my emotions.

I consider how my tone impacts other people.

I maintain a professional composure even when I am upset.

I know when it is appropriate to be assertive.

I make sure to assert myself when I need to.

I do not always have to be assertive.

I assert myself differently depending on who I am talking to.

I can advocate for myself.

When I assert myself, I think about how I may impact others.

I need to assert myself from time to time at my job.

Table H-3

CS-N Brainstorming Subscale Items Before Study 1.

When facing a problem, I think about my options to solve it.

I use brainstorming techniques to get my way when I can.

I try to think about options that help me reach my goal.

If I can't get my way, brainstorming helps me identify alternatives.

I need to brainstorm options regularly at my job.

When I am presented with a problem, I generally think there is more than one way to solve it.

My co-workers think I am good at coming up with ideas.

I prioritize the goal when brainstorming.

I recognize the value in thinking of multiple options.

I tend to discuss alternatives with people I have a conflict with often.

I do not limit myself to conventional options when solving a problem

APPENDIX I:
STUDY 1 DATA CLEANING

Table I-1
Data Cleaning Regression Diagnostic Criteria

Diagnostic Criteria	Formula	Cutoff
Cook's Distance	3μ	0.0447
Standardized Residuals	$1.96 < X$ OR $-1.96 > X$	$1.96 < X$ OR $-1.96 > X$
Standardized DFBETA	$2/\sqrt{N}$	+ 0.21822 or - 0.21822
Leverage	$3k/N$	$X > 0.142857$

APPENDIX J:
SCALE DESCRIPTIVES

Table J-1
 Scale Descriptives

	OCBI_Scale	ROCI_Scale	SocialSupport_Scale	JobSat_Scale	JAWS_Scale
N	83	83	83	83	83
Missing	0	0	0	0	0
Mean	3.30	3.70	3.73	3.69	2.52
Minimum	1	1.00	1.00	1.00	1.00
Maximum	5	5.00	5.00	5.00	4.38
Skewness	0.292	-0.554	-0.795	-0.349	0.0418
Std. error skewness	0.264	0.264	0.264	0.264	0.264
Kurtosis	0.0756	1.14	0.668	-0.491	-0.877
Std. error kurtosis	0.523	0.523	0.523	0.523	0.523

Table J-1
Continued.

	AL_Scale	AA_Scale	Brainstorming_Scale	CS-N
N	83	83	83	83
Missing	0	0	0	0
Mean	3.95	3.86	3.67	3.83
Minimum	1.75	1.25	1	1.75
Maximum	5.00	5.00	5	5.00
Skewness	-0.620	-0.568	-0.820	-0.429
Std. error skewness	0.264	0.264	0.264	0.264
Kurtosis	0.0370	0.254	0.912	0.213
Std. error kurtosis	0.523	0.523	0.523	0.523

APPENDIX K:
STUDY 1 DATA ANALYSES

Communalities

	Initial	Extraction
ActiveListening_3AgreementLikertScale	.543	.541
ActiveListening_6AgreementLikertScale	.711	.772
ActiveListening_7AgreementLikertScale	.546	.535
ActiveListening_8AgreementLikertScale	.551	.542
AppAssert_4AgreementLikertScale	.450	.435
AppAssert_5AgreementLikertScale	.717	.815
AppAssert_6AgreementLikertScale	.699	.702
AppAssert_9AgreementLikertScale	.427	.409
Brainstorm_1AgreementLikertScale	.621	.626
Brainstorm_7AgreementLikertScale	.695	.710
Brainstorm_8AgreementLikertScale	.781	.918
Brainstorm_9AgreementLikertScale	.591	.502

Extraction Method: Principal Axis Factoring.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.832
Bartlett's Test of Sphericity	Approx. Chi-Square	588.074
	df	66
	Sig.	.000

Factor Correlation Matrix

Factor	1	2	3
1	1.000	.533	-.487
2	.533	1.000	-.430
3	-.487	-.430	1.000

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.

Figure K-1: Exploratory Factor Analysis Outputs

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	6.015	50.126	50.126	5.656	47.134	47.134	4.383
2	1.326	11.048	61.174	1.036	8.635	55.769	4.106
3	1.142	9.520	70.694	.813	6.777	62.546	3.584
4	.675	5.625	76.319				
5	.597	4.974	81.294				
6	.581	4.845	86.139				
7	.434	3.615	89.754				
8	.383	3.195	92.948				
9	.308	2.568	95.516				
10	.248	2.069	97.586				
11	.178	1.482	99.068				
12	.112	.932	100.000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Figure K-1: Continued.

Scree Plot
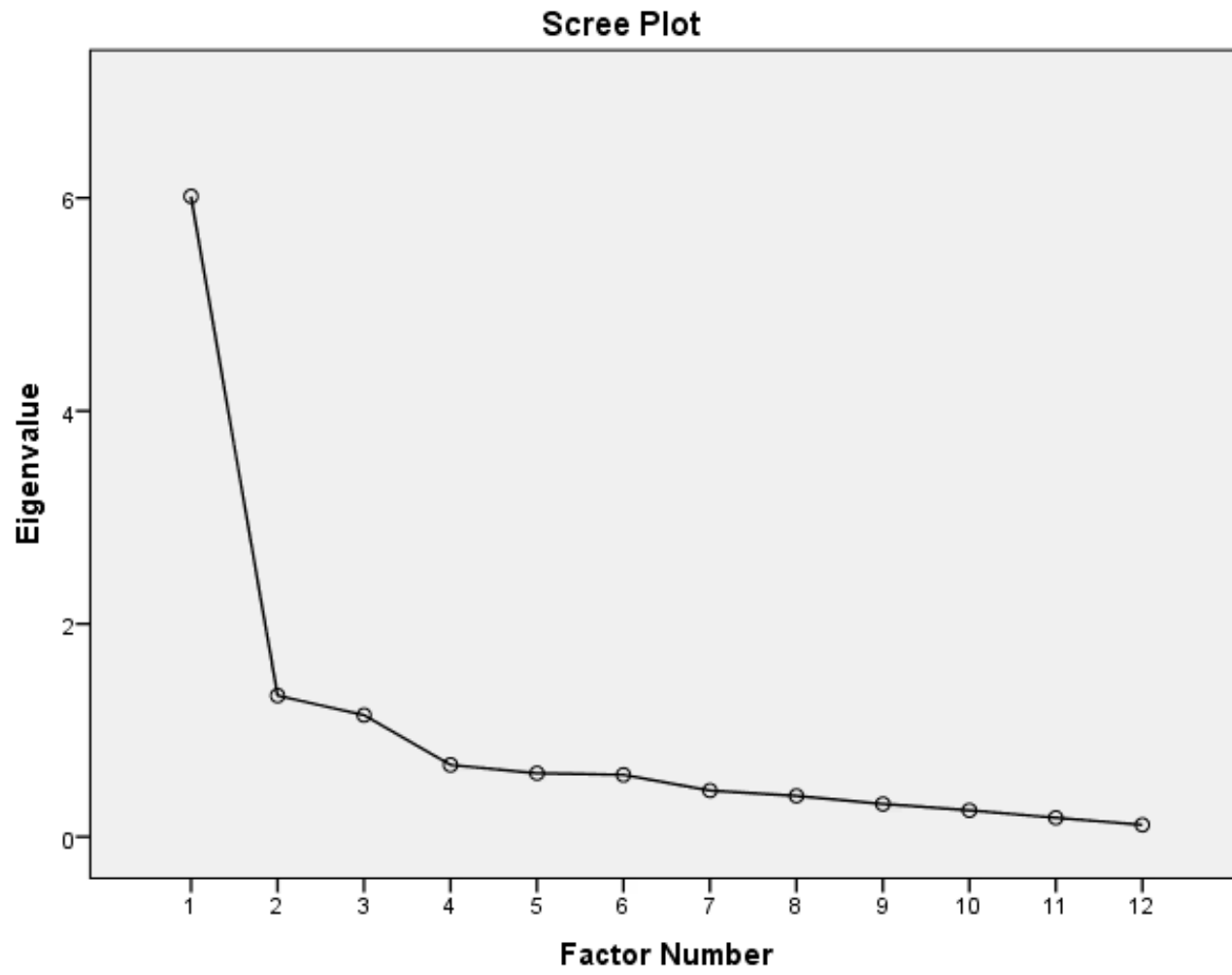
Figure K-1: Continued.

Pattern Matrix[a]

	Factor		
	1	2	3
ActiveListening_3AgreementLikertScale	.660	.040	-.097
ActiveListening_6AgreementLikertScale	.818	.006	-.106
ActiveListening_7AgreementLikertScale	.738	-.049	-.037
ActiveListening_8AgreementLikertScale	.653	.237	.154
AppAssert_4AgreementLikertScale	.001	.618	-.085
AppAssert_5AgreementLikertScale	-.024	.939	.060
AppAssert_6AgreementLikertScale	.130	.747	-.029
AppAssert_9AgreementLikertScale	.176	.474	-.095
Brainstorm_1AgreementLikertScale	.290	.240	-.441
Brainstorm_7AgreementLikertScale	-.167	.298	-.758
Brainstorm_8AgreementLikertScale	.244	-.187	-.896
Brainstorm_9AgreementLikertScale	.291	.171	-.402

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 9 iterations.

Figure K-1: Continued.

Table K-1

Active Listening Item Reliability Statistics

| | | if item dropped | |
	item-rest correlation	Cronbach's α	McDonald's ω
ActiveListening_3AgreementLikertScale	0.696	0.873	0.877
ActiveListening_6AgreementLikertScale	0.742	0.870	0.874
ActiveListening_7AgreementLikertScale	0.602	0.878	0.883
ActiveListening_8AgreementLikertScale	0.642	0.876	0.881
ActiveListening_1AgreementLikertScale	0.610	0.878	0.883
ActiveListening_2AgreementLikertScale	0.613	0.878	0.883
ActiveListening_4AgreementLikertScale	0.477	0.886	0.890
ActiveListening_5AgreementLikertScale	0.591	0.879	0.884
ActiveListening_9AgreementLikertScale	0.722	0.870	0.876
ActiveListening_10AgreementLikertScale	0.407	0.891	0.894
ActiveListening_11AgreementLikertScale	0.618	0.877	0.883

Table K-2

Final Active Listening Item Reliability Statistics

	item-rest correlation	if item dropped	
		Cronbach's α	McDonald's ω
ActiveListening_3AgreementLikertScale	0.668	0.796	0.806
ActiveListening_6AgreementLikertScale	0.768	0.753	0.756
ActiveListening_7AgreementLikertScale	0.620	0.817	0.823
ActiveListening_8AgreementLikertScale	0.632	0.813	0.817

Scale Reliability Statistics

	Cronbach's α
scale	0.838

Table K-3

Appropriate Assertiveness Item Reliability Statistics

	item-rest correlation	if item dropped	
		Cronbach's α	McDonald's ω
AppAssert_4AgreementLikertScale	0.683	0.858	0.897
AppAssert_5AgreementLikertScale	0.766	0.857	0.892
AppAssert_6AgreementLikertScale	0.798	0.855	0.890
AppAssert_9AgreementLikertScale	0.657	0.859	0.898
AppAssert_1AgreementLikertScale	0.489	0.867	0.904
AppAssert_2AgreementLikertScale	0.373	0.873	0.909
AppAssert_3AgreementLikertScale	0.621	0.861	0.899
AppAssert_7AgreementLikertScale	0.526	0.866	0.903
AppAssert_8AgreementLikertScale	0.520	0.866	0.903
AppAssert_10AgreementLikertScale	0.720	0.858	0.893
AppAssert_11AgreementLikertScale	0.541	0.866	0.901

Table K-4

Final Appropriate Assertiveness Item Reliability Statistics

	item-rest correlation	if item dropped	
		Cronbach's α	McDonald's ω
AppAssert_4AgreementLikertScale	0.569	0.821	0.836
AppAssert_5AgreementLikertScale	0.741	0.747	0.766
AppAssert_6AgreementLikertScale	0.764	0.731	0.752
AppAssert_9AgreementLikertScale	0.566	0.824	0.837

Scale Reliability Statistics

	Cronbach's α
scale	0.826

Table K-5

Brainstorming Item Reliability Statistics

	item-rest correlation	if item dropped	
		Cronbach's α	McDonald's ω
Brainstorm_5AgreementLikertScale	0.589	0.907	0.909
Brainstorm_7AgreementLikertScale	0.668	0.902	0.905
Brainstorm_8AgreementLikertScale	0.731	0.899	0.901
Brainstorm_9AgreementLikertScale	0.681	0.902	0.904
Brainstorm_1AgreementLikertScale	0.746	0.898	0.900
Brainstorm_2AgreementLikertScale	0.614	0.906	0.908
Brainstorm_3AgreementLikertScale	0.753	0.898	0.900
Brainstorm_4AgreementLikertScale	0.628	0.905	0.907
Brainstorm_6AgreementLikertScale	0.669	0.903	0.905
Brainstorm_10AgreementLikertScale	0.651	0.903	0.905
Brainstorm_11AgreementLikertScale	0.557	0.908	0.910

Table K-6

Final Brainstorming Item Reliability Statistics

| | | if item dropped | |
	item-rest correlation	Cronbach's α	McDonald's ω
Brainstorm_1AgreementLikertScale	0.706	0.821	0.832
Brainstorm_7AgreementLikertScale	0.706	0.821	0.824
Brainstorm_8AgreementLikertScale	0.767	0.795	0.801
Brainstorm_9AgreementLikertScale	0.649	0.844	0.846

Scale Reliability Statistics

	Cronbach's α
scale	0.860

Table K-7
Correlation Matrix

		CS-N	AL	AA	Brainstorming	ROCI	SocialSupport	JobSat	OCBI	JAWS
CS-N	Pearson's r	—	0.842	0.827	0.861	0.725	0.641	0.606	0.547	-0.107
	p-value	—	<.001	<.001	<.001	<.001	<.001	<.001	<.001	0.334
	Spearman's rho	—	0.839	0.837	0.843	0.719	0.628	0.672	0.515	-0.199
	p-value	—	<.001	<.001	<.001	<.001	<.001	<.001	<.001	0.072
AL	Pearson's r		—	0.554	0.600	0.645	0.405	0.409	0.468	-0.015
	p-value		—	<.001	<.001	<.001	<.001	<.001	<.001	0.890
	Spearman's rho		—	0.593	0.593	0.639	0.432	0.498	0.477	-0.122
	p-value		—	<.001	<.001	<.001	<.001	<.001	<.001	0.271
AA	Pearson's r			—	0.551	0.565	0.542	0.509	0.436	-0.128
	p-value			—	<.001	<.001	<.001	<.001	<.001	0.249
	Spearman's rho			—	0.587	0.610	0.520	0.495	0.418	-0.173
	p-value			—	<.001	<.001	<.001	<.001	<.001	0.118
B	Pearson's r					0.626	0.660	0.604	0.480	-.0123
	p-value				—	<.001	<.001	<.001	<.001	0.267
	Spearman's rho				—	0.601	0.622	0.678	0.455	-0.213
	p-value				—	<.001	<.001	<.001	<.001	0.053

Table K-7
Continued

		ROCI	Social Support	Job Sat	OCBI	JAWS
Brainstorming	Pearson's r	—	0.626	0.660	0.604	0.480	-0.123
	p-value	—	< .001	< .001	< .001	< .001	0.267
	Spearman's rho	—	0.601	0.622	0.678	0.455	-0.213
	p-value	—	< .001	< .001	< .001	< .001	0.053
ROCI	Pearson's r		—	0.555	0.476	0.518	-0.159
	p-value		—	< .001	< .001	< .001	0.152
	Spearman's rho		—	0.527	0.495	0.484	-0.227
	p-value		—	< .001	< .001	< .001	0.039
Social Support	Pearson's r			—	0.609	0.536	-0.055
	p-value			—	< .001	< .001	0.622
	Spearman's rho			—	0.613	0.560	-0.147
	p-value			—	< .001	< .001	0.186
Job Sat	Pearson's r				—	0.426	-0.320
	p-value				—	< .001	0.003
	Spearman's rho				—	0.448	-0.365
	p-value				—	< .001	< .001
OCBI	Pearson's r					—	-0.045
	p-value					—	0.685
	Spearman's rho					—	-0.054
	p-value					—	0.627

CS-N vs ROCI-II on Job Satisfaction RWA Output.

> #R-squared For the Model
> RSQ.Results
[1] 0.3698184
>
> #The Raw and Rescaled Weights
> RW.Results
  Variables Raw.RelWeight Rescaled.RelWeight
1 ROCI_Scale   0.1144554   30.94908
2 CSN_Scale 0.2553630   69.05092
> #BCa Confidence Intervals around the raw weights
> CI.Results
  Variables CI.Lower.Bound CI.Upper.Bound
1 ROCI_Scale   0.04023083   0.2139074
2 CSN_Scale   0.13138335   0.3942631
> #BCa Confidence Interval Tests of significance
> #If Zero is not included, Weight is Significant
> CI.Significance
       Labels CI.Lower.Bound CI.Upper.Bound
1 ROCI_Scale   0.03340858   0.2308014
2 CSN_Scale   0.12962084   0.4039094
> #BCa Confidence Interval Tests of significance
> #Comparing one predictor with all others
> #If Zero is not included, Weights are Significantly different from one another
> CI.Predictor.Comparison
       Labels2 CI.Lower.Bound CI.Upper.Bound
1 CSN_Scale 0.001502856   0.3225726

CS-N Subscales vs ROCI-II on Job Satisfaction RWA Output.

> #R-squared For the Model
> RSQ.Results
[1] 0.4108987
>
> #The Raw and Rescaled Weights
> RW.Results
          Variables Raw.RelWeight Rescaled.RelWeight
1   ROCI_Scale   0.15428271   37.547624
2   AL_Scale   0.03075950   7.485907
3   AA_Scale   0.07210038   17.546994
4 Brainstorming_Scale   0.15375615   37.419474
> #BCa Confidence Intervals around the raw weights
> CI.Results
          Variables CI.Lower.Bound CI.Upper.Bound
1   ROCI_Scale   0.050320218   0.44858207
2   AL_Scale   0.007899577   0.08310522
3   AA_Scale   0.016756419   0.20090171
4 Brainstorming_Scale   0.049113667   0.27701643
> #BCa Confidence Interval Tests of significance
> #If Zero is not included, Weight is Significant
> CI.Significance
           Labels CI.Lower.Bound CI.Upper.Bound
1   ROCI_Scale   0.036263440   0.45879145
2   AL_Scale   -0.033136751   0.09621013
3   AA_Scale   -0.007817458   0.21258587
4 Brainstorming_Scale   0.035556926   0.28352422
> #BCa Confidence Interval Tests of significance
> #Comparing one predictor with all others
> #If Zero is not included, Weights are Significantly different from one another
> CI.Predictor.Comparison
           Labels2 CI.Lower.Bound CI.Upper.Bound
1   AL_Scale   -0.4736376   -0.005320864
2   AA_Scale   -0.4139828   0.091396033
3 Brainstorming_Scale   -0.3879808   0.197166956

CS-N vs ROCI-II on JAWS RWA Output.

> #R-squared For the Model
> RSQ.Results
[1] 0.02532591
>
> #The Raw and Rescaled Weights
> RW.Results
  Variables Raw.RelWeight Rescaled.RelWeight
1 ROCI_Scale 0.019490386   76.95827
2 CSN_Scale 0.005835528   23.04173
> #BCa Confidence Intervals around the raw weights
> CI.Results
  Variables CI.Lower.Bound CI.Upper.Bound
1 ROCI_Scale 1.663761e-04   0.12595594
2 CSN_Scale 1.089599e-05   0.02714851
> #BCa Confidence Interval Tests of significance
> #If Zero is not included, Weight is Significant
> CI.Significance
      Labels CI.Lower.Bound CI.Upper.Bound
1 ROCI_Scale   -0.1325495   0.09938978
2 CSN_Scale -0.1359233   0.03878284
> #BCa Confidence Interval Tests of significance
> #Comparing one predictor with all others
> #If Zero is not included, Weights are Significantly different from one another
> CI.Predictor.Comparison
      Labels2 CI.Lower.Bound CI.Upper.Bound
1 CSN_Scale -0.1227647   0.01721767

CS-N Subscales vs ROCI-II on JAWS RWA Output.

> #R-squared For the Model
> RSQ.Results
[1] 0.04821671
>
> #The Raw and Rescaled Weights
> RW.Results
  Variables Raw.RelWeight Rescaled.RelWeight
1 ROCI_Scale   0.019982004   41.44207
2   AL_Scale   0.008740688   18.12792
3   AA_Scale   0.010314821   21.39263
4   B_Scale   0.009179201   19.03738
> #BCa Confidence Intervals around the raw weights
> CI.Results
  Variables CI.Lower.Bound CI.Upper.Bound
1 ROCI_Scale   0.0009581993   0.11106216
2   AL_Scale   0.0004467545   0.03480989
3   AA_Scale   0.0007066373   0.05311315
4   B_Scale   0.0003284194   0.04242239
> #BCa Confidence Interval Tests of significance
> #If Zero is not included, Weight is Significant
> CI.Significance
        Labels CI.Lower.Bound CI.Upper.Bound
1 ROCI_Scale -0.06094913   0.13929672
2   AL_Scale   -0.08147077   0.04772120
3   AA_Scale   -0.06292095   0.06773520
4   B_Scale   -0.08210528   0.05321136
> #BCa Confidence Interval Tests of significance
> #Comparing one predictor with all others
> #If Zero is not included, Weights are Significantly different from one another
> CI.Predictor.Comparison
  Labels2 CI.Lower.Bound CI.Upper.Bound
1 AL_Scale   -0.1203683   0.04404060
2 AA_Scale   -0.1075868   0.03436855
3 B_Scale   -0.1233337   0.03349625

APPENDIX L:
STUDY 1 ITEM REMOVAL

Table L-1
List of Items Removed with Removal Explanation

Item	Reason for Removal
ActiveListening_1	Lowest factor loading among Active Listening
ActiveListening_2	Lowest factor loading among Active Listening
ActiveListening_4	Item-total correlation < 0.5
ActiveListening_5	Lowest factor loading among Active Listening
ActiveListening_10	Item-total correlation < 0.5
ActiveListening_11	Below 0.4 Factor Loading
AppAssert_1	Item-total correlation < 0.5
AppAssert_2	Item-total correlation < 0.5
AppAssert_3	Lowest factor loading among Appropriate Assertiveness
AppAssert_7	Lowest factor loading among Appropriate Assertiveness
AppAssert_8	Cross Loading Below 0.4
AppAssert_10	Lowest factor loading among Appropriate Assertiveness
AppAssert_11	Below 0.4 Factor Loading
Brainstorm_2	Lowest factor loading among Brainstorming
Brainstorm_3	Lowest factor loading among Brainstorming
Brainstorm_4	Cross loading below 0.4
Brainstorm_5	Low contributor to communality < 0.4
Brainstorm_6	Below 0.4 Factor Loading
Brainstorm_10	Lowest factor loading among Brainstorming
Brainstorm_11	Lowest contributor to communality < 0.4

APPENDIX M:
FINAL ITEMS

Table M-1
Final Items along with Variable labels

Active Listening	Variable Name
I can summarize the conversations I have with others.	Active Listening_3
I am focused on the topic at hand during a conversation.	Active Listening_6
I use nonverbal cues like head nodding to express that I am paying attention.	Active Listening_7
Part of identifying a problem is listening to those who have a problem.	Active Listening_8

Appropriate Assertiveness	
I maintain a professional composure even when I am upset.	App Assert_4
I know when it is appropriate to be assertive.	App Assert_5
I make sure to assert myself when I need to.	App Assert_6
I can advocate for myself.	App Assert_9

Brainstorming	
When facing a problem, I think about my options to solve it..	Brainstorm_1
My co-workers think I am good at coming up with ideas.	Brainstorm_7
I prioritize the goal when brainstorming.	Brainstorm_8
I recognize the value in thinking of multiple options.	Brainstorm_9

APPENDIX N:
STUDY 2 DATA CLEANING

Table N-1
Data Imputation

Case	Scale Affected	Data Input
1	Brainstorming	5
5	Appropriate Assertiveness	3
38	Brainstorming and Appropriate Assertiveness	4

Table N-2
Case Removal

Case	Reason for Removal
3	Extreme responding with near identical responses.
9	Extreme responding with near identical responses.
26	Extreme responding with near identical responses.
111	Extreme responding with near identical responses.
112	Extreme responding with near identical responses.

APPENDIX O:
STUDY 2 DEMOGRAPHICS

Table O-1
Frequencies of Gender

Levels	Counts	% of Total	Cumulative %
1	5	7.2 %	7.2 %
2	64	92.8 %	100.0 %

Descriptives

	Age
N	68
Missing	45
Mean	51.5
Standard deviation	13.9
Minimum	21.0
Maximum	77.0

Table O-2
Frequencies of Age - Transform 2

Levels	Counts	% of Total	Cumulative %
1	4	5.9 %	5.9 %
2	10	14.7 %	20.6 %
3	9	13.2 %	33.8 %
4	16	23.5 %	57.4 %
5	22	32.4 %	89.7 %
6	7	10.3 %	100.0 %

Table O-3
Frequencies of Education

Levels	Counts	% of Total	Cumulative %
4	18	26.1 %	26.1 %
5	24	34.8 %	60.9 %
6	20	29.0 %	89.9 %
7	7	10.1 %	100.0 %

Table O-4
Frequencies of Race

Levels	Counts	% of Total	Cumulative %
2	1	1.4 %	1.4 %
3	3	4.3 %	5.8 %
3,4	1	1.4 %	7.2 %
3,5	1	1.4 %	8.7 %
4	61	88.4 %	97.1 %
5	1	1.4 %	98.6 %
6	1	1.4 %	100.0 %

APPENDIX P:
TRANSFORMED VARIABLES

Table P-1
Vairable Descriptives

	AL_Scale Pretransformation	AA Scale Pretransformation	B Scale Pretransformation
N	113	113	113
Missing	0	0	0
Mean	4.28	4.03	4.18
Standard deviation	0.575	0.663	0.552
Minimum	2.50	2.00	2.50
Maximum	5.00	5.00	5.00
Skewness	-0.799	-0.542	-0.523
Std. error skewness	0.227	0.227	0.227
Kurtosis	0.292	-0.132	0.0357
Std. error kurtosis	0.451	0.451	0.451
Shapiro-Wilk p	$< .001$	$< .001$	$< .001$

Table P-2
Transformed Variable Descriptives

	AL Scale Log	AA Scale Avg	B Scale Avg
N	113	113	113
Missing	0	0	0
Mean	0.191	1.37	1.32
Standard deviation	0.137	0.232	0.203
Minimum	0.00	1.00	1.00
Maximum	0.540	2.00	1.87
Skewness	0.348	0.225	0.271
Std. error skewness	0.227	0.227	0.227
Kurtosis	-0.631	-0.513	-0.426
Std. error kurtosis	0.451	0.451	0.451

APPENDIX Q:
STUDY 2 DATA ANALYSIS

Table Q-1
Factor Correlation Matrix

		AL Scale Avg	AA Scale Avg	B Scale Avg
AL Scale Avg	Pearson's r	—	0.484	0.417
	p-value	—	< .001	< .001
AA Scale Avg	Pearson's r		—	0.515
	p-value		—	< .001
B Scale Avg	Pearson's r			—
	p-value			—

Table Q-2
Three-Factor Factor Loadings

Factor	Indicator	Estimate	SE	Z	p	Stand. Estimate
AL	AL3_Log	0.1469	0.0190	7.75	<.001	0.742
	AL6_Log	0.1303	0.0193	6.75	<.001	0.658
	AL7_Log	0.0885	0.0179	4.96	<.001	0.510
	AL8_Log	0.0927	0.0185	5.01	<.001	0.508
AA	AA4_SQRT	0.1651	0.0326	5.07	<.001	0.507
	AA5_SQRT	0.1863	0.0229	8.12	<.001	0.734
	AA6_SQRT	0.2522	0.0281	8.98	<.001	0.805
	AA9_SQRT	0.2120	0.0307	6.90	<.001	0.648
B	B1_SQRT	0.1634	0.0249	6.56	<.001	0.643
	B7_SQRT	0.1657	0.0311	5.34	<.001	0.549
	B8_SQRT	0.1560	0.0274	5.69	<.001	0.571
	B9_SQRT	0.1922	0.0268	7.18	<.001	0.704

Table Q-3
Three-Factor Factor Covariances

	Estimate	SE	Z	p	Stand. Estimate
AL	1.000 [a]				
AA	0.643	0.0895	7.19	< .001	0.643
B	0.617	0.1047	5.89	< .001	0.617
AA	1.000 [a]				
B	0.617	0.0973	6.34	< .001	0.617
B	1.000 [a]				

[a] fixed parameter

Table Q-4

Three-Factor Model Fit Indices

Test for Exact Fit

χ^2	df	p
90.7	51	< .001

Fit Measures

			RMSEA 90% CI		
CFI	SRMR	RMSEA	Lower	Upper	BIC
0.891	0.0740	0.0830	0.0543	0.110	-62.7

Table Q-5
One-Factor Factor Loadings

Factor	Indicator	Estimate	SE	Z	p	Stand. Estimate
Compromising	AA9_SQRT	0.1741	0.0315	5.53	< .001	0.532
	AA4_SQRT	0.1867	0.0304	6.15	< .001	0.573
	AA5_SQRT	0.1711	0.0230	7.43	< .001	0.674
	AA6_SQRT	0.2064	0.0289	7.14	< .001	0.659
	B1_SQRT	0.1476	0.0238	6.20	< .001	0.581
	B7_SQRT	0.1283	0.0298	4.30	< .001	0.425
	B8_SQRT	0.1398	0.0261	5.36	< .001	0.512
	B9_SQRT	0.1526	0.0261	5.85	< .001	0.559
	AL3_Log	0.1232	0.0183	6.73	< .001	0.622
	AL6_Log	0.0975	0.0192	5.07	< .001	0.492
	AL7_Log	0.0819	0.0168	4.87	< .001	0.472
	AL8_Log	0.0812	0.0178	4.56	< .001	0.445

Table Q-6

One-Factor Model Indices

Test for Exact Fit

χ^2	df	p
140	54	< .001

Fit Measures

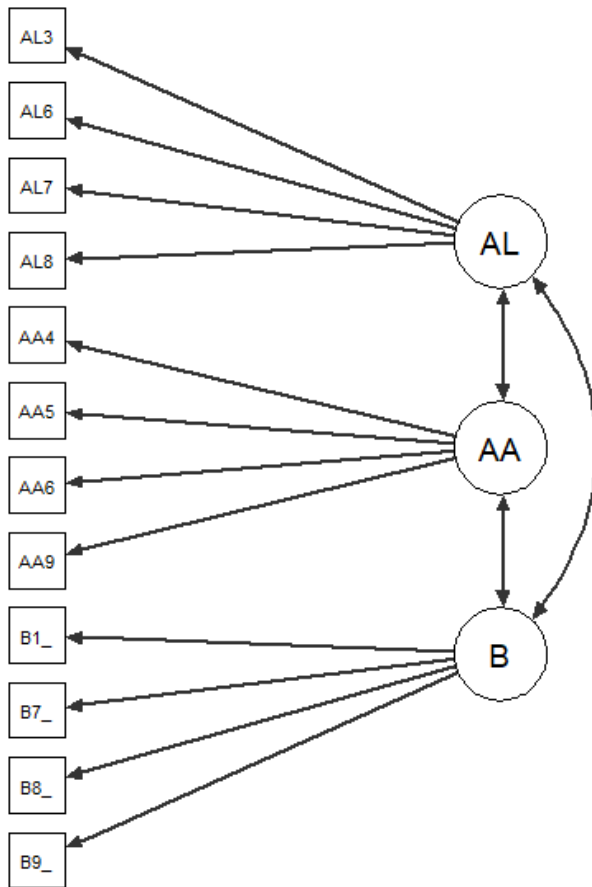| | | | RMSEA 90% CI | | |
CFI	SRMR	RMSEA	Lower	Upper	BIC
0.764	0.0845	0.118	0.0944	0.143	-28.1

Figure Q-1: Three-Factor path diagram.
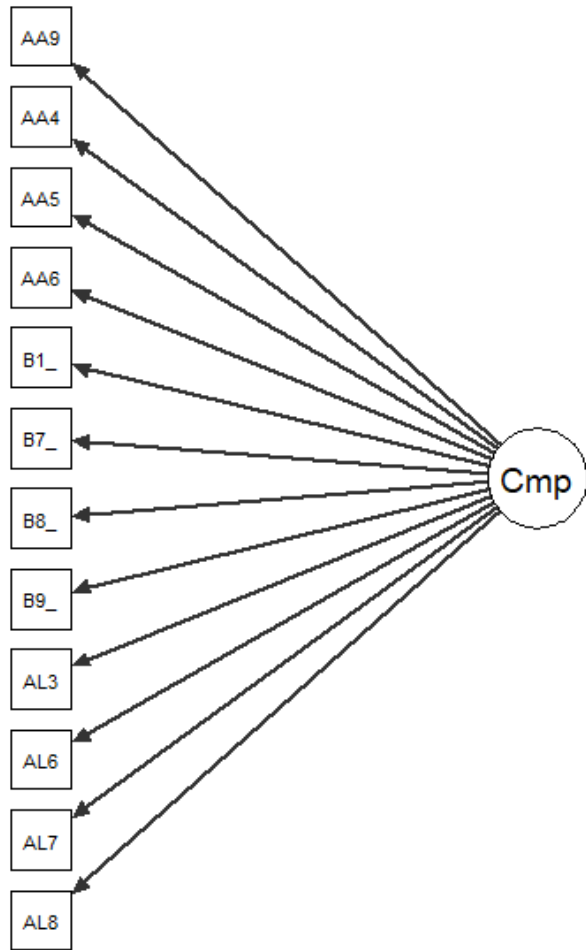
Figure Q-2: One-Factor path diagram.

APPENDIX R:
IRB EXEMPT APPROVAL OF SUBJECT MATTER EXPERT
INTERVIEWS

Determination of Exempt Human Research

From: **UCF Institutional Review Board #1**
             FWA00000351, IRB00001138

To: **Matthew Ng**

Date: **December 13, 2018**

Dear Researcher:

On 12/13/2018, the IRB reviewed the following activity as human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Project Title:	The Creation and Validation of a Compromising Scale for Nurses
Investigator:	Matthew Ng
IRB Number:	SBE-18-14617
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

This letter is signed by:

Signature applied by Gillian Morien on 12/13/2018 02:11:24 PM EST

Designated Reviewer

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APPENDIX S:
IRB EXEMPT APPROVAL FOR STUDY 1 DATA COLLECTION

EXEMPTION DETERMINATION

February 26, 2019

Dear Kristin Horan:

On 2/26/2019, the IRB determined the following submission to be human subjects research that is exempt from regulation:

Type of Review:	Initial Study, Exempt Category
Title:	Attitudes toward workplace health and safety programs
Investigator:	Kristin Horan
IRB ID:	STUDY00000242
Funding:	None
Grant ID:	None

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made, and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request so that IRB records will be accurate.

If you have any questions, please contact the UCF IRB at 407-823-2901 or irb@ucf.edu. Please include your project title and IRB number in all correspondence with this office.

Sincerely,

Kamille Chap

Kamille Chaparro
Designated Reviewer

APPENDIX T:
IRB EXEMPT APPROVAL FOR STUDY 2 DATA COLLECTION

Institutional Review Board
FWA00000351
IRB00001138
Office of Research
12201 Research Parkway
Orlando, FL 32826-3246

EXEMPTION DETERMINATION

March 26, 2019

Dear Kristin Horan:

On 3/26/2019, the IRB determined the following submission to be human subjects research that is exempt from regulation:

Type of Review:	Initial Study
Title:	Mindfulness and Self-Compassion Health Behavior Change Program
Investigator:	Kristin Horan
IRB ID:	STUDY00000296
Funding:	None
Grant ID:	None

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made, and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request so that IRB records will be accurate.

If you have any questions, please contact the UCF IRB at 407-823-2901 or irb@ucf.edu. Please include your project title and IRB number in all correspondence with this office.

Sincerely,

Gillian Morien
Designated Reviewer

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