2020

Development of the Conflict Management Skills Beliefs Scale

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DEVELOPMENT OF THE CONFLICT MANAGEMENT SKILLS BELIEFS SCALE

by

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A Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

Grand Forks, North Dakota
August
2020

This dissertation, submitted by Christina Anne Bancroft in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

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Title	Development of the Conflict Management Skills Beliefs Scale
Department	Counseling Psychology and Community Services
Degree	Doctor of Philosophy

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ABSTRACT

The present study explored the development and initial validation of measure of conflict management, a skill often taught in school-based social-emotional learning (SEL) programs. There is a gap in existing scales that measure conflict management skills for children and adolescents. The scales that do exist for children or adolescents (CONFLICTALK, Kimsey & Fuller, 2003; Conflict Resolution Styles Inventory [CRSI], Bonache et al., 2016) often measure conflict styles rather than skills, do not have a theoretical basis, and or have limited norming information or are normed on populations (and languages) outside of the United States.

Our purpose was to develop and provide initial norming and validity information for the Conflict Management Skills Belief Scale (CMSBS). The CMSBS measures early adolescents' perceptions of their ability to implement conflict management skills often taught in SEL programs (e.g., perspective taking, problem solving/compromising, emotional regulation, assertiveness, and clarifying skills). The CMSBS is comprised of six subscales that represent the three predictive components of behavior intention as found in the Theory of Planned Behavior (Ajzen, 2002): Attitudinal beliefs about conflict skills; Normative beliefs about how their friends view conflict skills; and Control Beliefs about their ability engage in conflict skills.

In regard to the findings of the CMSBS, an orthogonal, six-factor structure emerged, which accounted for 47% of the total variance. This factor structure was representative of the three predictive components of the Theory of Planned Behavior (Ajzen, 2002), parsed out according to Healthy and Unhealthy approaches to conflict management. Cronbach's alpha levels ranged from .85 to .90. Overall, the corresponding Healthy and Unhealthy factors of the CMSBS demonstrated moderate to strong convergent validity with the healthy and unhealthy factors of both the CRSI (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016) and CONFLICTALK (Kimsey & Fuller, 2003). Similarly, the corresponding factors of the Healthy and Unhealthy CMSBS factors demonstrated divergent validity with the MSPSS (Zimet, Dahlem, Zimet, & Farley, 1988) and A Children's Social Desirability Questionnaire (Crandall, Crandall, & Katkovsky, 1965).

The CMSBS has limitations which include a sample of adolescents residing in the southeastern and northern midwestern United States. Relatedly, although the underlying principles of constructive versus destructive methods of communication included in the development of the CMSBS are concepts commonly agreed upon as effective in many different communities and cultures, the concepts included in the definitions of conflict management are based primarily in Westernized definitions of healthy versus unhealthy conflict resolution strategies. Nonetheless, when further norming is completed, the CMSBS is a useful tool for further understanding the processes which lead to engagement in youth conflict management, for implementation and research surrounding SEL programs, and related behavioral interventions, such as anger management, bullying prevention, and workplace climate.

CHAPTER I

INTRODUCTION

Disagreements and conflict are certain to occur in long-term, close relationships (Ratto, Doyle, & Markiewicz, 2016). Conflict itself is not detrimental to relationship satisfaction, and can, in fact, improve relational stability and provide opportunities for growth if managed healthily (Gordon & Chen, 2016). Children and adolescents in particular are exposed to conflict management situations regularly (Laursen & Collins, 1994). They often draw upon observation of conflict resolution demonstrated by their peers, support system at home, and media exposure as guidance for how to resolve or manage conflict (Batanova & Loukas, 2012).

The ability to successfully manage conflict is an important piece of social and emotional competence, for children and adults (de Wied et al., 2007). In addition to relationship quality, gaining such social and emotional competencies as conflict management skills has been shown to improve academic performance, attentional skills, communication patterns, the ability to problem-solve, and the teaching environment in the classroom (Baraldi & Iervese, 2010; Bengtsson & Arvidsson, 2011; Campbell & Skarakis-Doyle, 2011). In an attempt to teach healthy, pro-social emotional skills, such as conflict management, many social and emotional learning (SEL) programs are implemented in school settings. Unfortunately, despite the fact that a variety of SEL programs exist, many have been proven

ineffective and/or lack a standard approach to social and emotional development, including standard measures of key objectives (Greenberg et al., 2003).

The present study aimed to explore the development of a psychometrically sound measure of conflict management skills for sixth grade children and ninth through twelfth grade adolescents, entitled the Conflict Management Skills Beliefs Scale (CMSBS). This scale was developed utilizing the Theory of Planned Behavior (Ajzen, 2002). Items included on the scale were representative of healthy as well as unhealthy conflict management skills. It was the goal that three latent variables would emerge, on three separate factors, representative of each of the components of the Theory of Planned Behavior.

Exploratory testing included the completion of item analysis and exploratory factor analysis, as well as initial tests of convergent and divergent validity. In order to provide background toward that endeavor, the following topics are covered in the following literature review: the theory of planned behavior, healthy versus unhealthy conflict management styles, social and emotional learning, and existing measurements of conflict.

The Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) is the basis on which the present test development project was built. The TPB is an extension of the Theories of Reasoned Actions (TRA; Ajzen & Fishbein, 1980), and includes measures of attitudinal beliefs, normative beliefs, and control beliefs (Armitage & Conner, 2001; Ajzen, 2002). The TPB has been widely utilized to predict health-related behaviors and outcomes (McEachan, Conner, Taylor, Lawton, 2011; Murphy, Askew, Sumner, 2017; Whitaker, Wilcox, Liu, Blair, & Pate, 2016). As a well-researched theory, the TPB has received a lot of attention in social cognition

models designed to predict health-related behaviors. The TPB is one of the most widely utilized frameworks for understanding and predicting behavior due to "its predictive validity as well as the belief among social psychologists (among other social scientists) that the TPB accurately models behavior in a wide variety of situations" (Murphy, Askew, & Sumner, 2017, p. 231).

The TPB centers on the idea that action is guided by examination of specific beliefs about engagement in the action (Ajzen & Driver, 1991). The TPB outlines the three main categories of such beliefs as: attitudinal beliefs, normative beliefs, and control beliefs (Ajzen, 2002; see Appendix E). According to TPB, these three factors are antecedent to behavioral intention. Intention is assumed to be the immediate antecedent of the actual behavior (Ajzen, 2002). Albert Bandura (1997) popularly postulates that individuals are more likely to engage in behaviors that are believed to be *achievable*. The present scale development of the CMSBS, therefore, intended to measure adolescents' beliefs about the achievability of the implementation of various conflict management skills.

Attitudinal Beliefs

Attitudinal beliefs are one component of the Theory of Planned Behavior (Ajzen, 2002). Attitudinal beliefs include beliefs about the connotations centered around engagement in the behavior (Ajzen, 2002). Such beliefs relate to an individual's evaluation of whether the predicted behavior is positive or negative (Godin & Kok, 1996; McEachan et al., 2011). An individual's evaluation of such positivity or negativity includes their affective experiences associated with said behavior (Ajzen & Driver, 1991). For example, an individual may have attitudinal beliefs about the behavior of *cigarette smoking*, which may include their

emotional satisfaction during the process of smoking a cigarette, as well as their worries about the potential harmful health effects which may result from the use of tobacco and nicotine.

Attitudinal beliefs are fluid and can be shaped by a variety of factors, including life experiences, direct observation, and inferences (Chana, Prendergast, & Ng, 2016). These can include perceived costs of a behavior (i.e. perceived losses obtained from engaging in a behavior) and perceived benefits of a behavior (i.e. perceived level of gain from engaging in a behavior) (Ajzen & Driver, 1991).

Normative Beliefs

Normative beliefs, or subjective norms, are another component of the Theory of Planned Behavior which center around the normative expectations of others (Ajzen, 2002). The influence of an individual's perception of social expectations to preform is considered with this factor of the TPB (Ajzen, 2002). This social influence includes an individual's beliefs about how their reference group thinks they should behave in relation to a specific behavior (Chana, Prendergast, & Ng, 2016).

Utilizing the aforementioned example of the behavior of *cigarette smoking*, normative beliefs would include the individual's perception of how those people close to them view this behavior. Perhaps this individual has many friends and a romantic partner who smoke cigarettes and therefore smoking cigarettes is not too unusual of a behavior for them, normatively speaking. Normative beliefs would further include this individual's beliefs about how those individuals close to them view the behavior of smoking. Subjective norms relate to general social pressure, whereas underlying attitudinal beliefs relate to the

individual's personal approval or disapproval (or like or dislike) of the behavior (Armitage & Conner, 2001).

Control Beliefs

Control beliefs are the third aspect of the Theory of Planned Behavior (Ajzen, 2002). Control beliefs are ideas about the presence of factors that control behavioral performance, including the extent to which the individual believes they have control over the behavior (Ajzen, 2002; Ajzen, 2012; Godin & Kok, 1996). Control beliefs pertain to the individual's perceived ease or difficulty of performing a behavior (Ajzen & Driver, 1991). Mentioning the example of *cigarette smoking* a third time, control beliefs may include an individual's perceived level of control over engagement in the smoking of cigarettes (i.e. how easy they believe it to be to take breaks from work to smoke; or how easy they perceive the action of striking a match against a cigarette to be.)

Relevant to control beliefs are the presence of attitudinal and normative beliefs which may facilitate or impede performance of the behavior (Ajzen, 2002; McEachan et al., 2011). Control beliefs include beliefs about how often these facilitating or inhibiting factors impact engagement in the behavior, weighted by the perceived power of each factor's impact (McEachan et al., 2011).

Limitations of TPB

Armitage and Conner (2001) report the shortcomings of TPB, including: the use of self-report, conceptualization of self-efficacy, and subjective norms as the weakest predictor of intention (Godin & Kok, 1996), which are discussed here in further detail. In terms of self-report issues, models which utilize the TPB typically rely on self-report measures as a means

to assess prediction to complete a behavior. Such reliance can be problematic due to potential inaccurate self-reports (i.e. for reasons of social desirability or lack of self-awareness) (Armitage & Conner, 2001).

As previously mentioned, the TPB (Ajzen, 2002) is an extension of the TRA (Ajzen & Fishbein, 1980), and the primary difference is that the TPB includes a control component (Armitage & Conner, 2001). Armitage and Conner (2001) posit that Ajzen (2002) presents perceived behavioral control as parallel to self-efficacy, which is a dangerous assumption, especially in light of previous research which highlights the differences between self-control and self-efficacy (Bandura, 1992; Terry, 1993). "Self-efficacy is more concerned with cognitive perceptions of control based on internal control factors, whereas PBC [perceived behavioral control] also reflects more general, external factors." (Armitage & Conner, 2001, p. 476). Self-efficacy is focused more on perception of control based on internal factors, whereas perceived behavioral control focuses more on general, external factors (Armitage & Conner, 2001).

Additionally, the theory has been criticized for lack of guidelines regarding implementation of change techniques (McEachan et al., 2011). Although the TPB posits the factors which contribute to behavioral intention, which leave room for discussion of behavior change, the theory fails to denote specific ways in which behavioral interventions based in the TPB may lead to change (McEachen et al., 2011). Despite shortcomings, results of meta-analyses of TPB suggest the model can be utilized to predict a wide variety of behaviors, as well as intentions to engage in behaviors (Armitage & Conner, 2001). Across a variety of health behaviors, TPB is capable of explaining 44% of the variance in measures of behavior,

and 40-49% of the variance in intention (Godin & Kok, 1996; McEachan et al., 2011). Specifically, the TPB has been successfully utilized to predict parents' intentions of allowing their child to play youth football (Murphy, Askew, Sumner, 2017), pregnant women's intentions to exercise (Whitaker et al., 2016), and HIV- and AIDS-related behaviors (Godin & Kok, 1996), to name a few.

CHAPTER II

LITERATURE REVIEW

Scale Development based in TPB

When constructing a questionnaire based in the Theory of Planned Behavior (TPB), Ajzen (2002) posits that the aforementioned factors (attitudinal beliefs, control beliefs, and normative beliefs) are latent variables that predict intention to complete a behavior. TPB defines behavior in latent, subjective terms of Target, Action, Context, and Time (TACT: Ajzen, 2002). TACT variables include the specific way in which the behavior will be performed, including the modalities to reach performance and the time frame in which the behavior will be completed (Ajzen, 2002).

Citing Ajzen's (2002) example of predicting the behavior of exercise, walking could be the action component, with treadmill as the target, the gym as the context, and the forthcoming month could be the time. In summary, very specific elements of health-related behaviors, such as specific modalities to reach healthy resolution of conflict and/or specific modalities to reach physical fitness goals, can be measured through utilization of TPB, rather than merely global concepts, such as conflict or exercise generally.

Once latent variables are clearly defined, "manifest indicators of the behavior are obtained either through direct observation or by means of self-report" (Ajzen, 2002, p. 3).

These factors can be assessed readily thorough use of Likert, Thurstone scaling, or semantic differential format (Ajzen, 2002, p. 5). When designing the CMSBS to assess conflict management skills in relation to TPB, the goal is to carefully design item selection, including beginning with a larger item pool than necessary, analyzing reliability, as well as item-total correlations (Ajzen, 2002).

Because TPB allows insight into the processes that lead to a behavior, interventions can be planned based on significant predictors (Murphy, Askew, & Sumner, 2017). For the purposes of this study, the TPB is applied in scale development to the construct of the SEL topic of conflict management skill implementation. Specifically, children and adolescents' attitudinal beliefs about whether implementation of certain conflict management skills are viewed as positive or negative; children and adolescents' subjective norm views on how their peers manage conflict; and children and adolescents' perceived behavioral control around their beliefs about their own abilities to successfully manage conflict will be examined as predictions of their intention to implement the behavior of conflict resolution skills.

Participants of a learning group, such as a SEL program, have a stronger desire to participate and integrate concepts if they feel these concepts are worthwhile, that they are capable of such implementation, and that what they are learning will somehow be effective (Bandura, 1997). Therefore, the framework of the TPB will ideally be a model for the development of measuring the SEL topic of conflict management skills in sixth through twelfth grade children and adolescents, with the goal of shedding light on an aspect of children and adolescents' motivation and beliefs about their abilities to engage in conflict management, and implementation of what is learned.

Conflict Management

In order to better measure conflict management skills, it is helpful to understand the nature of conflict and healthy versus unhealthy conflict skills. Conflict has a relatively consistent definition throughout the literature and is known to be a normative part of human relationships (Missotten et al., 2018). Conflict is broadly defined as, "a struggle between communicating parties because of the perception of incompatible goals, scarce resources, and interference from others while achieving goals" (Kim, Yamaguchi, Kim, & Miyahara, 2015, p. 143). Conflict is also "described as a state of disagreement that arises between two children and is manifested in terms of opposing views" (Salvas et al., 2014, p. 1795). Simply stated, conflict typically arises from differences of opinion and perspective (Gordon & Chen, 2016).

Conflict can include both verbal and physical aggression, and is often understood through examination of communication patterns, specifically considering that aggression blocks the process of healthy, effective communication (Baraldi & Iervese, 2010). Aggression includes behavior that disrupts or disturbs others, and can include hostile or controlling behavior, as well as physical contact (i.e. pushing or wrestling) (Newcomb, Bukowski, & Pattee, 1993). Skills such as validation/perspective-taking, turn-taking, identifying needs, support, and caring, are associated with positive conflict management strategies and are inversely correlated with aggression; whereas withdrawal, hostility, anger, and aggression are broadly associated with unhealthy conflict management styles (Salvas, Vitaro, Brendgen, Dionne, Tremblay, & Boivin, 2014; Van Doorn, Branje, VanderValk, De Goede, & Meeus, 2011; Wang, Wang, Gu, Zhan, Xang, & Barnard, 2014).

Distinct conflict management styles are evident at an early age, and are thought to be related, like many other constructs, to a combination of genetic and environmental influences (Salvas, et al., 2014). Conflict management styles are "the behaviors people enact during conflicts" (Missotten, Luyckx, Branje, & Petegem, 2018, p. 2). Within psychological studies of the development of conflict management strategies, there is a large focus on children and adolescents' underlying social knowledge that can be used to guide their responses to effectively resolve peer conflicts (Campbell & Skarakis-Doyle, 2011; Salvas et al., 2014). Such social influences stem from observation and interaction with peers, the media, and primary social support at home (Batanova & Loukas, 2012; Van Doorn et al., 2011)

How conflict is managed within relationships has been linked to overall relationship satisfaction and stability (Gable, Gonzaga, & Shrachman, 2006; Gottman, 1994). For children, healthy conflict management skills contribute to benefits in the classroom setting, in terms of learning experience, as well as provides the adolescent with opportunities to learn about how to effectively express their intent (Baraldi & Iervese, 2010). Conflict can be beneficial to relationship growth, and healthy management of conflict, particularly from middle adolescence onward, can both strengthen relationships and be situationally generalized to other interactions (Van Doorn et al., 2011). Conversely, children lacking the ability or skills to resolve conflict in healthy ways are at an increased risk for maladjustment and social rejection (Newcomb, Bukowski, & Pattee, 1993).

Therefore, it is important that measures of conflict management skills include an accurate portrayal of what children know about how to manage conflict with peers, as well as their perceived ability to implement such skills. Children and adolescents engage in conflict

management regularly with peers and adults. Language is a vehicle for conflict management, and what is commonly used amongst adolescents is a culture that is specific to the age-group (Kimsey & Fuller, 2013).

Conflict Management Skills

When addressing the specific skills of conflict management, it is important to look at both healthy and unhealthy conflict management skills found in the literature. Although much of the specific conflict management skills literature included in the present study are Western-based, many of the skills noted as effective when dealing with conflict have been shown to be useful cross-culturally (Chen, Liu, & Tjosvold, 2005; Leung, 2002).

Healthy conflict management skills evident in the literature are compromise and repair (Garaigordobil & Martinez-Valderrey, 2015; Missotten et al., 2018), and their related skills (asking questions and trying to understand; Huang, Yeomans, Brooks, Minson, & Geno, 2017), identifying parts of the conflict that parties agree upon (Missotten et al., 2018), identifying parts of the conflict parties agree upon and parts they disagree upon (Garaigordobil & Martinez-Valderrey, 2015), emotion regulation (including asking for a break if emotionally overwhelmed, and then returning), admitting role(s) in the conflict, engaging assertively (Gortner, Berns, Jacobson, & Gottman, 1994; Merrell, 1994), and engaging in validation or perspective-taking (Batanova & Loukas, 2012; Bengtsson & Arvidsson, 2011; Cassels & Birch, 2014). Unhealthy conflict management skills included in the scale, and reflected as relevant to the concept of conflict management in the literature are put-downs (Missotten et al., 2018; Salvas et al., 2014), withdrawal, avoidance (Liu & Roloff, 2015), content, passivity (Missotten et al., 2018), utilizing always/never statements

(Napolitano & McKay, 2007; Oshio, 2012), and stonewalling (Gottman, 1994; Gottman & Levenson, 1999). These specific methods of engaging in conflict resolution are detailed below.

Unhealthy Conflict Management

Included within pertinent unhealthy conflict management skills are those that are passive and those that are more direct. In general, the more direct approach to conflict management, in comparison to conflict-avoidance, is valued more by individuals residing in Western countries than those residing in Asian countries (David, Francis, & Walls, 1994; Kirkbride, Tang, & Westwood, 1991). However, Chen, Liu, and Tjosvold (2005) note that, "Chinese values may not be so inimical to open approaches to conflict management as traditionally assumed" (p. 282). Cooperatively managing conflict, rather than avoiding it, can still adhere to values such as harmony and compatibility, which are commonly cherished virtues in many collectivistic cultures (Chen, Liu, & Tjosvold, 2005; Leung, Koch, & Lu, 2002).

Further, Kozan and Ergin (1999) propose that a Harmony Model of conflict management, which includes efforts to maintain group harmony by non-confrontational means, usually applies to collectivistic cultures, such as those found in Asian, Middle Eastern, and Latin American countries. The peaceful resolution of conflict, however, does not imply avoidance or withdrawal inherently.

Withdrawal is associated with rumination over an event in attempt to make sense of it and is often referred to as the "silent treatment" (Liu & Roloff, 2015, p. 25). Remaining aloof, as in withdrawal, may be in an attempt to let the other party know one is dissatisfied

with them or to punish them (Liu & Roloff, 2015). Often, targets of the silent treatment do not understand the cause (Liu & Roloff, 2015). Withdrawal is therefore considered an unhealthy conflict management style which includes passive-aggressive avoidance behavior, such as avoiding the problem, avoiding talking, pretending one does not care, and becoming distant (Missotten et al., 2018; Rubenstein & Feldman, 1993).

Similarly, but somewhat different, stonewalling includes refusal to engage in interactions with another individual, even when asked to do so (Gottman, 1994). A natural tendency in conversation is to respond when provoked or invited to do so, meaning that stonewalling demands considerable effort to disengage (Liu & Roloff, 2015). Stonewalling includes avoidance of eye contact and little facial movement, making the face "like a stone" (Gottman & Levenson, 1999, p. 5; Haase, Holley, Bloch, Verstaen, & Levenson, 2016). Stonewalling can be a defensive response as a result of emotional overload (emotional flooding), but it can also be utilized in an attempt to hurt the other individual by discounting their presence (Liu & Roloff, 2015). Individuals on the receiving end of the silent treatment often feel hurt and stonewalling in general is related to a greater likelihood of relationship dissolution (Gottman & Levenson, 1999). Regarding eye contact specifically, it is important to note that different cultures have different interpretations of the directness of a gaze (Sue & Sue, 1977). It is not the eye contact itself which classifies stonewalling as unhealthy, rather than the refusal to engage in relational repair.

Compliance or complacency is another passive form of unhealthy conflict management (Missotten et al., 2018). Compliance is categorized as low concern for the self and high concern for others and includes "giving in to the other party without expressing

one's point of view" (Missotten et al., 2018, p. 2). In contrast, put-downs and utilizing always/never statements are active forms of conflict management. Put-downs involve a high concern for the self, and low concern for the other, and include verbal attacks, defensiveness, and making degrading and/or mean statements toward another with the intention of hurting them (Missotten et al., 2018). Often, such hostile and angry behaviors constitute aggression (Salvas et al., 2014).

Always/never statements are part of dichotomous thinking patterns in which the individual views situations in binary opposite terms rather than along a continuum (Napolitano & McKay, 2007; Oshio, 2012). Dichotomous thinking, when not related to quick-decision making attempts, is often utilized by individuals who have either failed to develop healthy thinking patterns or have decompensations in this same regard. At the extreme end, dichotomous thinking is common among those diagnosed with personality disorders and among those that have attempted suicide (Napolitano & McKay, 2007; Neuringer, 1961). Utilizing always/never statements in conflict is indicative of problematic thought patterns and engagement in unhealthy coping of conflict, as statements imply that something can only *always* or *never* apply, which can heighten defensiveness.

Healthy Conflict Management

In contrast to unhealthy conflict management skills are healthy ways to address and manage conflict. As previously noted, conflict in relationships is an expected occurrence, particularly in close, long-term relationships (Missotten et al., 2018; Salvas et al., 2014). When handled well, conflict can contribute to relational satisfaction and well-being (Salvas et al., 2014).

The Confrontation Model of conflict includes issues which are openly acknowledged and is characterized by mutual concessions and compromise (Kozan & Ergin, 1999). Such approaches to conflict are commonly seen in individualistic, English-speaking countries like America (Kozan & Ergin, 1999). Compromise is one form of conflict management. It includes negotiation of conflict in an effective way so that both parties feel their needs are addressed and is reflective of a high concern for self and others (Missotten et al., 2018). The ability to implement compromise during a conflict involves an adolescent's ability to regulate their emotions during the conflictual time (Missotten et al., 2018). Identifying parts of the conflict both parties agree upon and parts they disagree upon is seen as cooperative and problem-oriented, where the focus is on identifying specifics from the conversation and arriving at an agreed-upon solution (Garaigordobil & Martinez-Valderrey, 2015).

Positive assertiveness is another healthy conflict management skill considered to be important in achieving social independence (Merrell, 1994). Assertive engagement in conflict includes voicing one's needs and opinions and standing up for oneself. Assertiveness is characterized as a non-aggressive but firm asking for needs and intolerance of abusive behavior (Gortner, Berns, Jacobson, & Gottman, 1994). Assertive behavior in general is more common among Western societies than in the Chinese culture (Siu & Shek, 2010). In Chinese cultures, emotional-control and politeness is valued, while aggressive persuasive techniques are avoided in conflict resolution (Shenkar & Ronen, 1987). These ideals may be associated with Chinese adherence to Confucianism and values of familial hierarchy and harmony (Siu & Shek, 2010).

Attempting to repair the relationship so that conflict does not have long-lasting negative detriments is a healthy conflict management skill. Repair strategies can include asking the other party to repeat themselves due to lack of clarity (Huang, Yeomans, Brooks, Minson, & Geno, 2017). Repair strategies in conflict management can serve the purpose of attempting to repair the others' perception of oneself, regardless of the content of what is said; perception is what is relevant (Holtzhausen & Roberts, 2009).

Expressing empathy and engaging in perspective-taking are two specific skills for use in healthy resolution of conflict. Perspective-taking is defined as, "the broad set of abilities involved in reasoning about the mental states of others – including inferences about either one's cognitive mental states or one's affective mental states" (Cassels & Birch, 2014, p. 2). Expressing perspective taking allows the other, in conflict, to feel heard. Perspective-taking and emotion recognition have been central to research on child development for years, and is a skill taught within many SEL curricula.

Further, perspective-taking encompasses a cognitive component of empathy, which allows adolescents to have insight into others' emotional states (Batanova & Loukas, 2012; Bengtsson & Arvidsson, 2011). Children's empathy is correlated with psychosocial and moral aspects of development, including self-esteem, moral reasoning, pro-social behaviors, and aggression (Batanova & Loukas, 2012). Batanova and Loukas (2012) studied the contributions of school connectedness and parent-child conflict to levels of empathic concern and perspective-taking. They found that empathic concern is a multidimensional construct, in which gender differences related to levels of empathic concern exist (Batanova & Loukas, 2012).

In childhood and mid-adolescence, children's capacities for complex perspective taking and understanding abstract concepts are associated with advanced moral reasoning (Eisenberg et al., 1995). Their needs orientations change throughout childhood, from primitive empathic concern in young children, to the reflection of concern for others' needs in elementary school (Eisenberg et al., 1995). In late elementary school, children reflect understanding of abstract principles, such as self-reflective sympathy and perspective-taking (Eisenberg et al., 1995). This understanding change drops off sharply after age 11 or 12, particularly for boys. In a longitudinal study, Eisenberg et al. (1995) found that prosocial development remains stable from adolescence to early adulthood for both boys and girls.

Perspective-taking abilities are higher in girls than in boys and increase throughout childhood and adolescence (Bengtsson & Arvidsson, 2011). For example, Bengtsson and Arvidsson (2011) found that these abilities improve greatly between ages 8-10, less than in ages 10-12, and development of perspective coordination skills in children impact their ability to moderate emotions. The study focused on expression of emotionality, rather than internal experiences of it. Overall, "perspective-taking skills serve to modulate reactivity to a moderate level of intensity" (Bengtsson & Arvidsson, 2011, p. 369).

In regard to empathy, Van der Graff et al. (2014) note that "adolescence is an important period for empathy development" (p. 881). Boys and girls experience differing overall levels of empathy and perspective-taking skills, particularly though puberty. Cognitive (i.e. perspective-taking) processes and affective (i.e. vicarious experience of emotions) processes influence empathy development. Recent studies have proven that perspective taking involves more active areas of the brain during adolescence. Van der Graaf

et al. (2014) found that perspective-taking abilities increase for both boys and girls during adolescence. Relatedly, levels of empathic concern do not increase significantly.

Interestingly, for girls, school connectedness was a protective factor that offset the negative impact of parent-child conflict on girls' perspective taking (Batanova & Loukas, 2012). For boys, school connectedness was also associated with increases in empathic concern and perspective taking (Batanova & Loukas, 2012). For both boys and girls, it is interesting to note that school connectedness can help shape empathic expression, as well as serve as a protective factor against poor home life (Batanova & Loukas, 2012).

As demonstrated, there are a plethora of factors to consider when exploring specific styles and skills utilized in child and adolescent conflict management. The aforementioned conflict resolution strategies are represented in the CMSBS, so as to assess for a wholesome representation of conflict management strategies.

Specifically, we define healthy conflict skills as utilization of skills including: compromise and repair (Garaigordobil & Martinez-Valderrey, 2015; Missotten et al., 2018), admitting role in conflict (Garaigordobil & Martinz-Valderrey, 2015; Missotten et al., 2018), assertive engagement (Gortner, Berns, Jacobson, & Gottman, 1994; Merrell, 1994), and engaging in validation or perspective-taking (Batanova & Loukas, 2012; Bengtsson & Arvidsson, 2011; Cassels & Birch, 2014). Similarly, we will define unhealthy conflict skills as utilization of skills including: put-downs (Missotten et al., 2018; Salvas et al., 2014; Rubenstein & Feldman, 1993), withdrawal, avoidance (Liu & Roloff, 2015), contempt, passivity (Missotten et al., 2018), utilizing always/never statements (Napolitano & McKay, 2007; Oshio, 2012), and stonewalling (Gottman, 1994; Gottman & Levenson, 1999).

Conflict Skills and Psychological Well-Being

Implementation of Westernized healthy versus unhealthy conflict management strategies is linked to a multitude of emotional, social, and psychological outcomes (Marmorstein & Iacono, 2004). Conflict can certainly be detrimental to relationships, as well as personal psychological and physical well-being, but only when handled ineffectively and unhealthily (Gordon & Chen, 2016).

Problem-focused coping is one broad, overarching term which refers to the ability to resolve conflict through identification of the source of stress, seeking social support to address the root cause of the stressor(s), and identifying a long-term solution (Wang et al., 2014). This coping strategy is inversely related to mental health problems in general (Zhang, Chang, Zhang, Greenberger, & Chen, 2011). The less problem-focused skills a child or adolescent has, the more susceptible to mental health problems they are.

More specifically, physical and or verbal attacks, as well as withdrawal and avoidance, are related to externalizing (i.e. substance use and delinquency) and internalizing (i.e. depression and somatic complaints) behaviors (Buehler, 1997; Edwards, Barkley, Laneri, Fletcher, & Metevia, 2001; Jaffee & D'Zurilla, 2003; Rubenstein & Feldman, 1993). Positive Problem Solving, including compromise, are related to fewer externalizing and internalizing behaviors (Rubenstein & Feldman, 1993; Tucker, McHale, & Crouter, 2003).

Rubenstein and Feldman (1993) report that unhealthy management of conflict has been associated with suicidal and antisocial behavior, as well as substance use problems in adolescents. Furthermore, ongoing use of unhealthy conflict resolution strategies, such as aggression and violence, is associated with adult criminality (Moffitt, Caspi, Rutter, & Silva,

2001). Withdrawal and conflict engagement patterns of unhealthy conflict management styles are linked to depressive complaints, externalizing behaviors, lower self-esteem and poor relationship quality (Branje, van Doorn, van der Valk, & Meeus, 2009; Caughlin & Malis, 2004). Bullying, which is a modality of generalized aggression and/or violence, includes more aggressive conflict management styles (Garaigordobil & Martinez-Valderrey, 2015).

Overall, effective conflict management is correlated with communication satisfaction, relationship happiness, and reduced negative emotional experiences (Wang et al., 2014). Unhealthy conflict management is connected to childhood anxiety and depression (Marmorstein & Iacono, 2004). Repeatedly enduring high-arousal, negative emotional states, such as anger and/or stonewalling, is correlated with physiological excitation, which is correlated with an increased risk for experiencing cardiovascular and musculoskeletal symptoms (Haase et al., 2016).

Although not specific to conflict (though related in skill-set), deficits in emotional recognition abilities are linked to depression, schizophrenia, Autism Spectrum Disorders (ASDs), and conduct disorder (Cassels & Birch, 2014). In non-clinical populations, these deficits are related to social adjustment, moral development, and academic ability (Cassels & Birch, 2014). The grave impacts of poor support for social skill development further highlights the need for greater emphasis and research within the realm of how to teach children and adolescents the importance of these imperative skills throughout the lifespan.

Cultural Considerations

At this point of the dissertation, a variety of different approaches to managing conflict, and their consequences, have been reviewed. It is important to note that although the aforementioned specific conflict management skills are generally agreed upon as pertinent to the study of healthy versus unhealthy conflict management, there are certainly inter- and intra-cultural variations in the expression and management of conflict (Chen, Liu, & Tjosvold, 2005; Fry, 2000; Leung, 2002). Nonetheless, the underlying principles of constructive versus destructive methods of communication included in the development of the CMSBS are concepts generally agreed upon as effective cross-culturally in the literature (Chen, Liu, & Tjosvold, 2005; De Church & Marks, 2001; De Dreu & van Vianen, 2001; Gefland, Leslie, Keller, & de Drue, 2012).

Specifically, Chen, Liu, and Tjosvold (2005) found that the Western-developed Theory of Cooperation and Competition (Deutsch, 1973), which involves direct expression of ideas to successfully solve conflict, can be effective even in traditionally collectivistic cultures such as China. Their research supports the work of Leung and colleagues (2002) which explores the use of Chinese values, such as harmony and collectivism, as able to underlie open, cooperative conflict management skills discussed in the current study. Although the concept of harmony valued in many East Asian cultures may denote an implication of avoidance, collectivistic values have been found to support more open forms of conflict management, while noting avoidance as typically unsuccessful (Chen, Liu, & Tjosvold, 2005; Leung et al., 2002).

In addition to the exploration of the management of conflict cross-culturally, is the way in which various cultures broadly view the manifestation of conflict itself. Fry (2000) notes that among the Ju/wasi hunter-gatherers, people rarely express feelings of hunger, pain, or anger. Fry (2000) also notes that the limited expression of anger is common among the rice-farming Toraja.

Doucleff and Greenhalgh of NPR (2019) describe a Harvard graduate, Briggs, who lived in the Arctic Circle for 17 months with Inuit families in 1971. Briggs noted that conflict barely seemed to exist in this culture, in which the Inuit people seemed to "have an extraordinary ability to control their anger" (Doucleff & Greenhalgh, 2019, p. 1). In particular, it was noted that the Inuit do not scold their children; yelling, physical aggression, and expression of irritation is seen as childish and inappropriate. Parenting practices appear to continue to be consistent in this culture today. Scolding or discipline, as routinely seen as healthy and important in many other societies, is not a practice of parenting for the Inuit and, rather, storytelling is a way to teach emotional regulation (Doucleff & Greenhalgh, 2019).

Kazan (1997) describes a viewpoint which parallels cultural differences related to the management of conflict more so to the emotions felt as a result of conflict, and the way in which such emotions are expressed, rather than to the experience of the conflict itself. For example, consider the stereotype of the *angry Black woman* which is an empirically-unsupported, yet continuously prevalent perception of Black women today as bad-tempered, over-bearing, and hostile (Ashley, 2014; Walley-Jean, 2009). This pejorative view of the expression of anger in Black cultures focuses on the way in which Black women are perceived to express their emotion which may result from conflict. This example of societal

oppression results in many Black women feeling as though their expression of anger, no matter how subtle, will be misinterpreted and mislabeled as aggression (Walley-Jean, 2009).

Although the focus of the present study surrounds *verbal* methods of conflict resolution, physical aggression is another, specific aspect of conflict management which may be culturally-bound. For example, honor culture is a phenomenon present in some areas of the Mediterranean and broadly includes a set of norms encompassing family honor, and masculine and feminine honor (Harnick, Shafa, Ellemers, & Beersma, 2013). In such cultures, "violence is considered a valid way to restore a person's self-worth, reputation, and lowered status due to an insult"; "people who take revenge demonstrate to others that they are willing and able to protect their reputation and property" (Harnick, Shafa, Ellemers, & Beersma, 2013, p. 68).

Additionally, the use of avoidant behavior was utilized in the definition of unhealthy conflict management skills in the literature (Bonache, Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016; Kimsey & Fuller, 2003). Fry (2000) notes that among the Finnish culture generally, Finnish community subsets, East Indians settled in Fiji, Buid of the Philippines, the Mexican "La Paz" Zapotec, and the Toraja of Indonesia, avoidance is commonly utilized as a response to conflict. Perhaps, such avoidant behavior is more of a conflict prevention measure rather than a skill utilized after conflict has begun. Avoidance is cited as a conflict-preventative measure among the Semai of Malaysia, who "fear a dispute more than they fear a tiger" and "go to great lengths to avoid a conflict" (Fry, 2000, p. 341).

Often times in the literature, cross-cultural differences are studied, but it is also imperative to remember that even "within any given culture, individuals can vary widely

from each other" (Leung & Cohen, 2011, p. 507). Cultures are rarely, if ever, homogenous (Kozan & Ergin, 1999). Individual variability within a culture can, therefore, impact the broad assumption that concepts apply wholly to a group of people (Leung & Cohen, 2011). For example, Sinha (1994) argues that the idea of self and social phenomena as largely separate in the West, is different than how such views are perceived in some eastern countries. For example, in some Indian and Turkish cultures, opposites are more predominately intermixed (Sinha, 1994). This coexistence of individualistic and collectivistic cultures within the Indian and Turkish cultures highlights the importance of studying within-cultural differences in addition to cross-cultural (Kozan & Ergin, 1999). Clearly, cultural considerations are imperative when exploring healthy conflict management styles both within and across cultures.

Current Measures

In developmental and clinical research, conflict management is a challenging, yet pivotal topic. Despite the recognized importance conflict management plays in social and emotional development, there remains a shortage of tools to measure and teach these skills. This section describes current measures related to conflict management commonly used by researchers and practitioners. Two scales specific to conflict management for children and adolescents are CONFLICTALK and the Conflict Resolution Styles Inventory (Kimsey & Fuller, 2013; Kurdek, 1994).

CONFLICTALK

The CONFLICTALK scale (Kimsey & Fuller, 2013) is an 18-item measure of conflict resolution messages styles, for use with elementary, middle, and high school students

participating in school-based conflict management programs. Items are presented as phrases that might be expressed during a conflict (i.e. “Can’t you see how stupid you are”), with options to rate the phrases on a scale of 1 (I “never say things like this”) to 5 (I “almost always say things like this”) (Kimsey & Fuller, 2013). The authors of CONFLICTALK utilized a Varimax rotation to determine significant eigenvalues of 1.0. The scales were separated out by three samples (each with slightly different item wording); elementary (total variance accounted for = 50%), middle (total variance accounted for = 54%), and high school (total variance accounted for = 50%).

Three factors were identified in the CONFLICTALK scale across all three populations. Factor 1 (“dolphin”) included “six conflict messages for measuring problem orientation with an emphasis on both goal and relationship”, and includes items such as “What’s going on? We need to talk.” (Kimsey & Fuller, 2013, p. 75). Factor 2 (“rhino”) included conflict messages measuring self-orientation, and includes items such as “Can’t you see how stupid you are?” (Kimsey & Fuller, 2013). Factor 3 (“ostrich”) emerged as six conflict messages with other orientations, and includes items such as “I wish we could just avoid the whole thing.” (Kimsey & Fuller, 2013). Alpha reliabilities for the three factors are as follows, factor 1 alpha reliability = .87, factor 2 alpha reliability =.81, and factor 3 alpha reliability = .65.

The CONFLICTALK scale is the only scale to identify conflict management styles for children and adolescents (Kimsey & Fuller, 2013). Conflict management styles are defined in this project through conceptualization of the individual’s concerns for the (1) goals and (2) relationship (Kimsey & Fuller, 2013). The three factors which emerged represent (1)

high concern for both goals and relationship, (2) low concerns for both goals and relationships, and (3) high concern for goals and low for relationship (Kimsey & Fuller, 2013).

This scale is useful for determining conflict resolution styles of adolescents, but there are some limitations of the scale. First, Kimsey and Fuller (2013) utilized a sample drawn from only three elementary schools, one middle school, and one high school. Additionally, the authors of the scale did not collect racial and ethnic breakdown of their sample, so this specific demographic information is unknown, which may make the results difficult to generalize to other populations (Kimsey & Fuller, 2013). The scale was only significantly valid for children in grades four through eight, and was insignificant for adolescents in grades nine through twelve (Kimsey & Fuller, 2013). This limits the breadth of children and adolescents with which the scale can be utilized.

Additionally, while Kimsey and Fuller (2013) identify three factors that emerged, items on each factor failed to reach 0.5 loading, indicating only a low-moderate correlation. Finally, CONFLICTALK seems to focus less (and less comprehensively) on skills, and more on conflict "styles".

Conflict Resolution Styles Inventory

A second conflict management scale often considered is the Conflict Resolution Styles Inventory (CRSI, Kurdek, 1994). The CRSI was originally intended for use with conflict resolution styles of gay, lesbian, heterosexual nonparents, and heterosexual parents, and it was adapted in 2016 for use with Spanish adolescents (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016).

The original CRSI is a 16-item, Likert-response style questionnaire ranging from 1 (never) to 5 (always) (Kurdek, 1994; Bonache et al., 2016b). Four items for each of the four conflict resolution styles of Positive Problem Solving (i.e. "Negotiating and compromising"), Conflict Engagement (i.e. "Throwing insults and digs"), Withdrawal (i.e. "Tuning the other person out"), and Compliance (i.e. "Not defending my position") were utilized as items on the original CRSI (Gottman & Krokoff, 1989; Kurdek, 1994). Upon norming the scale, "75 gay and 51 lesbian couples" participated, and were asked to first answer the questions in terms of how frequently they use each of the 16 styles in conflicts with their partners (CRSI-Self), and their partners were also asked how frequently the participant allegedly uses the 16 styles (CRSI-Partner*)* (Kurdek, 1994, p. 707).

Moderate correlations (from -.20 to .42) were found between conflict resolution styles and dissimilar constructs (i.e. marital satisfaction) (Kurdek, 1994; Bonache et al., 2016b). Cronbach's alpha levels ranged between .65 to .89 for CRSI-Self and from .80 to .91 for CRSI-Partner (Kurdek, 1994). There was moderate overlap between the CRSI-Self and CRSI-Partner ratings for Conflict Engagement, Compliance, and Withdrawal (*r* ranging from .29 to .63), and modest overlap between Self-Partner ratings on Positive Problem Solving (r ranging from .07 to .26) (Kurdek, 1994).

The Spanish adolescent version of the CRSI mimics the factor structure of the original; it is a 13-item scale composed of three factors, which include Positive Problem Solving (i.e. "Trying to find solutions that are acceptable to both of us"), Conflict Engagement (including criticizing, attacking, and losing self-control), and Withdrawal (which includes becoming silent, refusing to discuss the topic, and avoiding the problem)

(Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016). Cronbach's alpha levels were, respectively, Positive Problem Solving α = .82; Conflict Engagement α = .75; Withdrawal α = .75 (Missotten et al., 2018). This is representative of the original CRSI (Kurdek, 1994). The adapted CRSI, like the original, has item responses on a Likert scale format, ranging from 1 (never) to 5 (always) (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016). A confirmatory factor analysis (CFA) was conducted and demonstrated factor loadings over .30 (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016).

Similar to the CONFLICTALK scale, the CRSI also addresses conflict resolution styles (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016; Kurdek, 1994). The adapted CRSI focuses on conflict resolution that involves either compromise and negotiation (Positive Problem Solving), personal attacks and loss of control (Conflict Engagement), or "tuning out" (Withdrawal) (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016, p. 277). The CRSI utilized a relatively homogenous sample, which again limits generalizability of results to other populations (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016).

The adolescent version of the CRSI focused on romantic partner relationships, rather than other types of peer relationships, such as friendship dyads (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016). Despite this, the CRSI does include a much wider variety of conflict management skills, that are congruent with those intended for use in the present study, than the other (limited) conflict management skills assessments that exist for children and/or adolescents. Due to the congruence with the relevant constructs to the present study, as well as the appropriate age-groups during the norming process, both the above scales

(CONFLICTALK and CRSI*)* are used in this present test development study of the CMSBS, for convergent validity purposes.

Nonviolence

In addition to conflict-specific scales, nonviolence is also a construct related to social and emotional development and is implemented worldwide as a solution to resolve conflict through means of violence reduction (Gerstein, Mayton, Hutchison, Kirkpatrick, 2014). Specifically, nonviolence is one means of conflict resolution that is void of violence or aggression (Mayton et al., 2009). Due to its relevance to the construct of conflict resolution, and its salience in the field of mental health, several scales measuring nonviolence are described below.

The Pacifism Scale is one measurement of attitudes toward nonviolent tendencies. This scale is rooted in the view of pacifism as indicative of the basis for utilization of nonviolence via moral or religious framework (Elliott, 1980; Mayton, Susnjic, Palmer, Peters, Gierth, & Caswell, 2002). The scale was developed based on the premise of four underlying Gandhian components of pacifism: nonviolence physical and psychological, active value orientation, and locus of control (Elliott, 1980). The scale includes 55 Likert format responses and two forced-choice items. Twenty-four items measure physical nonviolence, 28 measure psychological violence, and five measure active value orientation (Mayton et al., 2002). Three final components of pacifism are reported, with coefficients ranging from .62 to .84 (Elliott, 1980). Although strong validity of the scale is implied, a study by Heaven, Rejab, and Bester (1984) found the Pacifism Scale unreliable in application with non-Western samples and cautioned its use in cross-cultural research.

The Nonviolence Test (NVT) is another scale that assesses nonviolent predispositions in individuals over the age of 17 and is based on Gandhi's principles of nonviolence (Kool & Sen, 1984). The NVT aims to assess such nonviolent behavior in terms of highlighting lack of self-control, in comparison to possession of self-control, in delineating nonviolent versus violent behavior. The NVT contains 65 forced-choice items. Thirty-six of the items are scored for nonviolence and the other 29 "items are simply fillers" (Mayton et al., 2002, p. 348).

The Teenage Nonviolence Test (TNT) is a measure of nonviolence for adolescents (Mayton et al., 1998; Gerstein, Mayton, Hutchison, & Kirkpatrick, 2014). Its purpose is to assist mental health professionals in the assessment of "the needs and impact of interventions for their clients" (Mayton et al., 2002, p. 348). The TNT was normed on "a northwest section of the United States", and includes six subscales of physical nonviolence (16 items), psychological nonviolence (16 items), active value orientation (4 items), the Gandhian principle of satyagraha (10 items), the Gandhian principle of tapasya (4 items), and helping and empathy (5 items) (Mayton et al., 1998; Mayton et al., 2002, p. 349). There are 55, Likert-response type items, from ("definitely true for me" to "definitely not true for me"). Alpha coefficients for the subscales ranged from .77 to .90, with three outlier values of .35, .48, and .65 (Mayton et al., 2002).

Additionally, the Multidimensional Scales of Nonviolence is a scale which includes six components of: direct nonviolence, systems level nonviolence, compassion and connection, indirect and oppression, nonviolence toward the planet, and spirituality (Johnson et al., 1998; Mayton et al., 2002). After a principle components analysis with an oblique

rotation was completed, five factors were identified: spirituality, international nonviolence, dominance, domestic nonviolence, and Gandhi's ahimsa. Cronbach's alphas for the five factors ranged between .65 to .87.

The Conflict Tactics Scale (CTS) is a 13-item scale used to assess intrafamilial violence used to resolve conflict (Cooley-Strickland, Quille, Griffin, Stuart, Bradshaw, & Furr-Holden, 2009; Straus, 1979). Responses are Likert style, in which higher scores indicate more family conflict and higher levels of coerciveness. Three subscales are identified: reasoning, verbal aggression, and violence, with Cronbach's alpha levels ranging from .69 to .76 (Cooley-Strickland et al., 2009; Straus, 1979). A revised version of the CTS, the CTS2, was developed in 1996 (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Sexual coercion and physical injury from assaults by a partner are two scales that were added. Internal consistency reliability of this revised version is reported to range between .79 to .95 (Straus et al., 1996). The CTS2 was normed on a sample composed entirely of college student couples.

Empathy, Coping, and Perspective-Taking

Because there are very few direct measures of conflict management skills, assessments targeting such constructs as emotion regulation and empathy are also described due to their relatedness to healthy conflict skills. For example, Bryant (1982) tested the development of an index of measuring empathy in children and adolescents, the Index of Empathy for Children and Adolescents. The assessment development was normed on 258 first, fourth, and seventh graders. Items from several measures, including an adult measure of empathy (Adult Measure of Emotional Empathy; Mehrabian & Epstein, 1972) were utilized

during item creation, as well as a measure of empathy in early childhood (Early Childhood Measure of Empathy; Feshbach & Roe, 1968). The Index of Empathy for Children and Adolescents has low to moderate total item correlations, though construct validity was reflected in the expected, significant (negative) relationship between empathy and aggression. Moderate convergent validity was found between Bryant (1982) scale and the adult empathy scale.

Davis (1980) created a measure of empathy, titled the Interpersonal Reactivity Index (IRI). It includes 28, Likert-formatted items and four, 7-item subscales. The subscales target specific aspects of empathy, a multidimensional construct, and include perspective-taking, fantasy, empathic concern, and personal distress. Internal reliabilities for the IRI range from .71 to .77 (Davis, 1980). The scale was normed on 409 college students. The sample population was entirely made up of college freshman, evenly split between males and females, and no other demographic information was reported (Davis, 1980).

As noted, this section of the dissertation addresses existing measures related to conflict management, due to the shortage of assessments that exist to measure conflict management in children and adolescents. Coping includes cognitive and behavioral strategies individuals use to manage their stress (Litman, 2006). The Coping Orientation to Problems Experienced Inventory (COPE; Carver & Scheier, 1989) is a measure of such coping responses to stressors such as conflict. COPE is claimed to be one of the most commonly used tools for evaluating coping styles, despite lack of information about its psychometric properties in applied settings (Ortega-Maldonado & Salanova, 2018). COPE was normed on 978 undergraduates at the University of Miami. Sixty items are Likert-response formatted

with 1 representing “I usually don’t do this at all” to 4 representing “I usually do this a lot” (Carver & Scheier, 1989, p. 271). A principal-factors factor analysis, with an oblique rotation, was conducted. Twelve factors emerged with eigenvalues greater than 1.0. These factors, and their Cronbach’s alpha levels include: active coping (.62), planning (.80), suppression of competing activities (.68), restraint coping (.72), seeking social support for instrumental reasons (.75), seeking social support for emotional reasons (.85), positive reinterpretation and growth .68), acceptance (.65), turning to religion (.92), focus on and venting of emotions (.77), denial (.71), behavioral disengagement (.63), mental disengagement (.45), and alcohol-drug disengagement (.57).

Ortega, Gomà-i-Freixanet, and Deu (2016) created an adapted, shortened, Spanish version of the COPE. The sample size included 301 participants between the ages of 18 and 69. Their results did not replicate the original factor structure of COPE. Additionally, no single factor solution was found and the researchers determined that many of the scales were intercorrelated, indicating that many of the coping styles are not dependent of one another (Ortega, Gomà-i-Freixanet, & Deu 2016).

Perspective-taking and emotion recognition, like conflict management, are important aspects in social emotional development and require the “understanding that others may not interpret the world exactly as we do” (Cassles & Birch, 2014; Epley, Morewedge, & Keysar, 2004, p. 760). Cassels and Birch (2014) studied open-ended response formatting of measures of perspective-taking, due to the prevalence of forced-choice response formatted measures that existed prior. They reasoned that open-ended measures are able to more adequately assess children’s perspective-taking abilities, as well as prevent process-of-elimination,

particularly in children with ASDs (Cassels & Birch, 2014). An increase of the availability of effective measurement tools for emotion recognition and perspective-taking skills are needed.

Matson and Wilkins (2009) identify role-play tests and Likert-format response scales as two means to measure social skills in children. Upon their review of existing measures, they refer to the selection as the "Wild West mentality", indicating a dissatisfaction with existing scales (Matson & Wilkins, 2009, p. 269). They suggest future research is aimed toward identifying specific social behaviors that enhance adjustment and establishing universal language for child and adolescent mental health and adjustment (Matson & Wilkins, 2009). These efforts should be in an attempt to streamline the assessment procedures and definitions of SEL.

Social Support

It is fairly well-established that the quality of an individual's social support can act as a barrier to stressful life events and psychological symptomatology (Zimet, Dahlem, Zimet, & Farley, 1988). Friendships exist cross-culturally, and close friendships in particular are important to the development of social skills, such as empathy, which are crucial components of conflict management (Ciarrochi, Parker, Sahdra, Kashdan, Kiuru, & Conigrave, 2017). Close friendships are different from acquaintances in the same way that the quality of friendships differ from the quantity of friendships one possesses (Ciarrochi et al., 2017). While some individuals may have many friends, their number of close friendships is typically smaller (Narr, Allen, Tan, & Loeb, 2019). Close friendships include high-quality, dyadic

closeness, and are the focus of the development of the CMSBS in the current study (Narr, Allen, Tan, & Loeb, 2019).

Related to conflict management, it is likely that the ability to manage conflict in a healthy manner may increase the adequacy of social support one receives (Brock & Lawrence, 2014). Conversely, poor conflict management skills may threaten social support (Brock & Lawrence, 2014). Perhaps if individuals have poor social support, they are less motivated to want to implement healthy conflict management skills.

This being said, social support and conflict management as constructs only remotely overlap. Thus, the Multidimensional Scale for Perceived Social Support (MSPSS) will be utilized as a measure of convergent validity in the present scale development study (Zimet, Dahlem, Zimet, & Farley, 1988). Zimet and colleagues (1988) tested the development of an index of subjectively-assessed social support, the Multidimensional Scale of Perceived Social Support (MSPSS). The MSPSS development was normed on 275 Duke University undergraduate students. One hundred and thirty-six participants identified as female, and 139 identified as male. Participants ranged in age from 17 to 22, with the vast majority of the sample including underclassmen participants.

In its final form, the MSPSS is a 12-item assessment with a 7-point Likert response format ranging from (1) *very strongly disagree* to (7) *very strongly agree.* Three subscales were identified in the development of the MSPSS, and included: (a) Family, (b) Friends, and (c) Significant Other, with each subscale including four items. Reliability of the MSPSS was found to be .88. For the Family, Friends, and Significant Other subscales, reliability was found to be .87, .85, and .91, respectively. The MSPSS demonstrated moderate total item

correlations, and construct validity was reflected in the expected, significant (negative) relationship between social support and anxiety and depression.

As demonstrated by the above critique of relevant scales, Matson and Wilkins (2009) identified that the need for a streamlined approach to assessment of child and adolescent social skills is crucial. The proposed development of the CMSBS scale is designed to acknowledge the current gaps in the literature. Existing scales are largely geared toward use with adults and address concepts related to social skill development, but not prediction of conflict management behavior specifically. There are few scales with psychometrically sound properties, based in theory, that are designed for implementation with children and adolescents. There are far fewer with these criteria addressing conflict management skills.

The CMSBS assesses children and adolescents' attitudinal, control, and normative beliefs surrounding learning and implementation of conflict management skills, which are a crucial component to development, and are included in social and emotional learning programs nationwide. If successfully normed, the CMSBS will also contribute to the literature base by allowing for a greater understanding of how to measure conflict, and design effective SEL programs that will result in behavior change amongst adolescents. Because of this intent, SEL programs are reviewed next, in order to provide the reader with a larger contextual understanding of social-emotional skills training in schools.

Social-Emotional Learning

The term "social-emotional learning" (SEL) was established in 1997, by the Fetzer group of school-based prevention researchers, after recognition of discrepancies between children presenting with untreated mental health concerns and lack of evidenced-based

support for efficacious SEL programs (McCormick et al., 2015). At the same time, the committee titled the Collaborative for Academic, Social, and Emotional Learning (CASEL) was developed. These were early examples of the push for implementation of SEL, preventative programs in academic settings.

Social-emotional learning abilities include behavioral regulation, attentional skills, and the ability to problem solve (McCormick et al., 2015). SEL programs, which aim to teach these abilities, are school-based, preventive interventions intended to support children's academic skills by fostering social-emotional development. More specifically, SEL programs often aim to enhance skills related to recognition and management of emotions, appreciating others' perspectives, initiating and maintaining positive friendships, and using critical thinking skills to make responsible decisions and handle interpersonal situations (McCormick et al., 2015). Engaging in this learning in the academic environment enhances children's participation in instructional activities, listening to their teacher, asking peers and teacher(s) for help, and their overall academic achievement (McCormick et al., 2015).

SEL programs aim to improve young people's capacity for interacting in healthy, efficacious manners within the larger social context. Incorporation of such skills at an early age will ideally provide a foundation for future implementation of pro-social skills in adulthood. Social desirability is a "strong predictor of difficulties later in life" (Matson & Wilkins, 2009, p. 249). Social skill deficits are related to juvenile delinquency, developmental disabilities, social isolation and withdrawal, aggressive and antisocial behavior, mental health problems, challenging behaviors, and dropping out of school (Matson & Wilkins, 2009).

Health promotion, competence enhancement, reducing risk factors, and youth development are included in various SEL models within schools. The research to support a focus on these issues within the school setting is growing. Greenberg et al. (2003) outline several organizational-level changes to implementing such programs to make them effective, including teaching application of the skills, fostering supportive relationships, and rewarding positive behavior through systemic approaches.

Current Impact

The current impact of school-based prevention programs is largely unknown, partially due to inadequate organization with other school operations (Greenberg et al., 2003). Most educators support a broader academic agenda involving a focus on social-emotional competence, character, health, and civic engagement (Greenberg et al., 2003). Public school systems have undergone a variety of changes over the past century, and there remains a large majority of children and adolescents with mental health concerns that are untreated (McCormick et al., 2015). Overall, programs teaching healthy conflict management strategies are regarded as helpful for improving ongoing relationships (Wang, Wang, Gu, Zhan, Xang, & Barnard, 2014; Johnson & Johnson, 1996).

Presently, CASEL acknowledges 19 effective SEL program models, that are mostly aimed at preschool and early elementary school aged children (CASEL, 2013). McCormick et al. (2015) cite research that found, in a meta-analysis of 213 programs, across all participants, SEL evidenced an 11-percentile-point gain in academic achievement. Overall, SEL "…programs have demonstrated positive effects on children's social-emotional, behavioral, and academic outcomes, as well as classroom climate" (McCormick et al., 2015,

p. 1). However, many of the programs implemented to address these needs are fragmented, uncoordinated, and do not align with the schools' missions, nor expectations administration holds on staff members (McCormick et al., 2015). This indicates a need for more streamlined, evidenced-based SEL programs that children and adolescents feel engaged with and motivated to implement what is learned in the classroom in practical settings.

Purpose and Hypotheses

The drive to adequately promote healthy social skill development in children is prevalent within current research studies. The incorporation of social-emotional learning into academic programs is a universal way to teach and foster growth of these important skill sets, including interpersonal engagement, validation, conflict management, and managing overwhelming emotions in relationships. As Matson and Wilkins (2009, p. 269) point out, there is a "Wild West mentality" when selecting instruments to measure various aspects of social and emotional skills. The aim of the present study is to pilot a psychometrically sound, useful, measurement of conflict management skills (Gottman, 1999), based on the Theory of Planned Behavior (Ajzen, 2002).

More specifically, the hypothesis of this study is that the Conflict Management Skills Beliefs Scale (CMSBS) will provide a measure of healthy child and adolescent conflict skills, in line with the work of Gottman (1999). The scale is defined as a measure of adolescents' beliefs about implementation of healthy conflict management skills, organized around the Theory of Planned Behavior. Consequently, the scale is hypothesized to have three orthogonal subscales, corresponding to the three antecedent components of TPB (Norms, Attitudes, and Behavioral Control) (Ajzen, 2002), all of which will measure the higher order

construct of adolescents' beliefs about implementation of healthy conflict management skills. Additionally, it is expected that each of the subscales, and the overall scale, will have coefficient alpha's of approximately .80. Finally, in terms of convergent and divergent validity, the hypothesis of the current study is that the CMSBS would correlate moderately with measures of conflict management, and weakly with measures of social support and social desirability.

Hypothesis one. It was hypothesized that the Conflict Management Skills Beliefs Scale (CMSBS) will be composed of three subscales, each reflective of the three predictive components of the Theory of Planned Behavior (Ajzen, 2002).

Hypothesis two. It was hypothesized that the individual item loadings would be ≥ .40 for items on each factor of the CMSBS (Osborne & Costello, 2004).

Hypothesis three. It was predicted that the CMSBS would demonstrate an orthogonal factor structure that accounts for over 50% of the total variance.

Hypothesis four. It was predicted that the CMSBS would demonstrate a strong internal consistency, as evidenced by an alpha coefficient of .80 or higher for each individual factor within the CMSBS of attitudinal beliefs, control beliefs, and normative beliefs (DeVellis, 2012).

Hypothesis five. The Conflict Resolution Styles Inventory (Kurdek, 1994) was adapted for use with Spanish adolescents, and was reduced from 16 items to 13 (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016). The scale is intended to assess conflict management styles, including factors of (1) Positive Problem Solving, (2) Conflict Engagement, and (3) Withdrawal. It was predicted that there would be a moderate to strong

convergent validity of the Positive Problem Solving factor of the CRSI with the *healthy* conflict management Attitudinal, Control, and Normative factors of the CMSBS, with $r \geq .30$.

Hypothesis six. It was predicted that there would be a moderate to strong convergent validity of the Conflict Engagement factor of the Conflict Resolution Styles Inventory (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016) with the *unhealthy* conflict management Attitudinal, Control, and Normative factors of the CMSBS, with $r \geq .30$.

Hypothesis seven. It was predicted that there would be a moderate to strong convergent validity of the Withdrawal factor of the Conflict Resolution Styles Inventory (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016) with the *unhealthy* conflict management Attitudinal, Control, and Normative factors of the CMSBS, with $r \geq .30$.

Hypothesis eight. The CONFLICTALK scale (Kimsey & Fuller, 2013) is an 18-item measure of conflict resolution messages styles, for use with elementary, middle, and high school students participating in school-based conflict management programs. Items are presented as phrases that might be expressed during a conflict. There are three factors within CONFLICTALK, including (1) Problem Orientation, (2) Self-Orientation, and (3) Other Orientation. It was predicted that there would be moderate to strong convergent validity of the Problem Orientation factor with the *healthy* conflict management Attitudinal, Control, and Normative belief factors of the CMSBS, with $r \geq .30$.

Hypothesis nine. It was predicted that there would be a moderate to strong convergent validity of the Self-Orientation factor with the *unhealthy* conflict management Attitudinal, Control, and Normative belief factors of the CMSBS, with $r \geq .30$.

Hypothesis ten. It was predicted that there would be a moderate to strong convergent validity of the Other Orientation factor with the *unhealthy* conflict management Attitudinal, Control, and Normative belief factors of the CMSBS, with $r \geq .30$.

Hypothesis eleven. The Multidimensional Scale of Perceived Social Support (MSPSS) is a three-factor scale (Family, Friends, Significant Other) which focuses on individual assessment of social support adequacy as a coping resource (Zimet, Dahlem, Zimet, & Farley, 1988). The construct that the MSPSS is measuring (social support) is related to the present scale development of the CMSBS, as social support may be a protective factor against the development of unhealthy conflict management styles, but it does not fully overlap, and is therefore utilized for discriminant validity purposes.

Hypothesis 11a. Because the CMSBS is intended for use with children and adolescents, and the focus was on the assessment of conflict management in non-romantic relationships, the Significant Others subscale was not administered. It is the former two subscales – Family and Friends – that were utilized as divergent validity for the current study. It was predicted that there would be no significant correlations between the *Unhealthy* Attitudinal, Control, and Normative beliefs about conflict management factors of the CMSBS and the Family factor of the MSPSS, $-.30 < r < .30$.

Hypothesis 11b. It was predicted that there would be no significant correlations between the *Unhealthy* Attitudinal, Control, and Normative beliefs about conflict management factors of the CMSBS and the Friends factor of the MSPSS, $-.30 < r < .30$.

Hypothesis twelve. A Children's Social Desirability Questionnaire (Crandall, Crandall, & Katkovsky, 1965) is a true/false and “yes/no” formatted scale intended to assess

the extent to which social desirability may be impacting an individual's responses. It was predicted that there would be no significant correlations between the Healthy or Unhealthy Attitudinal, Control, and Normative beliefs about conflict management factors of the CMSBS and A Children's Social Desirability Questionnaire, $-.30 < r < .30$.

CHAPTER III

EXPLORATORY STUDY METHODOLOGY

The present study explored the initial development and exploratory analyses of a psychometrically sound measure of conflict management, a skill often taught via social-emotional learning (SEL) programs, for sixth through twelfth grade children and adolescents. Specifically, the Conflict Management Skills Beliefs Scale (CMSBS) will examine adolescents' perceptions on their ability to implement conflict management skills taught in SEL programs. The scale will be representative of the three predictive components of behavior intention as described by the Theory of Planned Behavior of attitudinal beliefs, normative beliefs, and control beliefs (Ajzen, 2002). The scale will be a single scale, composed of three subscales.

Exploratory Study Methods

Exploratory Study Participants

Respondent Recruitment. With prior approval from the University of North Dakota (UND) Institutional Review Board (IRB), the school counseling master's students enrolled at UND assisted in administration of the CMSBS to the participants in two middle schools. One school is located in a southeastern coastal state and the other school is located in a northern plains state. With the school principal's permission, documentation regarding the study's purpose and procedures, and a letter allowing parents to decline their child's participation,

was sent home to participant guardians. Participants engaged in completing the survey through convenience sampling, upon their willingness.

Participants completed the survey via access to the internet at school. The survey was presented on Qualtrics. A waiver of written parental consent was obtained from the Institutional Review Board (IRB) prior to the publication of, and participants' access to, the survey. The child or adolescent viewed a brief introduction of the survey procedures, as well as what the study entails, followed by an assent screen on the computer, prior to accessing the survey. The child or adolescent had the option to check "I agree" to agree to engage in the survey. Following assent, demographic information questions were presented in multiple choice format, followed by the CMSBS, and then randomly-ordered validity scales. After completion of the survey, participants viewed a debriefing page, in which a thank you for participating, the researchers' contact information, purpose of the study, expected benefits and potential risks for participation, as well as resources for mental health support, if needed, were listed.

Demographics. Data was collected from a diverse sample of children and adolescents in grade six and ninth through twelfth grades, ranging in age from nine (0.4%) to eighteen years old (3.2%). Most participants were age 15 (22.9%). Participants identified as White/European American (50.4%), Black/African American (12.5%), Asian American/Southeast Asian/East Asian (16.8%), Pacific Islander (0.4%), Latino/Hispanic American (7.1%), Persian American (0.4%), Arab American (1.1%), Multiracial (5.7%), Other (2.9%), and International Student (0.7%). Three participants (1.1%) did not respond to their identified ethnicity. Participants indicated that the primary language they spoke at home

was English (82.1%), Spanish (3.9%), Mandarin (0.4%), Korean (3.2%), Somali (2.1%), Arabic (0.4%), Farsi (0.4%), Portuguese (0.4%), Russian (0.4%), and Other (6.8%).

The majority of participants indicated that they live in a "mostly suburban" area (49.6%), followed by a "mostly rural" area (38.9%), and "mostly city" area (10.7%). Two participants (0.7%) did not respond to this question. Participants indicated that they lived in a variety of different home situations, including with both parents (70.7%), one biological parent (16.1%), other relative (0.4%), non-relative foster parents (0.4%), one biological parent and one step-parent (10.4%), two adoptive parents (0.7%), and grandparents (1.1%). One participant (0.4%) did not respond to this question.

Table 1 *Exploratory Study Sample Demographic Information*

	Children and Adolescent Demographic Data	
Demographic Category	N	%
Age		
9	1	0.4
10	1	0.4
11	50	17.9
12	57	20.4
13	9	3.2
14	31	11.1
15	64	22.9
16	33	11.8
17	25	8.9
18	9	3.2
Total	280	100.0
Gender		
Female	141	50.4
Male	134	47.9
Other	5	1.8
Total	280	100.0
Grade Level		
6th	114	40.7
7th-8th	1	0.4
9th	62	22.1
10th	50	17.9
11th	25	8.9
12th	28	10
Total	280	100
Ethnicity		

Demographic Category	Children and Adolescent Demographic Data N	%
White/European American	141	50.4
Black/African American	35	12.5
Asian American/Southeast Asian/East Asian	47	16.8
Pacific Islander	1	0.4
Latino/Hispanic American	20	7.1
Persian American	1	0.4
Arab American	3	1.1
Native American	3	1.1
Multiracial	16	5.7
Other	8	2.9
International Student	2	0.7
Missing	3	1.1
Total	280	100.0
Community Size		
Mostly Rural	109	38.9
Mostly City	30	10.7
Mostly Suburban	139	49.6
Missing	2	0.7
Total	280	100.0
Language Spoken at Home		
English	230	82.1
Spanish	11	3.9
Mandarin	1	0.4
Korean	9	3.2
Somali	6	2.1
Arabic	1	0.4
Farsi	1	0.4
Portuguese	1	0.4
Russian	1	0.4
Other	19	6.8
Total	280	100
Living Situation		
Living with both parents	198	70.7
Living with one biological parent	45	16.1
Living with other relative(s)	1	0.4
Living with foster parents (non-relative)	1	0.4
Living with one biological parent and one step-parent	29	10.4
Living with two adoptive parents	2	0.7
Living with grandparent(s)	3	1.1
Missing	1	0.4

	Children and Adolescent Demographic Data	
Demographic Category	N	%
Total	280	100

Measures

Participants were asked to complete a demographics questionnaire, the adolescent-adapted Conflict Resolution Styles Inventory (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016; Kurdek, 1994), CONFLICTALK (Kimsey & Fuller, 2003), Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988), and A Children's Social Desirability Questionnaire (Crandall, Crandall, & Katkovsky, 1965). These questionnaires were in addition to the completion of the Conflict Management Skills Beliefs Scale, developed in the present study.

Demographics questionnaire. Participants were asked to answer a series of demographics questions. Items on this demographic section included: age, grade level, ethnicity, living situation at home, main languages spoken at home, and geographical location type.

CONFLICTALK (Kimsey & Fuller, 2013). For convergent validity purposes, CONFLICTALK was administered. CONFLICTALK is an 18-item, untimed, self-report measure of conflict resolution styles for use with elementary, middle, and high school students participating in school-based conflict management programs (Kimsey & Fuller, 2003). Items are presented as phrases that might be expressed during a conflict (i.e. "I'm no help to you; I never know what to say"), with options to rate the phrases on a scale of 1 (I

"never say things like this") to 5 (I "almost always say things like this") (Kimsey & Fuller, 2013).

Three factors emerged during the development of this scale, including: a self-focus on conflict resolution ("rhino" scale), problem-focus ("dolphin" scale), and other-focused ("ostrich" scale) (Kimsey & Fuller, 2003). Each conflict management style is related to the value on goals and relationships (i.e. a self-focus strategy includes high emphasis on goals and low emphasis on relationships) (Kimsey & Fuller, 2003). An example from the "rhino" scale includes "Shut up! You're wrong! I'm not going to listen!" (Kimsey & Fuller, 2003). An example item from the "dolphin" scale is "What's going on? We need to talk." (Kimsey & Fuller, 2003). An example from the "ostrich" scale is "I wish we could just avoid the whole thing." (Kimsey & Fuller, 2003).

Items are presented in Likert formatting from (5) I "never say anything like this" to (1) I "always saying things like this" (Kimsey & Fuller, 2003). Cronbach's alpha levels for the three scales are as follows: .81 (self), .87 (problem), and .65 (other). Alpha reliabilities for the three factors are as follows, factor 1 alpha reliability = .87, factor 2 alpha reliability =.81, and factor 3 alpha reliability = .65.

Conflict Resolution Styles Inventory (CRSI; Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016; Kurdek, 1994). For additional support of convergent validity, the CRSI was administered. The 16-item CRSI was originally designed for use with lesbian, gay, bisexual, and heterosexual parents and non-parents (Kurdek, 1994). The scale was intended to assess conflict management styles, including Positive Problem Solving (i.e. "Trying to find solutions that are acceptable to both of us"), Conflict Engagement (including criticizing,

attacking, and losing self-control), Withdrawal (which includes becoming silent, refusing to discuss the topic, and avoiding the problem), and Compliance (i.e. "Not defending my opinion") (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016; Kurdek, 1994). Cronbach's alpha levels were, respectively, Positive Problem Solving $\alpha = .82$; Conflict Engagement $\alpha = .75$; Withdrawal $\alpha = .75$; and Compliance $\alpha = .68$ (Missotten et al., 2018). This scale was adapted for use with Spanish adolescents, and was reduced to a 13-item scale (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016). The same three factors were kept in the shortened version for adolescents, as well as the Likert style response formatting structure, ranging from 1 (never) to 5 (always) (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016).

The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, and Farley, 1988). For divergent validity purposes, The Multidimensional Scale of Perceived Social Support (MSPSS) was administered (Zimet, Dahlem, Zimet, and Farley, 1988). The MSPSS development was normed on 275 Duke University undergraduate students. One hundred and thirty-six participants identified as female, and 139 identified as male. Participants ranged in age from 17 to 22, with the vast majority of the sample including underclassmen participants. Data on the racial and ethnic identity of participants was not available. In its final form, the MSPSS is a 12-item assessment with a 7-point Likert response format ranging from (1) *very strongly disagree* to (7) *very strongly agree.*

Three subscales emerged, each including four items, labeled Family (i.e. "I get the emotional help and support I need from my family"), Friends ("I can count on my friends when things go wrong"), and Significant Others ("There is a special person with whom I can

share my joys and sorrows"). Reliability of the overall MSPSS was found to be .88. For the Family, Friends, and Significant Other subscales, Cronbach's alpha was found to be .87, .85, and .91, respectively. The MSPSS demonstrated moderate total item correlations, and construct validity was reflected in the expected, significant (negative) relationship between social support and anxiety and depression.

Because the CMSBS is intended for use with children and adolescents, and the focus was on the assessment of conflict management in non-romantic relationships, the Significant Others subscale was not administered. It is the former two subscales – Family and Friends – that were utilized as divergent validity for the current study.

A Children's Social Desirability Questionnaire (Crandall, Crandall, & Katkovsky, 1965). For discriminant validity purposes, A Children's Social Desirability Questionnaire was utilized (Crandall, Crandall, & Katkovsky, 1965). A Children's Social Desirability Questionnaire includes 48 questions formatted in "yes/no" responses for third through sixth graders, and true/false responses for higher grades. Items aim to assess the tendency of the child or adolescent to respond in a socially desirable manner (i.e. "I am always respectful of older people.") Items are presented as positively-worded (i.e. "When I make a mistake, I always admit I am wrong) and negatively-worded (i.e. "I have never felt like saying unkind things to a person".)

A Children's Social Desirability Questionnaire was normed on 956 children and adolescents in grades three through six and grades eight, ten, and twelve. The participants represented five different schools, including a "consolidated country school, a village school, a small-city school, a medium-city school, and a college-lab school, all located in southern

Ohio. None came from a large, metropolitan school system" (Crandall, Crandall, & Katkovsky, 1965, p. 29).

Racial and ethnic identity information regarding the sample was largely missing, other than noting that 100 participants identified as Black, and strong implication that the remaining identified as White. Socioeconomic status was determined by collecting information about the participant's father's occupations, and it was reported that the sample was "'top heavy' with middle and high SES scores as compared with the general American population" (Crandall, Crandall, & Katkovsky, 1965, p. 30).

Uncorrected split-half (odd-even) reliability coefficients for A Children's Social Desirability Questionnaire ranged from .69 to .90. After one month, the scale was re-administered to a small sample of 63 younger children and 98 tenth-graders, and test-retest reliability was found to be .90 and .85, respectively.

Procedures

Survey development procedure. A waiver of written parental consent was obtained from the Institutional Review Board (IRB) from the University of North Dakota prior to the publication of, and participants' access to, the survey. Participants completed the survey via access to the internet at school. The survey was presented on Qualtrics and included informed consent, demographics questions, the Conflict Resolution Styles Inventory (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016; Kurdek, 1994), CONFLICTALK (Kimsey & Fuller, 2003), and An Index of Empathy for Children and Adolescents (Bryant, 1982).

The child or adolescent viewed an assent screen on the computer, prior to accessing the survey. The child or adolescent had the option to check "yes" or "no" to agree to engage in the survey. Following assent, demographic information questions were presented in multiple choice format, followed by the CMSBS, and then randomly-ordered validity scales. After completion of the survey, participants viewed a debriefing page, in which a thank you for participating, the researchers' contact information, purpose of the study, expected benefits and potential risks for participation, as well as resources for mental health support, if needed, were listed. Participants were not compensated for their participation. The survey had an average time completion of 20 minutes.

The data was reviewed to ensure "clean and complete data" that is effective for the provision of quality data (Karmaker & Kwek, 2006, p. 547). Participants that were missing multiple data points from the CMSBS were removed from the analyses processes. Further, participants who provided the same responses for all items across scales were removed. In total, 98 participants were removed for these reasons.

Nonresponse and missing data are common problems in data analysis (Nassiri, Lovik, Molenberghs, & Verbeke, 2018). Multiple imputation is one approach to minimize the impact of this problem. Specifically, nonmonotone missing completely at random (MCAR) and missing at random (MAR) were methods utilized in the present study to determine that the missing data are missing at random and missing completely at random (Little & Rubin, 2002; Nassiri, Lovik, Molenberghs, & Verbeke, 2018).

As such, data imputation procedures were followed prior to commencing further statistical analyses. Data imputations were completed for 24 of 280 participants. Out of

35,000 data points (280 participants answering 125 non-demographic items), a total of 188 data points were imputed. For the CMSBS, data were MCAR for the Attitudinal Beliefs and Control Beliefs factors, and data were MAR for the Normative Beliefs factor. The convergent validity scale CONFLICTALK (Kimsey & Fuller, 2003) was found to have data MAR. The convergent validity scale CRSI (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016) was found to have data MCAR. The divergent validity scale, Multidimensional Scale of Perceived Social Support, demonstrated data that was MCAR for both the Family and Friends subscales.

Conflict Management Skills Beliefs Scale (CMSBS)

The pre-pilot administration of the Conflict Management Skills Beliefs Scale (CMSBS) included 100 items. After investigation into the statistical properties of the items, optimization of scale length occurred in which poorly worded and/or underperforming items with lower-than-average correlation to other items were dropped (step 8; DeVillis, 2012). The final exploratory form of the CMSBS included 65 items, consisting of three subscales. It is the aim that each subscale will mirror the attitudinal beliefs, control beliefs, and normative beliefs from the Theory of Planned Behavior (Ajzen, 2002). Each of the three subscales included approximately 20 items, each based on attitudinal beliefs, normative beliefs, and control beliefs pertaining to an adolescents' view on intention to implement conflict management skills learned from school-based SEL programs.

Scale Construction. DeVillis's (2012) eight steps to scale development were followed in the development of the CMSBS. The first step includes construct identification and exploration (DeVillis, 2012). The CMSBS assesses conflict management styles of

children and adolescents, between sixth and twelfth grades. Conflict is a natural occurrence in all close relationships, but its management is crucial for relationship outcomes and well-being of the parties involved. Conflict management as a construct, as well as specific strategies, are included in many social and emotional learning programs taught in schools, many of which are preventative programs designed to improve academic performance and overall well-being (Matson & Wilkins, 2009; McCormick et al., 2015).

As previously discussed, healthy conflict management skills are utilized to address and manage conflict in productive ways, are inversely correlated with aggression, and include validation, turn-taking, identifying needs, support, and caring (Salvas, Vitaro, Brendgen, Dionne, Tremblay, & Boivin, 2014; Van Doorn, Branje, VanderValk, De Goede, & Meeus, 2011; Wang, Wang, Gu, Zhan, Xang, & Barnard, 2014). In contrast, unhealthy conflict management skills are linked to numerous adverse effects, and include such tactics as put-downs, withdrawal, avoidance, content, passivity, utilizing always/never statements, and stonewalling (Gottman, 1982; Gottman, 1999; Gottman & Levenson, 1999, p. 5; Haase, Holley, Bloch, Verstaen, & Levenson, 2016; Missotten et al., 2018; Liu & Roloff, 2015; Salvas, Vitaro, Brendgen, Dionne, Tremblay, & Boivin, 2014).

The Theory of Planned Behavior is the structure on which the scale is formatted to assess children's' beliefs about the likely outcomes of their implementation of various conflict management strategies (Ajzen, 2002). Specifically, three components are projected to emerge, each representing the three aspects of the TPB: beliefs about the likely outcome of the behavior (attitudinal beliefs), beliefs about the normative expectations of others (normative beliefs), and beliefs about the presence of these factors that may help or impede

performance of the behavior (control beliefs) (Ajzen, 2002). These categories lead to behavioral intention, which is assumed to be the immediate antecedent of behavior (Ajzen, 2002).

The next step is to generate an item pool (see Appendices for specific items) (DeVillis, 2012). A large pool of 100 items were generated for the pre-pilot administration, which were narrowed-down post-psychometric properties analyses as part of the exploratory study to 65 items. "A 10-item scale might evolve from a 40-item pool", thus the reduction to a 65-item scale beginning from a much larger pool of 100 items is apropos (DeVillis, 2012, p. 113). An average reading-level is sixth-grade, and because our scale is intended for use with children and adolescents, we aimed for a third-grade level (DeVillis, 2012). Items are structured in brief, declarative sentences. Each item contains less than 15 syllables, about 15-16 words, and in general are short sentences with a low proportion of longer words (DeVillis, 2012). Additionally, the items are void of double-negatives, ambiguous pronouns, adjective forms of words rather than nouns, and ambiguity (DeVillis, 2012; Clark & Watson, 1995).

Negatively worded (i.e. "Hitting a close friend I'm angry at") and positively worded (i.e. "Talking through why we're both mad is") items are included to assess for agreement bias, thus opposite-polarity responses were taken into consideration and were reverse-scored (DeVillis, 2012).). Reverse-scored items will be included in the scale to assist with avoiding agreement bias – agreeing with items irrespective of their content (DeVillis, 2012; Clark & Watson, 1995). Items representing each of the healthy and unhealthy conflict management skills mentioned above are included in the scale, as well as items from each of the three factors of the TPB.

Determining the format for measurement is step three in scale development (DeVillis, 2012). Items are presented as statements, with the option to respond in Likert formatting, as suggested for use with scales utilizing the TPB structure (Ajzen, 2002). The response formatting is presented with opposite adjectives at opposite ends of the scale. Responses for control beliefs range from 1 (Very hard for me to do) to 5 (Very easy for me to do). Responses for attitudinal beliefs range from 1 (Very unhelpful) to 5 (Very helpful). For normative beliefs, responses range from 1 (None of my friends do this) to 5 (All of my friends do this). Such response options are displayed horizontally across the screen, with 1 on the left, followed by 2, 3, 4, and 5, sequentially. The display of response options is crucial to reduce possibilities of confusion (DeVillis, 2012). A neutral option was included to assess for individuals that do not feel strongly either way, and contribute to the potential for response variance, and item discrimination (DeVillis, 2012).

Evaluating how the items are written is important, including the language, length, and structure (DeVillis, 2012). An expert panel received the items to review and provide feedback to assist with confirmation and/or invalidation of the definition of the constructs (DeVillis, 2012). Each expert was asked to "rate how relevant they think each item is to what (we) intend to measure" (DeVillis, 2012, p. 135). Additionally, the panel was asked for feedback on item clarity, conciseness, and general feedback including factors left out that should be included (DeVillis, 2012). Further, the expert review panel was invited to provide commentary on each individual item, as well as the overall scale.

The expert reviewers were (1) Rhea Owens, Ph.D., L.P.; (2) Helena Bonache, Ph.D.; and (3) John-Paul Legerski, Ph.D., L.P. Expert reviewer one was Dr. Owens, an assistant

professor in Counseling Psychology and Community Services Ph.D. program at the University of North Dakota. She received her Ph.D. in Counseling Psychology from the University of Kansas. Her research interests involve individuals across the life-span, but she has a specific expertise in the area of child and youth populations.

The second reviewer was Dr. Bonache. She conducts research in the Department of Cognitive, Social, and Organizational Psychology at the University of La Laguna (ULL). The ULL is located on the island of Tenerife, in the Canary Islands. Dr. Bonache developed the adolescent version of the Conflict Resolution Styles Inventory (Kurdek, 1994), that is utilized in the present scale development project as a convergent validity measure.

John-Paul Legerski, Ph.D. is the final expert reviewer. He is an assistant professor of clinical child psychology in the Clinical Psychology department at the University of North Dakota. Dr. Legerski received his Ph.D. from the University of Kansas. He has expertise in scale development and child and adolescent psychology.

Step five of DeVillis' (2012) scale development procedures includes consideration of inclusion of validity items. As noted extensively above, the Conflict Resolution Styles Inventory and CONFLICTALK scales will be used for convergent validity, and the Multidimensional Scale of Perceived Social Support will be included for discriminant validity purposes (Kimsey & Fuller, 2003; Kurdek, 1994; Zimet, Dahlem, Zimet, & Farley, 1988).

Step six in DeVillis's (2012) scale development procedures is to administer the scale. A large, diverse sample will help reduce the effects of chance, increase representation of the population, and help to stabilize patterns of covariation (DeVillis, 2012). After construct-

related and validity items were included in the questionnaire (from the scales mentioned above), a small, pre-pilot test was conducted on a sample of 46 children and adolescents for preliminary feedback on the items. A much larger sample followed during the exploratory phase of the present study, in which 280 participants were included.

Evaluation of the items, which is detailed in the analysis section below, followed as the next step, and will include examination of such factors as Cronbach's alpha, exploratory factor analysis (oblique rotation), analysis of the factor correlation matrix, convergent and discriminant validity items, reliability, and validity.

CHAPTER IV

RESULTS

The purpose of this chapter is to detail the results of the development of the Conflict Management Skills Beliefs Scale (CMSBS). Specifically, evidence from the CMSBS exploratory study, particularly as they relate to validity, reliability, and factor structure, are presented. The factor structure of the CMSBS, initially hypothesized in the pre-pilot study, was re-evaluated through the use of an EFA. Convergent and discriminant validity of the scales were reassessed. Further, norming group comparisons and internal consistency were examined.

Preliminary Analysis

This section includes information regarding preliminary analyses of the exploratory data, which provide evidence for the appropriateness of conducting an EFA. Sampling adequacy was assessed through the use of Bartlett's test of sphericity and the Kaiser-Meyer-Olkin test. Normality of the data was also evaluated, including the utilization of Kolmogorov-Smirnov (KS) and Shapiro-Wilk (SW) tests, and examination of a histogram.

Sampling adequacy. The process of determining sampling adequacy begins with Bartlett's test of sphericity (Bartlett, 1953) and the Kaiser-Meyer-Olkin (KMO; Kaiser, 1974). Bartlett's test of sphericity is a function of the sample size, number of variables, and $\log_e$ of the determinant of the correlation matrix (Dziuban & Shirkey, 1974). It "examines the null hypothesis that the correlation matrix is an identity matrix, that is, a matrix whose

elements are non-correlated, which implies that the factor model is inappropriate" (Gazzaz, Yusoff, Ramli, Aris, & Juahir, 2012, p. 692). The rejection of this hypothesis is desired. The KMO predicts if data are likely to factor well. It provides an index between zero and one, which demonstrates the proportion of variance among the variables that is common (Gazzaz, Yusoff, Ramli, Aris, & Juahir, 2012).

For the entire CMSBS, the KMO value of .83 was produced. For the Control Beliefs items, the KMO value was .84. Attitudinal Beliefs revealed a KMO of .85 and Normative Beliefs had a KMO value of .87. These values exceed the minimum value of .50 recommended for factor analysis (Kaiser, 1974). In fact, values between .80 and .89 are considered "meritorious", meaning the KMO values indicate the strength of the relationships and the factorability of the variables included within the CMSBS (Beavers, Lounsbury, Richards, Huck, Skolits, & Esquivel, 2013, p. 4).

Bartlett's Test of Sphericity (Bartlett, 1954) revealed a χ^2 of 10071.906 (*df = 2145, p>.000*) for the entire CMSBS, a χ^2 of 2099.269 (*df = 231, p>.000*) for the Control Beliefs, a χ^2 of 2868.121 (*df = 231, p>.000*) for the Attitudinal Beliefs, and a χ^2 of 3092.190 (*df = 231, p>.000*) for the Normative Beliefs. These values demonstrate evidence for sampling adequacy and the suitability of proceeding with factor analysis.

Data distribution. Prior to conducting factor analysis, it is important to verify the assumption that the data is normally distributed. If data does not follow a bell-shaped distribution which peaks near the mean, the succeeding results may be biased (Marmolejo-Ramos & Gonzalez-Burgos, 2013). Analysis of the means and standard deviations revealed means between 1.86 and 4.46 for the CMSBS, with the means for Control Beliefs falling

between 2.20 and 4.46; the means for Attitudinal Beliefs ranging from 1.86 to 4.40, and the means for Normative Beliefs ranging from 2.08 to 3.89. The average mean item across the CMSBS was 3.32, which indicates that the average response was close to the center of the 5-point Likert scale, although slightly positively skewed. The standard deviations ranged from 0.797 to 1.384. Such response centrality and variability are desirable (DeVillis, 2012).

The Kolmogorov-Smirnov (KS) and the Shapiro-Wilk (SW) tests are typically conducted to aid in the determination of data normality (Marmolejo-Ramos & Gonzalez-Burgos, 2013). The KS test revealed values of $D = .103$, $p < .05$ and the SW test revealed values of $D = .929$, $p < .05$, thus suggesting non-normality of the data. Despite this, the histogram produced a symmetrical bell curve. Overall, while the preliminary analyses indicated suitability of conducting EFA with the CMSBS, they provided initial evidence for the necessity of a statistic that does not assume normality.

Exploratory Study Main Analysis

The main analyses included assessment of the factor structure via an exploratory factor analysis (EFA) using Principal Axis Factoring. The construct validity was assessed via a series of Pearson's *r* correlations, and internal consistency by analyzing Cronbach's coefficient alphas.

Exploratory Factor Analysis

Guidelines for conducting factor analysis. Exploratory factor analysis (EFA) is a widely-utilized, data-driven approach (Auerswald & Moshagen, 2019; deWinter & Dodou, 2012; DeVillis, 2012). The primary purpose of factor analysis is to determine the underlying latent structure of a set of items (DeVillis, 2012). The EFA aids in the investigation of how

many constructs are needed to characterize an item set (DeVillis, 2012). Further, factor analysis can assist with understanding the variation among many variables using fewer, newly created variables (DeVillis, 2012). Overall, when conducting an EFA, it is important to consider characteristics such as the estimation method to utilize, the number of factors to retain, the rotation method to utilize, and the method for calculating scores (deWinter & Dodou, 2012).

The extraction of factors and rotation of factors are the first steps in factor analysis (DeVillis, 2012). A primary goal of factor extraction is to increase variance explained through the extraction of the most parsimonious set of factors (Tabachnick & Fidell, 2007). Principal axis factoring (PAF) is one of the most widely utilized estimation methods in exploratory factor analysis and is the rotation method utilized in the present study (deWinter & Dodou, 2012; Tabachnick & Fidell, 2007). "It is known that PAF is better able to recover weak factors" than other statistical methods (deWinter & Dodou, 2012, p. 695). PAF estimates communalities in an effort to eliminate unique and error variance from the variables (Tabachnick & Fidell, 2007). Further, PAF is recommended in the case of data which assumes multivariate non-normality, as is the case in the current study (Costello & Osborne, 2005).

Regarding the rotation of factors, DeVillis (2012) notes, "raw, unrotated factors are rather meaningless mathematical abstractions" (p. 171). Thus, to improve interpretability, factor rotations identify clusters of variables that are characterized in terms of one latent variable (DeVillis, 2012). Factor rotation aids with achieving a simple structure in which

each factor has high absolute value loadings for only some of the variables, making it easier to identify (Norusis, 2003).

Orthogonal and oblique rotations are two rotational framework classifications (Lorr, 1957). Factor rotations involving factors which are correlated are described as *oblique* (DeVillis, 2012). An oblique rotation aids in the determination of the extent to which the factors are correlated. Factors which are statistically uncorrelated with one another are termed *orthogonal* (DeVillis, 2012). Orthogonal rotations involve factors which are independent of one another, giving the "theoretical advantage of simplicity" (Lorr, 1957, p. 448). The Varimax rotation (Kaiser, 1958) is one such type of orthogonal factor rotation which maximizes the variance of the squared loadings for each item (DeVillis, 2012; Tabachnick & Fidell, 2007). The Varimax rotation is the most commonly utilized orthogonal rotation and is the rotation method utilized in the present study (Schmitt & Sass, 2011).

After the estimation and rotation of factors, consideration of the number of factors to retain follows. Extracting factors via factor analysis assists with the investigation of how much association among individual items is explained by a single concept (DeVillis, 2012). Eigenvalues aid in the determination of how many factors to retain, as they represent the amount of variance accounted for per factor (DeVillis, 2012; Kaiser, 1958). Factors with eigenvalues less than 1.0 should not be retained (Kaiser, 1960).

The scree test (Cattell, 1966) further aids with this determination, through the visual plotting of eigenvalues. The relative, rather than absolute, values are utilized as criterion in the scree plot (DeVillis, 2012). When examining the scree plot, the suggested number of

appropriate factors to retain is evident by noting the "abrupt transition from vertical to horizontal and clear 'elbow'" (DeVillis, 2012, p. 167).

Further aiding in the determination of how many factors to retain is the consideration of the strength of the loadings of each item per factor. In general, "item loadings above .30, [which have] no or few item crossloadings [and] no factors with fewer than three items" exemplify good factor structure (Costello & Osborne, 2005, p. 3). Comrey and Lee (1992) suggest consideration of factor loadings in the following manner: .71 (50% overlapping variance) are considered excellent, .63 (40% overlapping variance) are considered very good, .55 (30% overlapping variance) are considered good, .45 (20% overlapping variance) are considered fair, and .32 (10% overlapping variance) are considered poor. Although Tabachnick and Fidell (2007) consider the exact choice of loading cutoffs as a matter of researcher preference.

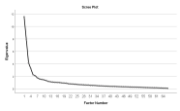
Factor Structure (Hypothesis One)

It was hypothesized that three factors would emerge within the CMSBS. These three factors were expected to align with the three factors of the Theory of Planned Behavior (Ajzen, 2001), including Attitudinal, Normative, and Control Beliefs which surround adolescents' perception of their ability to successfully implement conflict management strategies.

Sixty-Five Item CMSBS. An exploratory factor analysis was conducted with all 65 items of the CMSBS utilizing the Statistical Package for the Social Sciences version 25.0.0. (SPSS; IBM, 2017). Principal Axis Factoring was the estimation method selected, with an orthogonal rotation. More specifically, the Varimax rotation was utilized (Kaiser, 1958). As

Schmitt and Sass (2011) note, the orthogonal Varimax rotation provides “easily interpretable uncorrelated factors” (p. 98). The CMSBS generated a six-factor structure. This was evidenced in the scree plot, which began to curve in a vertical fashion, or “elbowed” at point six (DeVillis, 2012) (see figure 1). The six-factor structure was further supported by the eigenvalues higher than one (see hypothesis two for details).

Figure 1 *Scree Plot with 65 Original Items, Utilizing Principal Axis Factoring with Varimax Rotation*

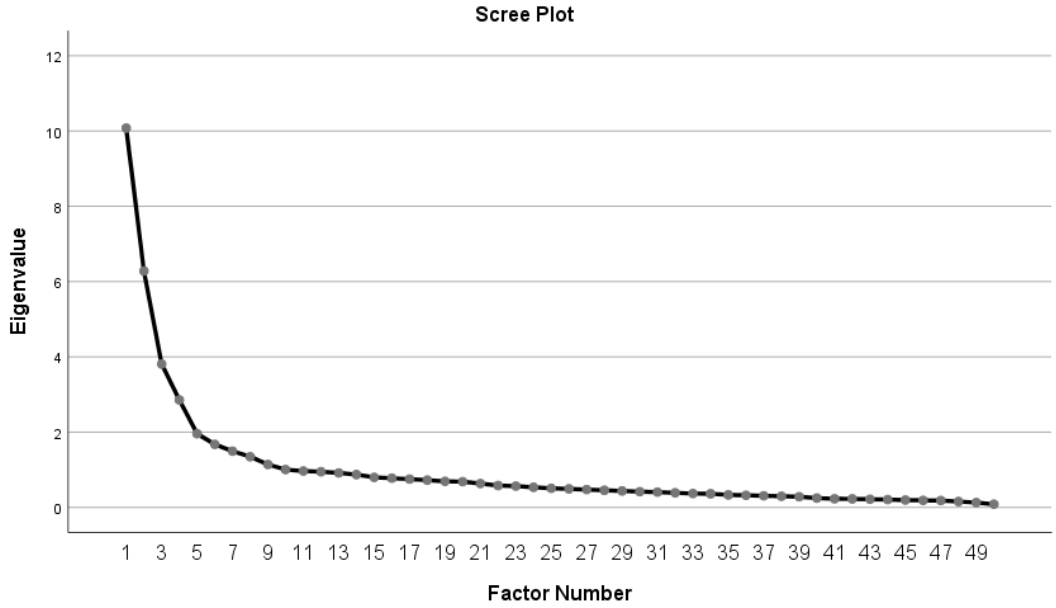


Upon analysis of the item loadings on the rotated factor matrix, it was determined that the factors were divided in terms of the three predictive components of the Theory of Planned Behavior (Ajzen, 2001; Normative Beliefs, Control Beliefs, and Attitudinal Beliefs), and further divided by healthy versus unhealthy conflict management skills. Each factor included six to ten items. More specifically, factor one included ten items representative of Normative Beliefs about healthy conflict management skills; factor two included eight items representative of Attitudinal Beliefs about healthy conflict management skills; factor three

included ten items representative of Control Beliefs about healthy conflict management skills; factor four included seven items representative of Normative Beliefs about unhealthy conflict management skills; factor five included seven items representative of Attitudinal Beliefs about unhealthy conflict management skills; and factor seven included six items representative of Control Beliefs about unhealthy conflict management skills.

Forty-nine item CMSBS. In an effort to include a relatively equal number of items per factor and ensure the simplest structure, items which were deemed to be poorly worded and/or demonstrated item loadings below .40 were eliminated (Comrey & Lee, 1992; DeVillis, 2012). The EFA, utilizing PAF with a Varimax rotation, was conducted again with forty-nine of the original sixty-five items. Again, a six-factor structure emerged, as evidenced by eigenvalues exceeding one and the scree plot.

Figure 2 *Scree Plot with revised 49 items, utilizing Principal Axis Factoring with Varimax Rotation*



Of the forty-nine items, it was determined that there were three cross-loadings. On the Attitudinal Beliefs about healthy conflict management factor, two items cross-loaded. *Admitting to a close friend I was wrong for something I said or did* loaded onto factor two with a value of .597 but also demonstrated a value of .457 on factor eight; and *Telling a close friend I was wrong for something I said or did* loaded onto factor two with a value of .634 but also demonstrated a value of .421 on factor eight. A third item also demonstrated a cross-loading, on the Attitudinal Beliefs about unhealthy conflict management skills. *Not sticking up for myself loaded* onto factor 5 with a value of .607, but also demonstrated a value of .419 on factor nine. These items will be considered for re-wording or elimination upon the future confirmatory study.

Table 2 *65-item vs. 49-item CMSBS Principal Axis Factoring with Varimax Rotation*

	Original 65-item CMSBS		Revised 49-item CMSBS	
	Item Loading	Factor on which Item Loaded	Item Loading	Factor on which Item Loaded
Attitudinal Beliefs				
Pointing out things a close friend is saying that I agree with (even if I don't agree with all of their side)	.31	2	.32	2
Admitting to a close friend when I'm wrong	.61	2	.60	2
Telling a close friend I was wrong for something I said or did	.66	2	.63	2
Acknowledging how they feel	.68	2	.68	2
Trying to understand their side of the story	.84	2	.81	2
Really listening to what they're trying to say	.63	2	.65	2
Trying to work something out we can both agree on	.64	2	.64	2
Telling them the parts of what they're saying that I agree with	.58	2	.63	2
Telling them my side of the story	.46	2	.52	2
Taking a break, then coming back to continue talking about the problem	.39	11	--	--
Saying something mean to get my point across	.65	11	--	--
Telling them they're always getting mad	.57	5	.60	5
Walking away because I can't deal with it	.70	5	.75	5
Ignoring what they're saying	.71	5	.74	5
Changing the subject	.69	5	.69	5
Not telling my side of the story	.68	5	.64	5
Not sticking up for myself	.61	5	.61	5
Telling them we should just forget the whole thing	.48	5	.46	5
Letting them know I would like to take a break and come back when I'm calm	.60	7	--	--
Trying to make sure the other person wants to be my friend after the argument	.59	7	--	--
Telling them directly what I'm mad about	.41	7	--	--
Control Beliefs				
Listening to what a close friend has to say	.64	10	--	--

	Original 65-item CMSBS		Revised 49-item CMSBS	
	Item Loading	Factor on which Item Loaded	Item Loading	Factor on which Item Loaded
Trying to understand what a close friend is saying	.77	10	--	--
Even when angry, asking how what I did made them feel	.60	3	.60	3
Even when I'm upset, trying to understand my close friend's side of the story	.69	3	.71	3
Even when mad, trying to work something out that my close friend and I can agree on	.71	3	.69	3
Trying to find middle ground with a close friend I'm upset with	.73	3	.67	3
Telling a close friend they hurt my feelings	.51	3	.57	3
Even when angry, trying to "work it out" with a close friend	.67	3	.67	3
Talking through why we're both mad	.56	3	.57	3
Saying sorry for something I said	.47	3	.49	3
Directly telling a close friend what I'm mad about	.55	3	.60	3
Admitting to a close friend how I might've been wrong	.47	3	.46	3
Saying something I didn't mean when I'm angry at a close friend	.38	6	.37	6
Changing the subject when I'm mad at a close friend	.47	6	.51	6
Telling a close friend I'm mad at that I want to (physically) hurt them	.33	4	--	--
Telling a close friend to just "forget about the argument"	.65	6	.61	6
Avoiding a friend when I know they are mad at me	.39	6	.45	6
Getting away from an argument with a good friend	.54	6	.60	6
Telling a good friend that something they are mad about is not a big deal	.50	6	.47	6
Taking a break, then coming back to continue talking	.30	7	--	--
Not looking at a close friend when they're trying to talk to me	.55	12	--	--
Pretending like I don't care about what they're saying	.56	12	--	--
Normative Beliefs				
Listen to the other person's side of the argument	.75	1	.72	1
Listen to why the other person is mad	.75	1	.72	1
Listen when the other person is speaking	.62	1	.63	1
Try to understand the other person's viewpoint	.78	1	.77	1
Try to work something out	.68	1	.72	1
Try to figure what both people can do to feel better	.73	1	.79	1
Try to meet in the middle	.63	1	.66	1
Take a break if they are too angry or upset, then come back to try to figure it out	.54	8	--	--
Let the other person know how they feel	.44	9	--	--
Speak up about their side of the argument	.37	1	.43	1
Let their friend know when they're mad	.50	1	.53	1
Admit to their close friend how they might have been wrong	.53	1	.59	1
Call the other person mean names	.61	4	.61	4
Put the other person down	.71	4	.68	4
Walk away when they are mad, and not come back	.72	4	.72	4
Ignore the other person	.81	4	.81	4
Not listen to the other person	.82	4	.83	4
Stop being friends with the other person	.69	4	.69	4
Take a break to calm down, then coming back to talk it through	.56	8	--	--
Try to say something so the other person will still "like" them when the fight is over	.42	13	--	--
Avoid talking about the fight by changing the subject	.50	13	--	--
Pretend like they don't care what the other person is saying	.56	4	.56	4

Table 3 *49-item CMSBS Rotated Factor Matrix*

	1	2	3	4	5	6
Attitudinal Beliefs						
Pointing out things a close friend is saying that I agree with (even if I don't agree with all of their side)	.11	.32	.12	.06	.11	.13
Admitting to a close friend when I'm wrong	.16	.60	.20	.02	-.12	-.14
Telling a close friend I was wrong for something I said or did	.11	.63	.24	.03	-.12	-.00
Acknowledging how they feel	.12	.68	.16	-.00	-.20	.14
Trying to understand their side of the story	.20	.81	.11	-.07	-.10	.06
Really listening to what they're trying to say	.20	.65	.19	-.08	-.13	-.01
Trying to work something out we can both agree on	.22	.64	.24	-.04	-.08	-.02
Telling them the parts of what they're saying that I agree with	.12	.63	.22	.02	-.01	.01
Telling them my side of the story	.08	.52	.18	.08	-.08	-.03
Telling them they're always getting mad	-.03	-.13	.01	.24	.60	.12
Walking away because I can't deal with it	-.02	-.03	-.06	.23	.75	.02
Ignoring what they're saying	.04	-.15	-.04	.27	.74	.19
Changing the subject	.07	-.07	-.05	.03	.69	.24
Not telling my side of the story	.09	-.13	.07	.13	.64	.13
Not sticking up for myself	.14	-.15	.06	.12	.61	.12
Telling them we should just forget the whole thing	.06	-.07	.07	.13	.46	.32
Control Beliefs						
Even when angry, asking how what I did made them feel	.19	.22	.60	-.04	-.04	.11
Even when I'm upset, trying to understand my close friend's side of the story	.17	.13	.70	-.08	-.01	.09
Even when mad, trying to work something out that my close friend and I can agree on	.24	.16	.69	-.05	.03	-.01
Trying to find middle ground with a close friend I'm upset with	.14	.15	.67	-.04	.15	-.18
Telling a close friend they hurt my feelings	.06	.07	.57	.18	.11	.09
Even when angry, trying to "work it out" with a close friend	.11	.24	.67	.04	.04	.10
Talking through why we're both mad	.16	.18	.57	-.07	-.08	.17
Saying sorry for something I said	.14	.27	.49	-.15	.01	-.07
Directly telling a close friend what I'm mad about	-.02	.06	.60	.06	.03	.12
Admitting to a close friend how I might've been wrong	.17	.21	.46	-.08	.01	-.02
Saying something I didn't mean when I'm angry at a close friend	-.16	.00	.17	.17	.06	.37
Changing the subject when I'm mad at a close friend	.10	.01	.09	.05	.17	.51
Telling a close friend to just "forget about the argument"	.04	.06	.16	.03	.10	.61
Avoiding a friend when I know they are mad at me	.00	.06	-.04	.20	.12	.45
Getting away from an argument with a good friend	.10	.02	.09	.14	.11	.60
Telling a good friend that something they are mad about is not a big deal	-.06	.03	.07	.11	.20	.47
Normative Beliefs						
Listen to the other person's side of the argument	.72	.17	.12	-.08	-.01	.09
Listen to why the other person is mad	.72	.20	.15	-.14	.02	.06
Listen when the other person is speaking	.63	.13	.13	-.13	.15	.03
Try to understand the other person's viewpoint	.77	.15	.12	-.04	-.02	-.05
Try to work something out	.72	.20	.08	-.15	-.01	.01
Try to figure what both people can do to feel better	.79	.11	.17	-.08	.02	.01
Try to meet in the middle	.66	.11	.20	-.06	.04	.01
Speak up about their side of the argument	.42	.22	-.01	.02	-.03	.03
Let their friend know when they're mad	.53	.18	.14	-.09	.13	.03
Admit to their close friend how they might have been wrong	.59	.13	.12	.03	.03	.03
Call the other person mean names	-.14	.04	-.08	.61	.06	.12
Put the other person down	-.16	.02	.00	.68	.09	.17
Walk away when they are mad, and not come back	-.00	-.10	-.01	.72	.20	-.02

	1	2	3	4	5	6
Ignore the other person	-.14	.00	-.09	.81	.10	.05
Not listen to the other person	-.13	-.08	-.07	.83	.13	.12
Stop being friends with the other person	-.01	.02	.04	.69	.17	.11
Pretend like they don't care what the other person is saying	-.01	-.01	-.04	.56	.21	.19

Item loadings (Hypothesis Two)

According to commonly recognized acceptable item loadings, it was hypothesized that the individual item loadings would be ≥ .40 for items on each factor of the CMSBS (Osborne & Costello, 2004).

Sixty-five item CMSBS. Items on the original, 65-item CMSBS satisfied this hypothesis, except for seven items. The seven underperforming items fell between .295 and .387 for item loadings, and included: *Pointing out things a close friend is saying that I agree with (even if I don't agree with all of their side)* (.307); *Taking a break, then coming back to continue talking about the problem* (.387); *Saying something I didn't mean when I'm angry at a close friend* (.384); *Telling a close friend I'm mad at that I want to (physically) hurt them* (.330); *Avoiding a friend when I know they are mad at me* (.386); *Taking a break, then coming back to continue talking* (.295); and *Speak up about their side of the argument* (.365). The other fifty-eight items on the CMSBS ranged in factor loadings from .424 (*Try to say something so the other person will still "like" them when the fight is over*) to .839 (*Trying to understand their side of the story*).

Forty-nine item CMSBS. In the new, 49-item, six factor structure version of the CMSBS, all items loaded ≥ .40, with two exceptions. The underperforming item loadings were .324 and .372 and included: *Pointing out things a close friend is saying that I agree*

with (even if I don't agree with all of their side) and *Saying something I didn't mean when I'm angry at a close friend*, respectively. In the future confirmatory stages of the project, these two items will be considered for re-wording or elimination. Despite these two low loading items, the other forty-three items on the CMSBS demonstrated moderate to strong loadings between .429 (*Speak up about their side of the argument*) and .828 (*Not listen to the other person*; see table 2).

Total Variance Explained (Hypothesis Three)

Sixty-five item CMSBS. It was predicted that the CMSBS would demonstrate an orthogonal factor structure that accounts for over 50 percent of the total variance. The first iteration of PAF with Varimax rotation, including all 65 items, yielded eigenvalues ranging from 5.327 (accounting for 8.017 percent of the variance) to 2.384 (accounting for 3.611 percent of the variance).

Table 4 *Sixty-five item CMSBS eigenvalues and percent variance explained*

Total Variance Explained for 65-item CMSBS	Eigenvalues	Percent variance explained
Factor One	5.327	8.017
Factor Two	5.123	7.763
Factor Three	4.774	7.234
Factor Four	4.499	6.817
Factor Five	3.607	5.465
Factor Six	2.384	3.611
Total		38.961

Forty-nine item CMSBS. The second exploratory factor analysis, utilizing PAF with Varimax rotation included forty-nine of the original sixty-five items. Along with higher item loadings per factor, eigenvalues and total variance explained also improved. Specifically, the

second iteration yielded eigenvalues ranging from 5.099 (accounting for 10.197 percent of the variance) to 2.108 (accounting for 4.217 percent of the variance).

Table 5 *Forty-nine item CMSBS eigenvalues and percent variance explained*

Total Variance Explained for 49-item CMSBS	Eigenvalues	Percent variance explained
Factor One	5.099	10.197
Factor Two	4.803	9.607
Factor Three	4.323	8.646
Factor Four	4.014	8.028
Factor Five	3.357	6.714
Factor Six	2.108	4.217
Total		47.408

In sum, the forty-nine item, six-factor structure accounted for 47.408 percent of the total variance explained, which is significantly closer to the intended, hypothesized result than the first iteration of the EFA including all sixty-five items. Despite the lower-than-desired percent of total variance explained, it is within a reasonable range of variance explained (Beavers, Lounsbury, Richards, Huck, Skolits, & Esquivel, 2013). Exploration of eigenvalues and the scree plot are additional supporting criterion to consider (Beavers et al., 2013).

Reliability Analysis

Internal Consistency (Hypothesis Four)

Internal consistency is classically associated with Cronbach's (1951) coefficient alpha (α; DeVillis, 2012). The Cronbach's alpha level provides evidence that the items within the scale correlate strongly with one another and, in the present study, would indicate that they are an internally-related measure of adolescent conflict management intention. DeVillis

(2012) reports that alpha levels below .60 are unacceptable; between .60-.65 are undesirable; between .65 and .70 are minimally acceptable; between .70 and .80 are respectable; between .80 and .90 are very good; and much above .90 may indicate the need to shorten the scale (in lengthier scales). In general, Cronbach's alpha levels above .80 are indicative of high levels of internal consistency.

Sixty-five item CMSBS. It was hypothesized that the Cronbach's alpha level of the overall CMSBS, as well as each individual subscale of Attitudinal Beliefs, Control Beliefs, and Normative Beliefs, would each fall between .80-.99. When analyzed as a three-factor structure (Normative Beliefs, Attitudinal Beliefs, and Control Beliefs), actual alpha levels ranged from .80 to .90 across the full scale and subscales, providing support for this hypothesis as well as support for strong internal consistency.

Table 6 *Cronbach's alpha for Original 65-item CMSBS*

CMSBS with Associated Items	Cronbach's α full 65-item CMSBS
CMSBS Overall Alpha	.90
Control Beliefs Alpha	.83
Think about how **easy or hard** it is for you to do the following when you and a close friend are mad or upset with each other	
2. Trying to understand what a close friend is saying	
3. Telling a close friend they hurt my feelings	
Attitudinal Beliefs Alphas	.80
Think about how **helpful** it is for you to do the following when you and a close friend are mad or upset with each other	
4. Trying to understand their side of the story	
5. Walking away because I can't deal with it	
Normative Beliefs Alphas	.83
Think about **what your closest friends do** when they are Mad or upset with a good friend	
6. Listen to the other person's side of the argument	
7. Try to meet in the middle	

Forty-nine item CMSBS. The revised, six-factor structure demonstrated alpha levels between .85 and .90, with one outlier on the factor which includes Control Beliefs about

unhealthy conflict management skills, in which α = .70. Nonetheless, even this outlier borders on being considered "acceptable" (DeVillis, 2012). Overall, the internal consistency of the 49-item, 6-factor structure of the CMSBS is strong.

Table 7 *Cronbach's alpha for Revised, 49-item CMSBS*

CMSBS with Associated Items	Cronbach's α revised, 49-item CMSBS
Control Beliefs Healthy Conflict Management	.87
Think about how **easy or hard** it is for you to do the following when you and a close friend are mad or upset with each other	
Telling a close friend they hurt my feelings	
Saying sorry for something I said	
Attitudinal Beliefs Healthy Conflict Management	.87
Think about how **helpful** it is for you to do the following when you and a close friend are mad or upset with each other	
Trying to understand their side of the story	
Admitting to a close friend when I'm wrong	
Normative Beliefs Healthy Conflict Management	.90
Think about **what your closest friends do** when they are mad or upset with a good friend	
Listen to why the other person is mad	
Try to meet in the middle	
Control Beliefs Unhealthy Conflict Management	.70
Think about how **easy or hard** it is for you to do the following when you and a close friend are mad or upset with each other	
Changing the subject when I'm mad at a good friend	
Telling a close friend to just "forget about the argument"	
Attitudinal Beliefs Unhealthy Conflict Management	.85
Think about how **helpful** it is for you to do the following when you and a close friend are mad or upset with each other	
Telling them they're always getting mad	
Ignoring what they're saying	
Normative Beliefs Unhealthy Conflict Management	.88
Think about **what your closest friends do** when they are mad or upset with a good friend	
Call the other person mean names	
Pretend like they don't care what the other person is saying	

Validity Analyses

Content Validity

Expert review of items assists with establishing content validity (DeVillis, 2012). As previously described, three experts in the areas of child and adolescent psychology and

psychometric scale development provided feedback on the CMSBS. Regarding clarity and content of the items in the CMSBS, the expert review panel were in general consensus and their feedback was incorporated into the exploratory study.

Specifically, concerns about the inclusion of physical violence as a means of conflict management intermingled with verbal disagreements were raised. The item specifically addressing physical violence (*Telling a close friend I'm mad at that I want to (physically) hurt them*) also underperformed statically and was removed for the forty-nine-item EFA. Further, it was agreed upon that *Asking them to give an example of why they're mad* was a poorly worded and loosely relevant item and was removed. Finally, *Not looking at a close friend when they're trying to talk to me* was identified as a culturally-laden item, as different cultures have different interpretations of the directness of a gaze (Sue & Sue, 1977). This item was also removed from the forty-nine-item analysis.

Construct Validity

The construct validity of the CMSBS was assessed with the use of CONFLICTALK (Kimsey & Fuller, 2003) and the adolescent version of the CRSI (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016) for convergent validity. The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) was utilized as a measure of divergent validity. A Children's Social Desirability Questionnaire (Crandall, Crandall, & Katkovsky, 1965) was utilized as a measure of discriminant validity. Convergent and discriminant validity were assessed at the factor-levels due to the unrelated nature of the overall CMSBS scale, hence the use of an orthogonal rotation.

Convergent validity provides evidence that the scale measures the construct it set out to measure, namely conflict management. Divergent and discriminant validity ideally indicate either a small overlap, or no overlap, between the construct intended to measure and a measure of a different construct. In the present study this would include an overlap between the Healthy Attitudinal, Control, and Normative factors of the CMSBS with the Positive Problem Solving factor of the CRSI and the Problem Orientation of CONFLICTALK. An overlap between the Unhealthy Attitudinal, Control, and Normative factors of the CMSBS was predicted with the Conflict Engagement and Withdrawal factors of the CRSI, as well as the Self-Orientation and Other Orientation of CONFLICATLK. It was predicted that there would be a small overlap between the measurement of perceived social support and conflict management as well as social desirability and conflict management.

Pearson's *r* correlation is utilized to signify the relationship among variables (DeVillis, 2012). It establishes the extent to which measures are interrelated (DeVillis, 2012). Several Pearson's *r* correlation tests were run and demonstrated partial support for convergent, discriminant, and divergent validity.

Convergent validity with the Positive Problem Solving factor of the CRSI (Hypothesis Five). The Conflict Resolution Styles Inventory (CRSI; Kurdek, 1994) was adapted for use with adolescents, and is intended to assess conflict management styles (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016). The CRSI includes three factors of: (1) Positive Problem Solving, (2) Conflict Engagement, and (3) Withdrawal (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016). It was predicted that there would be a moderate to strong convergent validity of the Positive Problem Solving factor of the CRSI

with the *healthy* conflict management Attitudinal, Control, and Normative beliefs factors of the CMSBS, with $r \geq .30$.

Correlation of the Positive Problem Solving factor of the CRSI with *healthy* conflict management skill Attitudinal ($r = .33$), Control ($r = .41$), and Normative ($r = .41$) Beliefs factors of the CMSBS supported this hypothesis and evidenced moderate convergent validity. Hypothesis four was supported and the Positive Problem Solving factor of the CRSI demonstrated moderate levels of convergent validity with the *healthy* conflict management factors of the CMSBS which were significant at the $p = .05$ level.

Convergent validity with the Conflict Engagement factor of the CRSI (Hypothesis Six). It was predicted that there would be a moderate to strong convergent validity of the Conflict Engagement factor of the CRSI (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016) with the *unhealthy* conflict management Attitudinal, Control, and Normative beliefs factors of the CMSBS, with $r \geq .30$.

Correlation of the Conflict Engagement factor of the CRSI with *unhealthy* conflict management skill Normative Beliefs ($r = .49$) factor supported this hypothesis and evidenced moderate convergent validity. Correlation of the Conflict Engagement factor of the CRSI with the *unhealthy* conflict management Attitudinal Beliefs ($r = .25$) and Control Beliefs ($r = .27$) factors of the CMSBS was just below the hypothesized $r \geq .30$ and therefore demonstrated a low level of convergent validity. Nonetheless, all correlations were significant at the $p = .05$ level. Hypothesis five was partially supported.

Convergent validity with the Withdrawal factor of the CRSI (Hypothesis Seven). It was predicted that there would be a moderate to strong convergent validity of the

Withdrawal factor of the CRSI (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016) with the *unhealthy* conflict management Attitudinal, Control, and Normative beliefs factors of the CMSBS, with $r \geq .30$.

Correlation of the Withdrawal factor of the CRSI with the *unhealthy* conflict management skill Attitudinal ($r = .33$) and Normative ($r = .40$) Beliefs factors supported this hypothesis and evidenced moderate convergent validity. Correlation of the Conflict Engagement factor of the CRSI with the *unhealthy* conflict management Control Beliefs ($r = .18$) factor of the CMSBS was below the hypothesized $r \geq .30$ and therefore demonstrated a low level of convergent validity. Nonetheless, all correlations were significant at the $p = .05$ level. Hypothesis six was partially supported.

Table 8 *Correlation of CMSBS with Conflict Resolution Styles Inventory Convergent Validity Scales*

Scale/ Factor Name	**M**	**SD**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
CMSBS												
1. Healthy Attitudinal Beliefs	37.99	5.94	1									
2. Healthy Control Beliefs	36.58	7.85	.49**	1								
3. Healthy Normative Beliefs	35.51	7.69	.43**	.40**	1							
4. Unhealthy Attitudinal Beliefs	15.80	6.50	-.18**	.02	.05	1						
5. Unhealthy Control Beliefs	20.18	4.60	.09**	.23**	.06	.39**	1					
6. Unhealthy Normative Beliefs	16.95	6.23	-.06	-.08	-.20**	.38**	.31**	1				

7. CRSI	34.2	6.9	-.09	-.08	-.07	.25**	.18**	.42**	1			
8. Positive Problem Solving	14.0	3.4	.33**	.41**	.41**	-.17**	-.08	-.15*	.23**	1		
9. Conflict Engagement	9.3	3.6	-.22**	-.20**	-.21**	.25**	.21**	.49**	.77**	-.24**	1	
10. Withdrawal	10.9	4.2	-.23**	-.30**	-.26**	.33**	.17**	.40**	.81**	-.23**	.61**	1

Note. *Correlation is significant at the .01 level
**Correlation is significant at the .05 level

Convergent validity with the Problem Orientation factor of CONFLICTALK (Hypothesis Eight). The CONFLICTALK scale (Kimsey & Fuller, 2013) is an 18-item measure of conflict resolution messages styles, for use with elementary, middle, and high school students participating in school-based conflict management programs. Items are presented as phrases that might be expressed during a conflict. Three factors are included in CONFLICTALK: (1) Problem Orientation, (2) Self-Orientation, and (3) Other Orientation. It was predicted that there would be a moderate to strong convergent validity of the Problem Orientation factor of CONFLICTALK with the *healthy* conflict management Attitudinal, Control, and Normative Beliefs factors of the CMSBS, with $r \geq .30$.

Correlation of the Problem Orientation factor of CONFLICTALK with the *healthy* conflict management skill Control (r =.31) and Normative (r = .33) Beliefs factors supported this hypothesis and evidenced moderate convergent validity. Correlation of the Positive Problem Solving factor of CONFLICTALK with the *healthy* conflict management Attitudinal Beliefs (r = .26) factor of the CMSBS was just below the hypothesized $r \geq .30$ and therefore demonstrated a low level of convergent validity. Nonetheless, all correlations were significant at the p = .05 level. Hypothesis seven was partially supported.

Convergent validity with the Self-Orientation factor of CONFLICTALK (Hypothesis Nine). It was predicted that there would be a moderate to strong convergent validity of the Self-Orientation factor of CONFLICTALK with the *unhealthy* conflict management Attitudinal, Control, and Normative Beliefs factors of the CMSBS, with $r \geq .30$.

Correlation of the Self-Orientation factor of CONFLICTALK with the *unhealthy* conflict management skill Attitudinal (r = .38) and Normative (r = .41) Beliefs factors supported this hypothesis and evidenced moderate convergent validity. Correlation of the Self-Orientation factor of CONFLICTALK with the *unhealthy* conflict management Control Beliefs (r =.25) factor of the CMSBS was just below the hypothesized $r \geq .30$ and therefore demonstrated a low level of convergent validity. Nonetheless, all correlations were significant at the p = .05 level. Hypothesis eight was partially supported.

Convergent validity with the Other Orientation factor of CONFLICTALK (Hypothesis Ten). It was predicted that there would be a moderate to strong convergent validity of the Other Orientation factor of CONFLICTALK with the *unhealthy* conflict management Attitudinal, Control, and Normative Beliefs factors of the CMSBS, with $r \geq .30$.

Correlation of the Other Orientation factor of CONFLICTALK with the *unhealthy* conflict management skill Attitudinal (r = .24), Control (r =.19), and Normative (r = .28) Beliefs factors were all just below the hypothesized $r \geq .30$ and therefore demonstrated a low level of convergent validity. Nonetheless, all correlations were significant at the p = .05 level. Hypothesis nine was unsupported.

Table 9 *Correlation of CMSBS with CONFLICTALK Convergent Validity Scales*

Scale/ Factor Name	M	SD	1	2	3	4	5	6	7	8	9
CMSBS											
1. Healthy Attitudinal Beliefs	37.99	5.94	1								
2. Healthy Control Beliefs	36.58	7.85	.49**	1							
3. Healthy Normative Beliefs	35.51	7.69	.43**	.40**	1						
4. Unhealthy Attitudinal Beliefs	15.80	6.50	-.18**	.02	.05	1					
5. Unhealthy Control Beliefs	20.18	4.60	.39**	.23**	.06	.39**	1				
6. Unhealthy Normative Beliefs	16.95	6.23	-.06	-.08	-.20**	.38**	.31**	1			
CONFLIC TALK											
7. Problem Orientation	19.3	5.9	.26**	.31**	.33**	-.17**	-.00	-.02	1		
8. Self-Orientation	10.0	5.0	-.33**	-.12*	-.14*	.38**	.25**	.41**	-.04	1	
9. Other Orientation	13.1	5.1	-.10	-.12	-.08	.24**	.19**	.28**	.25**	.54**	1

Note. *Correlation is significant at the .01 level
**Correlation is significant at the .05 level

Divergent validity with perceived social support (Hypothesis Eleven). The Multidimensional Scale of Perceived Social Support (MSPSS) focuses on the adequacy of subjective social support from three sources: Family, Friends, and Significant Others (Zimet, Dahlem, Zimet, & Farley, 1988). For the purposes of the present study, the Family and Friends subscales were administered as measures of discriminant validity with the *unhealthy* conflict management factors of the CMSBS. The construct that the MSPSS is measuring

(perceived social support) is related to the present scale development of the CMSBS, as higher levels of perceived social support are *healthy* components of conflict management, but it is expected to have an inverse relationship with *unhealthy* conflict management skills and is therefore utilized for discriminant validity purposes.

Hypothesis 11a. It was predicted that there would be no significant correlations between the *unhealthy* conflict management factors of the CMSBS and the Family factor of the MSPSS, $-.30 < r < .30$. This hypothesis was fully supported, as the correlation between the Unhealthy Attitudinal ($r = .02$), Control ($r = .08$), and Normative ($r = .04$) factors of the CMSBS and the Family factor of MSPSS indicated no significant overlap.

Hypothesis 11b. It was predicted that there would be no significant correlations between the *unhealthy* conflict management factors of the CMSBS and the Friends factor of the MSPSS, $-.30 < r < .30$. This hypothesis was fully supported, as the correlation between the Unhealthy Attitudinal ($r = -.10$), Control ($r = .07$), and Normative ($r = -.12$) factors of the CMSBS and the Friends factor of MSPSS indicated no significant overlap.

Notably, although there was either no relationship or an inverse relationship between perceived social support and *unhealthy* conflict management skills, providing full support for divergent validity, there appeared to be a positive overlap between social support and *healthy* conflict management skills. Specifically, the relationships between Healthy Attitudinal ($r = .18$), Control ($r = .27$), and Normative ($r = .33$) factors of the CMSBS positively correlated at the $p = .05$ significance level with the Family factor of the MSPSS. The support for this was even stronger for the Friends factor of the MSPSS, where the correlation between the Healthy Attitudinal ($r = .36$), Control ($r = .38$), and Normative ($r = .45$) factors of the

CMSBS were also positive and significant (p = .05). This additional, unexpected result may not only provide additional support for convergent validity but may also indicate that perhaps while perceived level of social support is inversely related to unhealthy conflict management, it may overlap and even correlate with *healthy* conflict management skills.

Table 10 *Correlation of CMSBS with MSPSS Discriminant Validity Scales*

Scale/ Factor Name	**M**	**SD**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CMSBS										
1. Healthy Attitudinal Beliefs	37.99	5.94	1							
2. Healthy Control Beliefs	36.58	7.85	.49**	1						
3. Healthy Normative Beliefs	35.51	7.69	.43**	.40**	1					
4. Unhealthy Attitudinal Beliefs	15.80	6.50	-.18**	.02	.05	1				
5. Unhealthy Control Beliefs	20.18	4.60	.39**	.23**	.06	.39**	1			
6. Unhealthy Normative Beliefs	16.95	6.23	-.06	-.08	-.20**	.38**	.31**	1		
MSPSS										
7. MSPSS Family	23.9	8.3	.18**	.27**	.33**	.02	.08	.04	1	
8. MSPSS Friends	22.7	8.6	.36**	.38**	.45**	-.10	.07	-.12	.45**	1

Note. *Correlation is significant at the .01 level
**Correlation is significant at the .05 level

Discriminant validity with social desirability (Hypothesis Twelve). To further support discriminant validity, A Children's Social Desirability Questionnaire was utilized (Crandall, Crandall, & Katkovsky, 1965). A Children's Social Desirability Questionnaire

aims to assess the tendency of the child or adolescent to respond in a socially desirable manner. The construct that A Children's Social Desirability Questionnaire measures (social desirability) is unrelated, or does not fully overlap, with conflict management skills, and is therefore utilized for discriminant validity purposes.

It was predicted that there would be no significant correlations between the factors of the CMSBS and A Children's Social Desirability Questionnaire, with $-.30 < r < .30$. This hypothesis was fully supported, as there was no statistical overlap between the Healthy Attitudinal (r = -.02), Control (r = -.02), or Normative (r = .05) factors of the CMSBS, nor the Unhealthy Attitudinal (r = -.04) and Control (r = -.05) Beliefs CMSBS factors and A Children's Social Desirability Scale. In sum, the analyses indicated little to no overlap between social desirability responses and the conflict management skills beliefs included in the CMSBS.

Table 11 *Correlation of CMSBS with A Children's Social Desirability Discriminant Validity Scale*

Scale/ Factor Name	**M**	**SD**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
CMSBS									
1. Healthy Attitudinal Beliefs	37.99	5.94	1						
2. Healthy Control Beliefs	36.58	7.85	.49**	1					
3. Healthy Normative Beliefs	35.51	7.69	.43**	.40**	1				
4. Unhealthy Attitudinal Beliefs	15.80	6.50	-.18**	.02	.05	1			
5. Unhealthy Control Beliefs	20.18	4.60	.39**	.23**	.06	.39**	1		

6. Unhealthy Normative Beliefs	16.95	6.23	-.06	-.08	-.20**	.38**	.31**	1	
7. A Children's Desirability Questionnaire	2.70	1.28	-.02	-.02	.05	-.04	-.05	-.24**	1

Note. *Correlation is significant at the .01 level
**Correlation is significant at the .05 level

Post Hoc Analyses

To identify if differences between middle school-aged and high school-aged participants exist, post-hoc analyses were conducted. These included examining the correlations between the middle school-aged and high school-aged participants' responses on the CMSBS, as well as the validity scales. Further, the strength and significance of the relationships between the variables in the two groups were examined. Notably, there was a significant difference between the high school-aged and middle school-aged participants' responses on the Healthy Attitudinal and Control, as well as the Unhealthy Attitudinal and Normative Beliefs of the CMSBS. Further, a significant difference emerged on the Conflict Engagement scale of the CRSI, as well as A Children's Social Desirability Scale.

Specifically, high school-aged participants scored higher on the Healthy Attitudinal Beliefs scale than did the middle school-aged participants. Middle school-aged participants scored higher on Healthy Control Beliefs, Unhealthy Attitudinal Beliefs, and Unhealthy Normative Beliefs than did the high school-aged participants. On the Conflict Engagement scale of the CRSI, middle school-aged participants scored higher than their high school-aged counterparts; and for the social desirability scale, high schoolers scored higher. For further detail, please view Tables 12-13, below.

Table 12 *Correlation of High School-Aged Participants*

Scale/ Factor Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CMSBS															
1. Healthy Attitudinal Beliefs	1														
2. Healthy Control Beliefs	.02	1													
3. Healthy Normative Beliefs	.12	.42	1												
4. Unhealthy Attitudinal Beliefs	-.14	.34	.51	1											
5. Unhealthy Control Beliefs	.44	.03	.01	-.07	1										
6. Unhealthy Normative Beliefs	.50	-.12	-.10	-.01	.44	1									
CONFLIC TALK															
7. Problem Orientation	-.23	.28	.20	.21	-.07	.00	1								
8. Self-Orientation	.51	-.13	-.15	-.45	.33	.42	-.21	1							
9. Other Orientation	.25	-.05	-.05	-.10	.25	.28	.25	.36	1						
CRSI															
10. Positive Problem Solving	-.20	.47	-.19	.26	-.16	-.20	.38	-.27	-.12	1					
11. Conflict Engagement	.39	-.25	-.19	-.24	.39	.56	-.12	.63	.43	-.31	1				
12. Withdrawal	.38	-.32	-.23	-.23	.29	.29	-.11	.48	.46	-.22	.57	1			
MSPSS															
13. MSPSS Family	.10	.33	.24	.16	.10	.24	.08	-.02	-.07	.21	.03	-.15	1		
14. MSPSS Friends	-.00	.43	.47	.30	.05	.47	.08	-.14	-.14	.23	-.17	-.37	.43	1	
15. **A Children's Desirability Questionnaire**	-.14	-.03	.09	-.06	-.03	-.40	-.15	-.17	-.13	-.04	-.27	-.12	-20	-.02	1

Table 13 *Correlation of Middle School-Aged Participants*

Scale/ Factor Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CMSBS															
1. Healthy Attitudinal Beliefs	1														
2. Healthy Control Beliefs	.18	1													
3. Healthy Normative Beliefs	.29	.48	1												
4. Unhealthy Attitudinal Beliefs	.01	.65	.55	1											
5. Unhealthy Control Beliefs	.40	.44	.07	.17	1										
6. Unhealthy Normative Beliefs	.42	-.08	-.07	-.14	.22	1									
CONFLICTALK															
7. Problem Orientation	-.04	.30	.40	.24	-.03	-.10	1								
8. Self-Orientation	.37	-.15	-.12	-.31	.12	.48	.06	1							
9. Other Orientation	.23	-.21	-.14	-.27	.15	.29	.18	.71	1						
CRSI															
10. Positive Problem Solving	-.06	.36	.42	.29	-.04	-.18	.76	.05	-.01	1					
11. Conflict Engagement	.24	-.12	-.13	-.21	.08	.41	.09	.67	.62	-.07	1				
12. Withdrawal	.23	-.26	-.20	-.29	.10	.46	-.15	.71	.72	-.19	.76	1			
MSPSS															
13. MSPSS Family	.15	.37	.39	.31	.14	.15	.32	-.12	-.13	.33	-.16	-.14	1		
14. MSPSS Friends	.08	.53	.59	.53	.16	-.15	.47	-.12	-.09	.49	-.18	-.36	.32	1	
15. **A Children's Desirability Questionnaire**	-.09	-.18	-.08	-.11	-.16	-.21	-.05	.12	.06	-.10	.02	-.09	-.22	.03	1

Table 14 *Independent Samples t-test*

Scale/ Factor Name	**Mean (HS ı MS)**		**SD (HS ı MS)**		**t**	**df**	**sig**
CMSBS							
1. Healthy Attitudinal Beliefs	17.38	14.07	6.63	6.52	4.16	278	.000
2. Healthy Control Beliefs	35.21	37.54	9.01	7.20	-2.40	277	.02
3. Healthy Normative Beliefs	35.03	35.58	7.84	7.84	-.57	277	.57
4. Unhealthy Attitudinal Beliefs	36.10	38.89	6.80	5.64	-.375	278	.000
5. Unhealthy Control Beliefs	19.81	20.16	4.92	4.63	-.60	278	.55
6. Unhealthy Normative Beliefs	15.87	17.61	6.19	6.28	-2.30	278	.02
CONFLIC TALK							
7. Problem Orientation	19.25	19.91	5.68	5.47	-.95	267	.34
8. Self-Orientation	9.28	10.47	5.00	5.11	-1.90	267	.06
9. Other Orientation	13.49	13.28	5.00	5.11	.327	267	.74
CRSI							
10. Positive Problem Solving	13.71	14.28	3.92	3.10	-1.32	267	.19
11. Conflict Engagement	8.60	9.83	3.40	3.81	-2.71	267	.01
12. Withdrawal	10.78	11.13	4.52	4.52	-.64	267	.52
MSPSS							
13. MSPSS Family	24.37	23.63	8.17	8.41	-.80	268	.42
14. MSPSS Friends	21.67	23.79	8.77	7.93	.73	268	.47
15. **A Children's Desirability Questionnaire**	2.85	2.41	1.32	1.22	2.79	264	.01

CHAPTER V

DISCUSSION

This concluding chapter of the dissertation reviews the interpretation, implications, and limitations of the Conflict Management Skills Beliefs Scale (CMSBS) development. The present study explored the development and initial validation of a measure of conflict management, a skill often taught in school-based social-emotional learning (SEL) programs (Matson & Wilkins, 2009; McCormick et al., 2015; Zins & Elias, 2007). There is a gap in the literature regarding existing scales that measure conflict management skills for children and adolescents. Many existing scales measuring conflict are aimed at adult romantic partnerships (Heavey, Christensen, & Malamuth, 1995; Porter & O'Leary, 1980; Straus, 1979; Zacchilli, Hendrick, & Hendrick, 2009). The few scales that do exist for adolescents (CONFLICTALK, Kimsey & Fuller, 2003; Conflict Resolution Styles Inventory [CRSI], Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016) often measure conflict styles rather than skills, do not have a theoretical basis, and or have limited norming information or are normed on populations (and languages) outside of the U.S.

Our purpose was to develop and provide initial norming and validity information for the CMSBS. The CMSBS measures adolescents' perceptions of their ability to implement conflict management skills (e.g., perspective taking, problem solving/compromising, emotional regulation, assertiveness, and clarifying skills) often taught in SEL programs (Batanova & Loukas, 2012; Bengtsson & Arvidsson, 2011; Cassels & Birch, 2014;

Garaigordobil & Martinez-Valderrey, 2015; Missotten et al., 2018). The final result of the exploratory study produced a six-factor scale representative of positive and negative aspects of the three predictive components of behavior intention as found in the Theory of Planned Behavior (Ajzen, 2002): Attitudinal Beliefs about conflict skills; Normative Beliefs about how their friends view conflict skills; and Control Beliefs about their ability engage in conflict skills.

The exploratory study of the dissertation was based on the preliminary evidence for validity, reliability, and internal consistency found in the pre-pilot data. Hypotheses for the exploratory study (the current project) regarding internal consistency, factor structure, reliability, and validity were largely substantiated and are summarized in the proceeding subsections of this chapter.

Factor Structure

It was originally hypothesized that the Conflict Management Skills Beliefs Scale (CMSBS) would demonstrate a three-factor structure, representative of the three predictive components of the Theory of Planned Behavior (TPB): Attitudinal Beliefs, Control Beliefs, and Normative Beliefs (Ajzen, 2002). Principal Axis Factoring with a Varimax rotation was utilized, as the analysis utilized in other scale development projects based in the TPB (Ghazanfari, Niknami, Ghofranipour, Hajizadeh, & Montazeri, 2010).

However, exploratory factor analysis indicated the emergence of a six-factor structure in the revised, 49-item CMSBS. Upon further analysis, it was apparent that items were loading onto factors not only in correlation with the three predictive components of the TPB, but further delineated in terms of healthy and unhealthy conflict management skills. The six

factors therefore aligned with Healthy Attitudinal Beliefs, Unhealthy Attitudinal Beliefs, Healthy Control Beliefs, Unhealthy Control Beliefs, Healthy Normative Beliefs, and Unhealthy Normative beliefs regarding conflict management skills.

Factor loadings on the 49-item version of the CMSBS included the vast majority above .65. Additionally, the total variance accounted for across the six factors was approximately forty-seven percent. This compares with Kimsey and Fuller (2013), in the three-factor structure that emerged on their CONFLICTALK scale, which had an overall variance explained of roughly fifty percent. Overall, though the CMBS did not hold up to its originally hypothesized three-factor structure, once revised the six factor structure of the CMSBS demonstrated strong construct validity.

Future directions for the present study would include confirmatory data collection and analysis with a larger sample. Further, it may be beneficial to explore whether the CMSBS may be divided into two higher order scales – Healthy Conflict Management Skills Beliefs and Unhealthy Conflict Management Skills Beliefs, each with three oblique subscales (Control, Normative, and Attitudinal Beliefs). This would differ from the current, one-scale, six-factor (orthogonal) structure discussed in the present study but may allow for further delineation and investigation into those conflict management skills which are correlated with poorer relational outcomes and those correlated with higher levels of relational success. More information regarding this suggestion for future research is found in the implications for future research section.

Content and Construct Validity

In addressing psychometric issues, evidence for validity of a new scale focuses on the extent to which the items of the scale are measuring the same latent variable which was the focus of the intended measure. In the case of the present study, that is adolescents' beliefs about conflict management skills, both healthy and unhealthy. Included within validity are content and construct validity.

Content Validity

A scale has good content validity when it includes a representative sampling of the subsets of the construct being measured (DeVillis, 2012). Further, "measures should be brief, clear, and easy to administer. Measures that are too long or too difficult to read may result in a lowered response rate or inaccurate responses" (Rubio et al., 2003, p. 94). Therefore, the development of the CMSBS aimed to produce a brief, but comprehensive measure which is theory-driven and psychometrically sound.

In terms of theories, the CMSBS is theory-grounded in the Theory of Planned Behavior (TPB; Ajzen, 2001), which is a widely utilized framework from which health-related behaviors are often predicted (McEachan, Conner, Taylor, Lawton, 2011; Murphy, Askew, Sumner, 2017; Whitaker, Wilcox, Liu, Blair, & Pate, 2016). The TPB surmises that Attitudinal, Control, and Normative Beliefs are precedent to behavioral intention, with intention being the immediate antecedent of the actual behavior (Ajzen, 2002). Based on what we know from the work of Albert Bandura (1997), individuals are more likely to engage in behaviors that are believed to be achievable. The CMSBS intended to measure adolescents' beliefs about the achievability of implementation of conflict management skills.

One way such assurance can be assessed is through DeVillis's (2012) fourth step of scale development: expert review. Three previously described experts in pediatric psychology and/or scale development provided ratings on the items of the scale. These expert reviewers presented qualitative and quantitative feedback on item wording, structure, and content, reading level for adolescents, as well as the definition of the construct. Results from the expert review panel demonstrated strong agreement on item clarity and construct definition.

Specifically, there was consensus on the appropriateness of the item anchors, in reference to their use as assessment of the three components of the TPB (Attitudinal, Control, and Normative Beliefs). Regarding the initial item pool, reviewers noted concerns with items involving reference to eye contact and physical aggression and their cultural implications.

More specifically, in regard to cultural considerations, different cultures have varying interpretations of the directness of a gaze (Sue & Sue, 1977). For example, Blais and colleagues (2008) found that even in facial recognition studies, Western White participants demonstrated a different directness of their gaze when recognizing faces than did Eastern Asian participants. In general, East Asian cultures interpret direct eye contact differently than do American and Eastern European cultures (Sicorello, Stevanov, Ashida, & Hecht, 2019).

The reviewers made a note of cultural concerns about the item of the CMSBS which referenced a lack of eye contact during conflict. This was certainly a poorly-worded attempt to assess the display of empathy and interest during a conversation. The item which stated, "Not looking at a close friend when they're trying to talk to me" was removed from the revised, 49-item iteration of the CMSBS.

Relatedly, stonewalling is a prevalently-explored skill in terms of unhelpful approaches to the management of conflict which includes purposeful refusal to engage with another person, even when asked to do so (Gottman, 1994; Liu & Roloff, 2015; Haase, Holley, Bloch, Verstaen, & Levenson, 2016). Included in the definition is stonewalling is the tendency of the individual to *make their face look like a stone*. Due to the potential cultural implications of the different interpretations of facial expressions, the way in which the assessment of adolescent's perceptions about the use of stonewalling (Gottman & Levenson, 1999) included in the scale may need to be re-considered in the future confirmatory study of the CMSBS. Items aiming to assess an adolescent putting forth considerable effort to refuse to engage with another individual, without the inclusion of eye contact specifically, may better assess beliefs about the use of stonewalling (Liu & Roloff, 2015).

Apprehension was also unanimously expressed from the expert review panel about an item including physical aggression. As previously mentioned in earlier chapters, physical aggression as a means for conflict resolution may be culturally-bound, and not universally applicable cross-culturally. In Western societies, for example, men are more physically aggressive than women (Björkqvist, 1994; Fry, 1992).

The item worded, "Telling a close friend I'm mad at that I want to (physically) hurt them" was removed from the 49-item iteration of the CMSBS. Not only is the item culturally-bound, the convergence of this item with other items on the CMSBS (as the scale focuses primarily on verbal means of conflict resolution) would threaten the psychometric validity of the scale.

The concerns about this item's inclusion calls to light an important consideration for the future, confirmatory study. Two items on the 49-item version of the CMSBS include reference to *walking away* from conflict. These are also physically-oriented items and may need to be removed in the future, confirmatory study of the CMSBS, in light of maintaining a sole focus on verbal means of conflict management.

Additionally, the use of avoidant behavior was utilized in the definition of unhealthy conflict management skills in both the CMSBS, CONFLICTALK (Kimsey & Fuller, 2003), and the CRSI (Bonache, Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016). As previously noted, there are a variety of cultures (i.e. East Indians settled in Fiji, Buid of the Phillipines, and the Toraja of Indonesia) which commonly use avoidance as a response to conflict (Fry, 2000). Perhaps, such avoidant behavior is more of a conflict prevention measure rather than a skill utilized after conflict has already ensued.

These aspects to consider for a future study aside, expert reviewers in the current study provide support for the construct validity of the current version of the CMSBS with a diverse sample of United States-based adolescents. Other aspects of validity include convergent and divergent validity, which are explored next.

Construct Validity

Construct validity includes the relationship between the variable to other variables (DeVillis, 2012). The extent to which the measure performs as hypothesized in comparison to established measures of related or unrelated constructs is included in construct validity. Convergent validity includes similarities between measures of related constructs and

divergent (or discriminant validity) includes dissimilarities between measures of unrelated constructs.

To assess convergent validity, the CMSBS was compared to existing measures of child and adolescent conflict, including CONFLICTALK (Kimsey & Fuller, 2003) and the Conflict Resolution Styles Inventory (CRSI; Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016). While the CMSBS, CONFLICTALK, and the CRSI are related, they are dissimilar in some ways. Namely, these scales either assess adolescent's romantic partner relationships (Bonache et al., 2016) instead of friendships, or they center around conflict styles rather than specific skills (Kimsey & Fuller, 2003).

In regard to limitations of these other scales, it is important to note that the authors of CONFLICTALK (Kimsey & Fuller, 2013) failed to report the racial and ethnic identity information of the sample with which they normed their scale, which makes the results nearly impossible to generalize. The sample for the development of the CMSBS includes details regarding racial identity, therefore expanding the available literature on scales which assess conflict in youth. CONFLICTALK was found to be significantly valid for children in grades four through eight and was insignificant for adolescents in grades nine through twelve (Kimsey & Fuller, 2013). The sample included in the development of the CMSBS included students in sixth grade and grades nine through twelve, thereby expanding the literature to a broader child and adolescent age range.

The adolescent version of the Conflict Resolution Styles Inventory (CRSI; Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016) is a second available scale which measures conflict management in youth. The adolescent version of the CRSI was created from the

adult version of the CRSI (Kurdek, 1994), and both focus on romantic partner relationships. The CMSBS focuses on friendship dyads rather than other types of peer relationships such as romantic relationships. Examining conflict management in different types of peer relationships helps to provide a more comprehensive literature base on child and adolescent conflict management in general.

When considering the convergent validity of the CMSBS with CONFLICTALK (Kimsey & Fuller, 2013) and the CRSI (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016), it was crucial to compare the specific factors of the CMSBS to the specific factors of both CONFLICTALK and the CRSI individually, rather than the scales as a whole. For example, the Problem Orientation factor of CONFLICTALK includes conflict styles which emphasize goals and the relationship. These conflict messages were hypothesized to theoretically convergently align with both the *Healthy* Attitudinal, Control, and Normative Beliefs factors of the CMSBS (positive, moderate relationships hypothesized) and demonstrate a negatively correlated, moderate relationship with the *Unhealthy* Attitudinal, Control, and Normative Beliefs factors of the CMSBS. Similarly, it was hypothesized that the Withdrawal factor of the CRSI, which includes avoidance and rumination, would theoretically convergently align with *Unhealthy* Attitudinal, Control, and Normative Beliefs factors of the CMSBS (positive, moderate relationships hypothesized) and demonstrate a negatively correlated, moderate relationship with the *Healthy* Attitudinal, Control, and Normative Beliefs factors of the CMSBS. These hypotheses regarding convergent validity were supported and demonstrate strong evidence that the specific, aforementioned healthy

versus unhealthy conflict management skills included within the CMSBS overlap with measures of similar, specific aspects of conflict resolution.

When considering divergent validity, the examination of the CMSBS at the factor level again applies. That is, comparison of the Healthy Control, Normative, and Attitudinal factors as well as the Unhealthy Control, Normative, and Attitudinal Factors with both A Children's Social Desirability Scale (Crandall, Crandall, & Katkovsky, 1965) and the Family and Friends factors of a social support scale, (the MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) took place. As hypothesized, there was little to no relationship with either the Healthy or the Unhealthy factors of the CMSBS (Control, Normative, and Attitudinal) and a children's social desirability scale. The lack of relationship between the factors on the CMSBS and a scale measuring social desirability provides support for our hypothesis regarding divergent validity and suggests that the tendency to respond in a socially desirable manner did not impact the CMSBS.

Further, the data indicated a lack of overlap of the Unhealthy Control, Normative, and Attitudinal beliefs factors of the CMSBS with either the Family or Friends factors of the MSPSS. These statistical data combined provided stronger support for divergent validity of the Unhealthy Control, Normative, and Attitudinal beliefs factors of the CMSBS with dissimilar measures (i.e. social desirability and social support) than did the data reported to be found between the CRSI and dissimilar measures (i.e. marital satisfaction), in which correlations from -.20 all the way up to .42 were reported (Kurdek, 1994; Bonache et al., 2016b).

As mentioned in the results section, it is also interesting to note that the *Healthy* Control, Normative, and Attitudinal beliefs factors demonstrated moderate, positive overlap with both the Family and Friends factors of the MSPSS. Specifically, although a moderate overlap existed, the correlations of Healthy beliefs about conflict management skills demonstrated stronger overlap with the *Friends* factor of the MSPSS, than the *Family* factor of the MSPSS. This provides additional support for the psychometric validity of the CMSBS, especially because we aimed to assess adolescent's beliefs about their conflict management in platonic *friendships*, rather than family relationships. We also hypothesized that more productive conflict skills would be different from, but share some variance with, social support among friends. This was the case with our healthy conflict factors (Control, Normative, and Attitudinal), but not our unhealthy conflict skills factors (Control, Normative, and Attitudinal), suggesting that heathy and unhealthy skills may be two separate constructs, and that it is the presence or absence of healthy skills that has the largest impact on an adolescent's social well-being.

Such findings also highlight an interesting avenue of further exploration, in terms of the relationship between social support and healthy versus unhealthy avenues of conflict resolution. For example, Carlson and Perrewé (1999) found that the perception of social support may reduce the perception of other stressors, such as conflict in adults. Cohen and Wills (1985) note that social support is a "causal contributor to well-being" (p. 310). The moderate relationship between the factors including healthy conflict management skills and social support from both family and friends indicates that the results from the present study

may add to existing literature on the relationship between conflict management and social support in general.

Another interesting finding related to divergent validity is the consideration of how both the Unhealthy *Normative* Beliefs and Healthy *Normative* Beliefs factors overlapped with the convergent and discriminant validity scales. Although Godin and Kok (1996) cited the subjective normative aspect of the Theory of Planned Behavior (Ajzen, 2002) as the weakest predictor of behavioral intention, both the Healthy Normative Beliefs and Unhealthy Normative Beliefs factors demonstrated the strongest internal consistency in comparison to their healthy/unhealthy Attitudinal and Control Beliefs counterparts. Additionally, items which loaded onto factors representing both Healthy and Unhealthy Normative Beliefs demonstrated some of the highest loadings of the 49-items included in the CMSBS.

Further, the overlap of Unhealthy Normative Beliefs with the Conflict Engagement and Withdrawal factors of the CRSI, and the Self-Orientation and Other-Orientation of CONFLCITALK, were stronger than the overlap of both Attitudinal and Control Beliefs with these factors of the CRSI and CONFLICTALK. Similarly, the overlap of the Healthy Normative Beliefs was stronger with the Problem Orientation factor of CONFLICTALK and with both the Family and Friends factors of the MSPSS than was the overlap of both Attitudinal and Control Beliefs with these factors of CONFLICTALK and the MSPSS.

To explore hypotheses about why the Normative Beliefs factor emerged as psychometrically stronger than the Attitudinal and Control Beliefs factors, consider research on social contagion. “Social scientific research has largely confirmed the thesis that affect, attitudes, beliefs and behaviour can indeed spread through populations as if they were

somehow infectious" (Marsden, 1998, p. 1145). The parallel of social to biological phenomenon as contagious developed in the 19th century in France and has gained prominence in the literature since that time (Marsden, 1998). Although it is difficult make causal interpretations with peer effects of behavior, among adolescents such influence of peers has been found to have substantial impact on behavior such as substance use (Ali, Amialchuk, & Dwyer, 2011). Further, Hawton, Saunders, and O'Connor (2012) note that social effects such as the media and internet may also have an impact on adolescents, in terms of maladaptive behaviors such as self-injury and suicidal ideation.

Future studies may investigate the strength of Normative Beliefs, in comparison to Attitudinal and Control Beliefs, in adolescents' views of conflict resolution. Solidification of this aspect of the Theory of Planned Behavior (Ajzen, 2002) as most salient in adolescents' utilization of conflict management skills could certainly have a large impact on future programmatic planning and understanding of conflict in youth populations.

Overall, the content validity of the CMSBS was established through extensive exploration of the existing literature, as well as step four of DeVillis's (2012) recommended scale development procedures, expert review. Construct validity was assessed through the comparison of the factors included within the CMSBS to the factors included within the CRSI (Bonache, Ramirez-Santana, & Gonzalez-Mendez, 2016), CONFLICTALK (Kimsey & Fuller, 2003), the MSPSS (Zimet, Dahlem, Zimet, & Farley, 1988), and A Children's Social Desirability Scale (Crandall, Crandall, & Katkovsky, 1965). Such scales were utilized for the purposes of establishing convergent and divergent validity. A summary of our findings regarding internal consistency follows.

Internal Consistency

Cronbach's (1951) coefficient alpha (α) is frequently paralleled with internal consistency reliability (Osburn, 2000). Internal consistency reliability includes the homogeneity of the items within a scale (DeVillis, 2012). It was hypothesized that the Cronbach's alpha level of each individual subscale of Atitudinal Beliefs, Control Beliefs, and Normative Beliefs would demonstrate alpha levels between .80 and .99. When analyzed as a three-factor structure (Normative Beliefs, Attitudinal Beliefs, and Control Beliefs), with all original 65 items, as originally hypothesized, actual alpha levels ranged from .80 to .90 across the full scale and subscales, providing support for this hypothesis as well as support for strong internal consistency.

The overall Cronbach's alpha levels of the revised, 49-item CMSBS also demonstrated strong internal consistency. Five of the six factors of the CMSBS demonstrated alpha levels between .85 and .90, with one outlier on the factor which includes Control Beliefs about unhealthy conflict management skills, in which $\alpha = .70$. Despite the slightly underperforming Unhealthy Control Beliefs factor, in which $\alpha = .70$, the overall internal consistency of the 49-item, 6-factor structure of the CMSBS is strong. Comparatively, for the CRSI, Cronbach's alpha levels were .82, .75, and .75 for the three factors (Missotten et al., 2018). CONFLICTALK demonstrated Cronbach's alpha levels of .87, .81, and .65. Therefore, other than the outlier on the Unhealthy Control Beliefs factor of the CMSBS, all factors demonstrated stronger internal consistency than those of the CRSI and equal-to or stronger-than internal consistency levels compared to those factors included in CONFLICTALK.

The low internal consistency of the Unhealthy Control Beliefs factor of the CMSBS warrants further discussion and exploration. Control beliefs are ideas about the presence of factors that control behavioral performance, including the extent to which the individual believes they have control over the behavior (Ajzen, 2002; Ajzen, 2012; Godin & Kok, 1996). Stated another way, control beliefs include individual's "confidence that they are capable of performing the behavior under investigation" (Ajzen, 2002, p. 6). Given this definition, some hypotheses about the underperformance of the Unhealthy Control Beliefs factor are as follows. Likely the most apparent hypothesis is that the items included within the Unhealthy Control Beliefs factor were not as related as we would like them to be and may need to be re-written. For example, the items *Saying something I didn't mean when I'm angry at a close friend* and *Avoiding a friend when I know they are mad at me* demonstrated the lowest factor-loadings. Alternatively, perhaps the Unhealthy Control Beliefs performed poorer than the Healthy Control Beliefs because adolescents view healthy conflict management skills (i.e. validating the other person's perspective) more understandable than unhealthy conflict management skills (i.e. making insults).

Additionally, perhaps there is a greater level of variability between the perceived level of behavioral control the adolescent has over the various types of unhealthy conflict resolution skills in comparison to healthy conflict resolution skills. For example, perhaps some adolescents find it much easier to implement an unhealthy skill such as *withdrawal* than they do *making insults*, thus explaining the greater variability within the Unhealthy Control Beliefs factor. These hypotheses aside, Cronbach's alpha levels between .70 and .80 are considered respectable and the internal consistency of Unhealthy Conflict Beliefs is

nowhere near infringing on the psychometric validity of the CMSBS or the individual factor of Unhealthy Control Beliefs (DeVillis, 2012). The recognition of the comparatively low level of internal consistency the Unhealthy Control Beliefs factor demonstrated in comparison to the other factors is nevertheless important for future studies.

Overall, the internal consistency of the CMSBS indicates that "the relationships among items are logically connected to the relationships of items to the latent variable" (DeVillis, 2012, p. 42). That is, we can determine with certainty that the items included within each factor of the CMSBS are highly intercorrelated. As DeVillis (2012) states, this indicates that the items either causally affect one another or share a common cause. The strong internal consistency of the factors included within the CMSBS further supports the understanding that the items are all measuring the same construct.

Regarding the aforementioned recommendation that future studies may explore whether two scales (Healthy and Unhealthy) exist within the CMSBS, internal consistency was preliminarily examined to support such recommendation. It was found that summing all items within the factors which included healthy conflict management beliefs ($\alpha = .92$) and those items included in the unhealthy conflict management beliefs factors ($\alpha = .87$) both yielded strong internal consistency. This further emphasizes the importance of a confirmatory study, including exploration of two separate scales – each with three subscales (Normative, Attitudinal, and Control beliefs).

Limitations

As with any study, there are notable limitations that should be recognized and discussed. First, it is important to note that our sample included children and adolescents

residing in the southeastern and northern midwestern United States. Further, although the sample included more racial and ethnic diversity than is represented in the United States, with over half the sample representing non-White participants, White participants still encompassed a slight majority (50.4%) of the sample.

Relatedly, the concepts included in the definitions of conflict management are based primarily in Westernized definitions of healthy versus unhealthy conflict resolution strategies (Chen, Liu, & Tjosvold, 2005; Gottman, 1994; Kozan & Ergin, 1999; Leung, 2002). This is a particularly noteworthy limitation of the study, in that it likely limits the generalizability cross-culturally. Despite this, the underlying principles of constructive versus destructive methods of communication included in the development of the CMSBS are concepts commonly agreed upon as effective in many different communities and cultures reviewed in the literature (Chen, Liu, & Tjosvold, 2005; De Church & Marks, 2001; De Dreu & van Vianen, 2001; Gefland, Leslie, Keller, & de Drue, 2012).

Specifically, the traditional values of harmony may imply avoidance in some collectivistic cultures such as China, where conflict may stereotypically be seen as passive or avoidant (Chen, Liu, & Tjosvold, 2005). Leung and colleagues (2002) found that many East Asian values, such as harmony and collectivism, can underlie and support open, cooperative conflict management skills discussed in the current study. Verbal aggression, such as yelling and the over-expression of anger, is also commonly viewed as an ineffective conflict management strategy and is seen as such in both the Ju/wasi and Inuit cultures (Doucleff & Greenalgh, 2019; Fry, 2000).

Additionally, in Walley-Jean's (2009) article regarding the derogatory stereotype of the colloquially-termed *angry black woman*, she notes that for many Black women, "…anger is a source of empowerment to be valued and used to express displeasure when being treated unfairly and protect African American women from a racist, sexist, and classist society; however, anger is also experienced as a potentially dangerous emotion that must be controlled" (p. 75). Despite the stereotype of Black women in America as overly-angry and aggressive, Walley-Jean's (2009) study found that, "contrary to popular belief, … rather than exploding when minimally provoked (or even unprovoked) as the image of the 'angry black woman' stereotype summons, African American women … are actually less likely to experience angry feelings even when faced with situations in which they are criticized, disrespected, or evaluated negatively" (p. 82).

This literature highlights some of the considerations regarding the presence of differences in conflict cross-culturally, namely in terms of the experience of anger resulting from conflict. Nonetheless, cultures are rarely, if ever, homogenous (Kozan & Ergin, 1999). Intra-cultural diversity should not be overlooked when considering generalizability of the CMSBS. The findings of the present study should be replicated with a variety of cultures (both within and outside of the United States) to determine how children and adolescent's beliefs about conflict management differ and overlap between and within cultural groups and populations.

Further, it is important to note that the participants were instructed to consider their *close* friends when answering the items in the CMSBS, rather than their acquaintances or romantic partners. While this was clearly stated in the instructions the participants viewed

prior to answering items, the distinction between *close* friendships and other dyadic relationships may have been interpreted differently by various participants. Although friendships are a cross-cultural phenomenon, the implications of the qualifier "close" may have different meanings to different children and adolescents depending on their gender and racial identity, age, and other identity factors such as sexual identity and socioeconomic status (Ciarrochi et al., 2017).

In addition to cultural considerations, it is also relevant to discuss some limitations of the theoretical structure of this scale development project. As discussed previously, the Theory of Planned Behavior (Ajzen, 2002) is a commonly-utilized framework from which to predict health-related behaviors and is the basis on which the present scale development project was built. As such, the structure inherently assesses an individual's *intention* to complete a behavior, rather than their behavioral style. Therefore, it is imperative this scale be utilized in the concept of adolescents' beliefs about conflict management skills, rather than the skills themselves. Information about an individual's beliefs have long-been relevant in the field of psychology, particularly when considering the impact of social norms on behavior in adolescence (Bandura, 1969). The CMSBS offers an opportunity to understand beliefs about conflict management styles, so as to provide the opportunity to take a preventative approach to healthy conflict resolution.

Additionally, there are limitations that are inherent to self-report measures such as the CMSBS. The Theory of Planned Behavior itself has been criticized for a reliance on self-report (Armitage & Conner, 2001). Response bias and social desirability are commonly cited problems with self-report measures (Dixon-Gordon, Haliczer, Conkey, & Whalen, 2018). To

control for this, items were included within the scale to address this limitation. Self-report measures are also criticized for the difficulty with determining whether the individual is accurately reporting (Goldberg et al., 2018). In the present study, some of this is alleviated by the fact that this scale measures adolescent's *beliefs* about their abilities to implement conflict management strategies. Adolescent's beliefs, however misaligned with their true behavior, are the targeted source of information with the CMSBS. Such beliefs have the potential to provide insight into programmatic planning for interventions such as social and emotional learning programs.

Self-report measures are widely relied-upon in psychology (i.e. the Minnesota Multiphasic Personality Inventory – Adolescent; Butcher et al., 1992) and provide a non-invasive way in which to assess individual's beliefs. Further research comparing conflict management behavior to self-reported beliefs may shed some light on the efficacy of the CMSBS as predictor for true conflict management styles. Additional studies may utilize diary and observational studies to provide a more representative depiction of conflict behaviors as they occur on a daily basis (Burk, Denissen, van Doorn, Branje, & Laursen 2009; Missotten et al., 2018).

Finally, analysis of the CMSBS demonstrated that the six-factor structure explained 47% of the total variance, which was 3% below the hypothesized percent of variance explained equaling or exceeding fifty. However, determining the number of factors to retain should not rest on one consideration alone, such as the sole consideration of the percent of variance explained (Beavers et al., 2013; Costello & Osbourne, 2005). Further, higher percentages of variance explained are expected in components analysis, not factor analysis,

which was used in the present study (Beavers et al., 2013). Simple interest in the amount of variance explained did not lead to the retention of more than six factors in the CMSBS. The six-factor structure demonstrated strong factor-loadings, eigenvalues greater than or equal to one, few items demonstrated cross-loadings, and the six-factor structure included an accurate representation of the underlying constructs being measured (Beavers et al., 2013; Costello & Osbourne, 2005).

Nonetheless, some authors recommend that the percent of variance explained exceed 75% (Garson, 2010). The percent of variance explained by the factors retained in the CMSBS fell below the hypothesized value and should be re-evaluated in the future, confirmatory study. Specifically, the consideration of the existence of two scales (Healthy Conflict Management Skills and Unhealthy Conflict Management Skills), as well as a larger sample size in the future study, may improve this limitation of the current study.

These limitations considered, overall findings from this study provide support for a brief, easily-administered, self-report measure of adolescent's beliefs about their abilities to manage conflict. This measure, which is among the first of its kind, has the potential to guide program planning in regard to conflict management aspect of social and emotional learning programs.

Implications

Despite the recognized importance conflict management plays in social and emotional development, there remains a shortage of tools to measure and teach these skills. Previously developed scales assessing conflict management are intended for use with adults, often romantically paired couples. In fact, only one such scale exists which measures adolescent's

conflict management skills, and its psychometric properties are questionable. The Conflict Management Skills Beliefs Scale extends this understudied area by grounding the scale in a well-studied theoretical framework, the Theory of Planned Behavior (Ajzen, 2002), and by norming the scale on a diverse sample of adolescents.

Research Implications

There is a strong emphasis on the promotion of healthy social skill development in children and adolescents within current research studies (Baraldi & Iervese, 2010; Bengtsson & Arvidsson, 2011; Campbell & Skarakis-Doyle, 2011; McCormick et al., 2015; Matson & Wilkins, 2009). One such way this is accomplished is through the incorporation of social-emotional learning into academic programs. Conflict management is a targeted aspect of many social-emotional learning programs, yet there is a shortage of efficacious instruments to measure it. The Conflict Management Skills Beliefs Scale (CMSBS) is a tool that could help further the literature base on the development of successful social-emotional learning programs.

Most notably, future studies should include a confirmatory analysis of the CMSBS. A confirmatory factor analysis would aid in determining whether the psychometric properties of the CMSBS, particularly the scale structure, will remain constant across a new sample (Costello & Osborne, 2005). Psychometric analysis in the confirmatory study would include a re-examination of internal consistency, reliability, construct and content validity, convergent and discriminant validity, and may include test-retest reliability.

The preliminary findings mentioned above regarding the hypothesis of the existence of two separate scales within the CMSBS (Healthy Conflict Management and Unhealthy

Conflict Management) could be further investigated. That is, would grouping all Attitudinal, Control, and Normative beliefs about healthy conflict management skills produce a single scale with correlated factors? Similarly, the grouping of the Attitudinal, Control, and Normative beliefs about unhealthy conflict management skills could be tested. Perhaps this could allow for further exploration of the healthy versus unhealthy classifications and their application to various within- and between-cultural groups. In addition to intra- and inter-cultural differences, future studies may consider how the results vary between genders.

Structuring the CMSBS in the Theory of Planned Behavior (TPB) provides a platform from which to conduct additional research studies to better understand how control beliefs, attitudinal beliefs, and normative beliefs contribute to the development of an adolescent's general social emotional health. The CMSBS may be a useful addition when investigating concepts related to conflict management, to which the TPB may be applied. Other health-related behavior studies grounded in the TPB may include investigation of the overlap between the CMSBS and measures of emotional intelligence, such as the Mayer-Salovey-Caruso Emotional Intelligence Test (Mayer, Salovey, & Caruso, 2002) and the Emotional Quotient Inventory (Bar-On, 1997). Future studies may investigate the CMSBS compared to other, related measures of social-emotional behavior, such as the Child Behavior Checklist (Achenbach & Rescorla, 2001) and the Youth Self Report (Achenbach, 1991).

Further, the use of the CMSBS in future studies can broaden our understanding of not only an adolescent's *beliefs* about conflict management but their *intent* to implement conflict management skills. Such understanding may be impactful due to the implementation of healthy conflict management skills and its relation to other factors, such as academic self-

efficacy and the development of various forms of psychological distress. As previously noted, the three aspects of the TPB (attitudinal, control, and normative beliefs) together predict behavior intention (Ajzen, 2002). Ajzen (2002) notes, "the more favorable the attitude and subjective norm, and the greater the perceived control, the stronger should be the person's intention to perform the behavior" of interest (p. 1). In TPB, intention is the immediate precursor to behavior (Ajzen, 2002). Therefore, future studies may examine the addition of a factor to the CMSBS which assesses behavior intention. Alternatively, a separate measure of behavior intention may be created or utilized in conjunction with the CMSBS to predict behavior completion.

As previously noted, the CMSBS was normed on a diverse sample of children and adolescents residing in the southeastern and northern midwestern United States. As such, future studies may investigate intra- and inter-cultural differences and similarities in beliefs about the management of conflict. Future studies may include intra-cultural comparisons between beliefs about healthy versus unhealthy conflict resolution more broadly, or control, attitudinal, and normative influences on beliefs more specifically. Future studies should include a larger sample size and may include the translation of the CMSBS into languages other than English.

Regarding age differences, future studies may investigate the significant differences found between high school-aged and middle school-aged participants' responses, noted above in the Post Hoc Analyses section. Such investigation may include whether these significant differences are maintained in a larger, more diverse sample and, if so,

hypothetical explanations for their existence. The Confirmatory Factor Analysis should include such investigation into these differences.

Because the CMSBS was created with school-based, social-emotional learning (SEL) programs in mind, it would be fascinating to utilize the CMSBS in an outcome study. Children or adolescents undergoing SEL programs with a conflict management component may take the CMSBS in an effort to assess whether their beliefs changed. The CMSBS could be utilized in a school-based SEL program-evaluation study. A longitudinal study may include investigation into whether such beliefs maintain any initial change over time, and if initially-unchanged beliefs remain constant throughout development.

Clinical Implications

Clinically, the CMSBS is a useful instrument as a brief measure of adolescent's beliefs about their conflict management abilities and styles. Pending the solidification of the psychometric properties of the CMSBS in the future confirmatory study, this tool likely provides clinicians with valuable information into factors impacting social and emotional interaction, learning, and development. Not only does it allow for a starting point of discussion and exploration, but it provides insight into an adolescent's developmental level in regard to conflict management. By assessing an adolescent's conflict management beliefs in terms of their healthy and unhealthy control beliefs, attitudinal beliefs, and normative beliefs, a clinician is better able to inform interventions which promote the development of skills that allow an adolescent to be successful.

Specifically, the ability to healthily manage conflict allows for more fulfilling and successful interpersonal relationships (Gable, Gonzaga, & Shrachman, 2006; Gottman,

1994), and has been shown to improve academic performance, attentional skills, communication patterns, the ability to problem-solve, and the teaching environment in the classroom (Baraldi & Iervese, 2010; Bengtsson & Arvidsson, 2011; Campbell & Skarakis-Doyle, 2011). Further, successful conflict resolution skills in friendship relationships can also be generalized to other interactions, such as those with parents and/or romantic partners (Van Doorn et al., 2011).

The CMSBS may be useful in the implementation of school-based social-emotional learning (SEL) programs, such as Caring School Community (Marshall & Caldwell, 2007) and Too Good for Violence (CASEL, 2013; Hall & Bacon, 2005). Leaders of SEL programs may utilize the CMSBS to guide their interventions, in terms of assessing the need of their current study body population. Perhaps adolescents indicating stronger emphasis on their normative beliefs about conflict management skills may benefit from more group-based activities aimed at clarifying and discussing norms surrounding conflict and its management. A stark contrast between an individual's results on the Attitudinal Beliefs and Control Beliefs factors of the CMSBS may indicate that while the adolescent recognizes the importance or value of certain skills, they may not feel as though these skills are possible to implement. In such cases, this insight may guide self-efficacy and self-esteem building exercises.

Well-designed, empirically-supported school-based SEL programs have been linked to a variety of positive social, health, and academic outcomes for youth (Greenberg et al., 2013). In addition to a focus on conflict management, many SEL programs are aimed at bullying-prevention and substance-use reduction and prevention (Smith & Low, 2013). The CMSBS may be utilized clinically to identify youth who may possess more negative beliefs

about conflict management which could put them at-risk for the perpetration or receipt of bullying and substance use engagement. Such identification early-on may assist with collaborative intervention to provide that adolescent with supportive intervention efforts. Conversely, youth with healthy outlooks on the management of conflict may be identified as candidates for peer-support programming, as potential mentors to other students.

Results of the present study may be utilized as a method of staff training and securing administrative support for the implementation and funding of SEL programs in schools. Specifically, teacher and staff training may include a better understanding of conflict management, including the various beliefs and skills that are associated with its implementation. Increasing awareness of the importance of developing healthy conflict management skills not only improves educators' abilities to implement preventative measures of social skill development, but also highlights the importance of the need for systemic support and change.

School is, of course, only one setting in which youth spend a large amount of time. Many children and adolescents are involved in extracurricular activities such as sports and clubs. The CMSBS may be a useful tool in outreach efforts to connect community supports such as Head Start employees or sports coaches with providing a consistent emphasis on social-emotional development in other realms of the adolescent's life.

In addition to extracurricular activities, many adolescents hold part-time jobs outside of the school setting. Should a future study include the endeavor of norming the CMSBS with an older-adolescent and or adult population, it has the potential to be a useful tool in the workplace. When conflict is handled in a productive manner in the workforce, employees are

more likely to value their colleagues' thoughts and opinions, as well as strengthen their own views of their ability to communicate effectively (De Dreu, 2008). Tinsley and Brett (2001) specifically explored differences in professional negotiation practices between American managers and Hong Kong Chinese managers. Among other things, their results indicated that Hong Kong Chinese managers have a stronger adherence to authority figures when engaging in workplace negotiation than do American managers (Tinsley & Brett, 2001). Such findings may be elaborated on by implementing an adult-normed version of the CMSBS with various workplace populations and dissect various conflict management beliefs (i.e. adherence to normative beliefs in the workforce in comparison to personal, attitudinal beliefs) more specifically. The results of such testing may guide communication skill-building trainings and serve to improve workplace climate.

Conclusion

The development of the Conflict Management Skills Beliefs scale resulted from a desire to improve our understanding of adolescent's beliefs about conflict management skills, as well as from the lack of theory-driven, empirically-valid scales measuring conflict management skills in adolescents. A pre-pilot and exploratory study largely confirmed hypotheses related to factor structure, various facets of validity, and internal consistentcy. The results of this study preliminarily establishes that the CMSBS as a valid and reliable measure with a theoretically supported factor structure. The next step is to conduct a confirmatory study to determine if these properites hold within a new sample.

Existing conflict management scales are directed for use with adults (Kurdek, 1994), adolescent's romantic partner relationships (Bonache et al., 2016), and centered around conflict styles rather than skills (Kimsey & Fuller, 2003). In comparison, the CMSBS assess conflict *skills* among adolescents, and demonstrates strong internal consistency, an empirically and theoretically sound factor structure, and strong initial validity. Pending further support from a future confirmatory study of the CMSBS, this initial, exploratory study regarding the development and validation of the CMSBS shows promise for enhancing our understanding, both in research and clinical realms, of specific conflict management skills of adolescents.

References

Achenbach, T. (1991). Manual for the Youth Self-Report and 1991 Profile. Burlington, VT: University of Vermont, Department of Psychiatry.

Achenbach, T.M., & Rescorla, L.A. (2001). Manual for the ASEBA School-Age Forms & Profiles. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.

Ashley, W. (2014). The angry black woman: The impact of pejorative stereotypes on psychotherapy with black women. *Social work in public health, 29*(1), 27-34.

Ajzen, I. (2002). Constructing a TpB Questionnaire: Conceptual and methodological considerations. Retrieved February 1, 2017 from http://www.people.umass.edu/aizen/pdf/tpb.measurement.pdfGoogle Scholar

Ajzen, I. (2012). The theory of planned behavior. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), Handbook of theories of social psychology (pp. 438–459). Thousand Oaks, CA: SAGE Publications Inc.

Ajzen, I., & Driver, B. L. (1991). Prediction of leisure participation from behavioral, normative, and control beliefs: An application of the theory of planned behavior. *Leisure sciences, 13*(3), 185-204.

Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behaviour. Englewood Cliffs, NJ: Prentice-Hall.

Ali, M. M., Amialchuk, A., & Dwyer, D. S. (2011). The social contagion effect of marijuana use among adolescents. *PloS one, 6*(1). doi:10.1371/journal.pone.0016183

Armitage, C. J., & Conner, M. (2001). Efficacy of the Theory of Planned Behavior: A meta analytic review. *British Journal of Social Psychology*, *40*, 471-499.

Auerswald, M., & Moshagen, M. (2019). How to determine the number of factors to retain in exploratory factor analysis: A comparison of extraction methods under realistic conditions. *Psychological Methods*. Advance online publication. doi: 10.1037/met0000200

Bandura, A. (1969). Social learning theory of identificatory processes. In D. A. Goslin (Ed.), *Handbook of socialization theory and research* (pp. 213-262). Chicago: McNally.

Bandura, A. (1992). On rectifying the comparative anatomy of perceived control: Comments on 'Cognates of personal control'. *Applied and Preventive Psychology, 1*, 121–126.

Bandura, A. (1997). Self-efficacy: The exercise of control. New York: W. H. Freeman.

Bar-On, R. (1997). Bar-On Emotional Quotient Inventory (EQ-i): A test of emotional intelligence. Toronto, Canada: Multi-Health Systems.

Bartlett, M. S. (1953). Factor analysis in psychology as a statistician sees it. *Nordic Psychology Monographs, 3*, 23-34.

Baraldi, C., & Iervese, V. (2010). Dialogic Mediation in Conflict Resolution Education. *Conflict Resolution Quarterly*, *27*(4), 423-446.

Batanova, M. D. & Loukas, A. (2012). What are the unique and interacting contributions of school and family factors to early adolescents' empathic concern and perspective taking? *Journal of Youth and Adolescence, 41*, 1382-1391.

Beavers, A. S., Lounsbury, J. W., Richards, J. K., Huck, S. W., Skolits, G. J., & Esquivel, S. L. (2013). Practical considerations for using exploratory factor analysis in educational research. *Practical Assessment, Research & Evaluation, 18*(6), 1-13.

Bengtsson, H. & Arvidsson, A. (2011). The impact of developing social perspective-taking skills in emotionality in middle and late childhood. *Social Development*, *20*(2), 353 375.

Benoit, W. L. (1997). Image repair discourse and crisis communication. *Public Relations Review, 23*(2), 177-186.

Björkqvist, K. (1994). Sex differences in physical, verbal, and indirect aggression: A review of recent research. *Sex roles, 30*(3-4), 177-188.

Blais, C., Jack, R. E., Scheepers, C., Fiset, D., & Caldara, R. (2008). Culture shapes how we look at faces. *PloS one, 3*(8), 1-8.

Bonache, H., Ramirez-Santana, G., Gonzalez-Mendez, R. (2016). Conflict resolution styles and teen dating violence. *International Journal of Clinical and Health Psychology, 16,* 276-286.

Bonache, H., Ramírez-Santana, G., & Gonzalez-Mendez, R. (2016b). Conflict resolution styles and teen dating violence. *International Journal of Clinical and Health Psychology, 16,* 276–286. doi:10.1016/j.ijchp. 2016.03.003.

Bourke-Taylor, H. M., Pallant, J. F., & Law, M. (2012). Update on the child's challenging behavior scale following evaluation using Rasch analysis. *Child: Care, health, and development, 40*(2), 242-249.

Branje, S. J. T., van Doorn, M., van der Valk, I., & Meeus, W. (2009). Parent‐adolescent conflicts, conflict resolution types, and adolescent adjustment. *Journal of Applied Developmental Psychology, 30,* 195‐204.

Brock, R. L. & Lawrence, E. (2014). Intrapersonal, interpersonal, and contextual risk factors for overprovision of partner support in marriage. J*ournal of Family Psychology, 28*(1), 54-64. doi:10.1037/a0035280

Bryant, B. (1982). An index of empathy for children and adolescents. *Child Development, 53,* 413-425.

Buehler, C., Anthony, C., Krishnakumar, A., Stone, G., Gerard, J., & Pemberton, S. (1997). Interparental conflict and youth problem behaviors: A meta-analysis. *Journal of Child and family studies, 6*(2), 233-247.

Burk, W. J., Denissen, J., van Doorn, M., Branje, S. J. T., & Laursen, B. (2009). The vicissitudes of conflict measurement: stability and reliability in the frequency of disagreements. *European Psychologist, 14*, 153–159. doi:10.1027/1016 9040.14.2.153

Butcher, J. N., Williams, C. L., Graham, J. R., Archer, R., Tellegen, A., Ben-Porath, Y. S., & Kaemmer, B. (1992). MMPI-A manual for administration, scoring, and interpretation. Minneapolis: University of Minnesota Press.

Campbell, W. N. & Skarakis-Doyle, E. (2011). Innovations in measuring peer conflict resolution knowledge in children with LI: Exploring the accessibility of a visual analogue rating scale. *Journal of Communication Disorders, 44*, 207-217.

Carlson, D. S., & Perrewé, P. L. (1999). The role of social support in the stressor-strain relationship: An examination of work-family conflict. *Journal of management, 25*(4), 513-540.

Carver, C. S. & Scheier, M. F. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56*(2), 267-283.

Cassels, T. G., & Birch, S. A. J. (2014). Comparisons of an open-ended vs. forced-choice 'mind reading' task: Implications for measuring perspective-taking and emotion recognition. *PLoS ONE, 9*(12). doi:10.1371/journal.pone.0093653

Cattell, R. B. (1966). The screen test for the number of factors. *Multivariate Behavioral Research, 1*, 245-276.

Caughlin, J. P., & Malis, R. S. (2004a). Demand/withdraw communication between parents and adolescents: connections with self-esteem and substance use. *Journal of Social and Personal Relationships, 21*, 125‑148.

Chan, K., Prendergast, G., & Ng, Y. (2016). Using an expanded Theory of Planned Behavior to predict adolescents' intention to engage in healthy eating. J*ournal of International Consumer Marketing, 28*(1), 16-27.

Chen, G., Liu, C., & Tjosvold, D. (2005). Conflict management for effective top management teams and innovation in China. *Journal of Management Studies, 42*, 277–300. doi:10.1111/j.1467-6486.2005.00497.x

Christensen, A. (1988). Dysfunctional interactional pat- terns in couples. In P. Noller & M. A. Fitzpatrick (Eds.), Perspectives on marital interaction (pp. 31- 52). Clevedon, Avon, England: Multilingual Matters

Ciarrochi, J., Parker, P. D., Sahdra, B. K., Kashdan, T. B., Kiuru, N., & Conigrave, J. (2017). When empathy matters: The role of sex and empathy in close friendships. *Journal of Personality, 85*(4), 494–504. Doi: 10.1111/jopy.12255

Clark, A. L., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, *7*(3), 309-319.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98*(2), 310–357.

Collaborative for Academic, Social, and Emotional Learning (2013). CASEL schoolkit: A guide for implementing school wide academic, social, and emotional learning. Chicago, IL: KSA-Plus Communications, Inc.

Comrey, A. L., & Lee, H. B. (1992). A first course in factor analysis (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cooley-Strickland, M., Quille, T. J., Griffin, R. S., Stuart, E. A., Bradshaw, C. P., & Furr-Holden, D. (2009). Community violence and youth: Affect, behavior, substance use, and academics. *Clinical Child and Family Psychology Review, 12,* 127-156.

Costello, A. B. & Osborne, J. W. (2005). Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis. *Practical Assessment Research & Evaluation, 10*(7). Available online: http://pareonline.net/getvn.asp?v=10&n=7

Crandall, V. C., Crandall, V. J., & Katkovsky, W. (1965). A children's social desirability questionnaire. *Journal of Consulting Psychology, 29*(1), 27-36. doi:10.1037/h0020966

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16,* 297-334.

David, K. T., Francis, J., & Walls, J. (1994). Cultural differences in conducting intra-and inter-cultural negotiations: A Sino-Canadian comparison. *Journal of international business studies, 25*(3), 537-555.

De Church, L. A., & Marks, M. A. (2001). Maximizing the benefits of task conflict: The role of conflict management. *International Journal of Conflict Management, 12*, 4–22. doi:10.1108/eb022847

De Dreu, C. K. W., & van Vianen, A. E. M. (2001). Managing relationship conflict and the effectiveness of organizational teams. *Journal of Organizational Behavior, 22,* 309 328. doi:10.1002/job.71

De Dreu, C. K. (2008). The virtue and vice of workplace conflict: Food for (pessimistic) thought. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior, 29*(1), 5-18.

Deutsch, M. (1973). The Resolution of Conflict. New Haven, CT: Yale University Press.

DeVillis, R.F. (2012). Scale Development: Theory and Applications (3rd edition). Newberry Park, California: Sage Publications.

DeVon, H. A., Block, M. E., Moyle-Wright, P., Ernst, D. M., Hayden, S. J., Lazzara, D. J., & Kostas-Polston, E. (2007). A psychometric toolbox for testing validity and reliability. *Journal of Nursing scholarship, 39*(2), 155-164.

Doucleff, M. & Greenhalgh, J. (2019, March 13). The Other Side of Anger: How Inuit Parents Teach Kids to Control Their Anger [Blog]. In M. Silver (Editor), *Goats and Soda: Stories of Life in a Changing World*. Washington, D.C.: NPR.

Dziuban, C. D., & Shirkey, E. C. (1974). When is a correlation matrix appropriate for factor analysis? Some decision rules. *Psychological Bulletin, 81*(6), 358-361.

de Wied, M., Maas, C., van Goozen, S., Vermande, M., Engels, R., Meeus, W., Matthys, W., & Goudena, P. (2007). Bryant's Empathy Index: A closer examination of its internal structure. *European Journal of Psychological Assessment, 23*(2), 99-104.

deWinter, J. C. F., & Dodou, D. (2012). Factor recovery by principal axis factoring and maximum likelihood factor analysis as a function of factor pattern and sample size. *Journal of Applied Statistics, 39*(4), 695-710. doi: 10.1080/02664763.2011.610445

Dixon-Gordon, K. L., Haliczer, L. A., Conkey, L. C., & Whalen, D. J. (2018). Difficulties in interpersonal emotion regulation: Initial development and validation of a self-report measure. *Journal of Psychopathology and Behavioral Assessment, 40,* 528-549. doi: 10.1007/s10862-018-9647-9

Edwards, G., Barkley, R. A., Laneri, M., Fletcher, K., & Metevia, L. (2001). Parent adolescent conflict in teenagers with ADHD and ODD. *Journal of Abnormal Child Psychology, 29*, 557-572.

Eisenberg, N., Fabes, R. A., Murphy, B., Maszk, P., Smith, M., & Karbon, M. (1995). The role of emotionality and regulation in children's social functioning: A longitudinal study. *Child Development, 66,* 1239–1261.

Elliott, G. C. (1980). Components of pacifism. *Journal of Conflict Resolution, 24,* 27-54.

Epley, N., Morewedge, C. K., & Keysar, B. (2004). Perspective taking in children and adults: Equivalent egocentrism but differential correction. *Journal of Experimental Social Psychology, 40*(6), 760-768.

Fry, D. (1992). Female aggression among the Zapotec of Oaxaca, Mexico. In K. Bjorkqvist & P. Niemele (Eds.), *Of mice and women: Aspects of female aggression*. San Diego, CA: Academic Press.

Fry, D. P. (2000). Conflict management in cross-cultural perspective. *Natural conflict resolution,* 334-351.

Gable, S. L., Gonzaga, G. C., & Shrachman, A. (2006). Will you be there for me when things go right? Supportive responses to positive event disclosures. *Journal of Personality and Social Psychology, 91,* 904-917.

Garaigordobil, M. & Martinez-Valderrey, V. (2015). The effectiveness of cyberprogram 2.0 on conflict resolution strategies and self-esteem. *Journal of Adolescent Health, 57,* 229-234.

Garson, D. (2010, February 11). Factor analysis. Retrieved March 5, 2018, from http://faculty.chass.ncsu.edu/garson/PA765/factor.htm

Gazzaz, N. B., Yusoff, M. K., Ramli, M. F., Aris, A. Z., & Juahir, H. (2012). Characterization of spatial patterns in river water quality using chemometric pattern recognition techniques. *Marine Pollution Bulletin, 64*(4), 688-698. doi: 10.1016/j.marpolbul.2012.01.032

Gefland, M. J., Leslie, L. M., Keller, K., & de Drue, C. (2012). Conflict cultures in organizations: How leaders shape conflict cultures and their organizational-level consequences. *Journal of Applied Psychology, 97*(6), 1131-1147. doi: 10.1037/a0029993

Gerstein, L. H., Mayton, D., Hutchison, A., Kirkpatrick, D. (2014). The Teenage Nonviolence Test: A factor analytic investigation. *Expert Projects Publishing House, 44*, 9-19.

Ghazanfari, Z., Niknami, S., Ghofranipour, F., Hajizadeh, E., & Montazeri, A. (2010). Development and psychometric properties of a belief-based Physical Activity

Questionnaire for diabetic patients (PAQ-DP). *Medical Research Methodology, 10*(104). Retrieved from: http://www.biomedcentral.com/1471-2288/10/104

Godin, G., & Kok, G. (1996). The theory of planned behaviour: A review of its applications to health-related behaviours. *American Journal of Health Promotion, 11*, 87-98.

Goldberg, S. B., Tucker, R. P., Greene, P. A., Simpson, T. L., Hoyt, W. T., Kearney, D. J., & Davidson, R. J. (2018). What can we learn from randomized clinical trials about the construct validity of self-report measures of mindfulness? A meta-analysis. *Mindfulness*. doi:10.1007/s12671-018-1032-y

Gortner, E., Berns, S, B., Jacobson, N. S., & Gottman, J. M. (1997). When women leave violent relationships: Dispelling clinical myths. *Psychotherapy, 34*(4), 343-352.

Gottman, J. M. (1982). Temporal Form: Toward a new language for describing relationships. *Journal of Marriage and Family*, *44*(4), 943-962.

Gottman, J. M. (1999). *The marriage clinic: A scientifically based marital therapy*. New York: W. W. Norton.

Gottman, J. M., Gonso, J., & Rasmussen, B. (1975). Social Interaction, Social Competence, and Friendship in Children. *Child Development, 46*, 709-718.

Gottman, J. M., & Krokoff, L. J. (1989). Marital interaction and satisfaction: A longitudinal view. *Journal of Consulting and Clinical Psychology, 57*, 47-52.

Gottman, J. M., & Levenson, R. W. (1999). What predicts change in marital interaction over time? A study of alternative models. *Family Process, 38*, 143–158. doi:10.1111/j.15455300.1999.00143.x

Greenberg, M. T., Weissberg, R. P., O'Brien, M. U., Zins, J. E., Fredericks, L., Resnik, H., & Elias, M. J. (2003). Enhancing School-Based Prevention and Youth Development Through Coordinated Social, Emotional, and Academic Learning. *American Psychologist, 58*(6/7), 466-474.

Haase, C. M., Holley, S. R., Bloch, L., Verstaen, A., & Levenson, R. W. (2016). Interpersonal emotional behaviors and physical health: A 20 year longitudinal study of long-term married couples. *Emotion, 16*(7), 965-977.

Hales, D., Evenson, K. R., & Wen, F. (2010). Postpartum physical activity: Measuring Theory of Planned Behavior constructs. *American Journal of Health Behavior, 34*(4), 387-401.

Hall, B. W., & Bacon, T. P. (2005). Building a foundation against violence: Impact of a school-based prevention program on elementary students. *Journal of School Violence, 4*(4), 63-83.

Harnick, F., Shafa, S., Ellemers, N., & Beersma, B. (2013). The good news about honor culture: The preference for cooperative conflict management in the absence of insults. *Negotiation and Conflict Management Research, 6*(2), 67-78.

Hawton, K., Saunders, K. E., & O'Connor, R. C. (2012). Self-harm and suicide in adolescents. *The Lancet, 379,* 2373-2382.

Heaven, P. C., Rejab, D., & Bester, C. L. (1984). Psychometric properties of Elliott's measure of pacifism: Cross-cultural comparison. *Journal of Cross-Cultural Psychology, 15*, 227-232.

Heavey, C. L., Christensen, A., & Malamuth, N. M. (1995). The longitudinal impact of demand and withdrawal during marital conflict. *Journal of consulting and clinical psychology, 63*(5), 797.

Hinds, P. S. (1988) The relationship of nurses' caring behaviors with hopefulness and health care outcomes. *Archives of Psychiatric Nursing, 2*, 21-29

Holtzhausen, D. R. and Roberts, G. F. (2009). An investigation into the role of image repair theory in strategic conflict management. *Journal of Public Relations Research, 21*(2), 165-186.

Huang, K., Yeomans, M., Brooks, A. W., Minson, J., and Geno, F. (2017). It doesn't hurt to ask: Question-asking increases liking. *Journal of Personality and Social Psychology, 113*(3),430-452.

Hughes, Z. "Who Says Sisters Can't Be Nice? Softness for Tough Girls." Ebony, March 2003.

Humphrey, N., Kalambouka, A., Wigelsworth, M., Lendrum, A., Deighton, J., & Wolpert, M. (2011). Measures of Social and Emotional Skills for Children and Young People: A systematic review. *Educational and Psychological Measurement, 71*(4), 617-637.

IBM Corp. Released 2017. IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.

Johnson, P., Adair, E., Bommersbach, M., Callandra, J., Huey, M., Kelly, A., et al. (1998, August). Nonviolence: Constructing a multidimensional attitude measure. Paper presented at the annual meeting of the American Psychological Association, San Francisco.

Johnson, D. W., & Johnson, R. T. (1996). Conflict resolution and peer mediation programs in elementary and secondary schools: A review of the research. *Review of Educational Research, 66,* 459-506.

Jaffee, W. B., & D'Zurilla, T. J. (2003). Adolescent problem solving, parent problem solving, and externalizing behavior in adolescents. *Behavior Therapy, 34,* 295-311.

Kaiser, H.F. (1958). The varimax criterion for analytic rotation in factor analysis. *Psychometrika, 23,* 187-200.

Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement, 20,* 141-151.

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39*(1), 31-36.

Karmaker, A. & Kwek, S. (2006). An iterative refinement approach for data cleaning. *Intelligent Data Analysis*, *11,* 547-560. doi: 1088-467X/07

Kazan, K. M. (1997). Culture and conflict management: A theoretical framework. *International Journal of Conflict Management, 8*(4), 338-360.

Kim, E. J., Yamaguchi, A., Kim, M., & Miyahara (2015). Effects of taking conflict personally on conflict management styles across cultures. *Personality and Individual Differences, 75,* 143-149.

Kimsey, W. D. & Fuller, R. M. (2013). CONFLICTALK: An instrument for measuring youth and adolescent conflict management message styles. *Conflict Resolution Quarterly, 21*(1), 69-78.

Kirkbride, P. S., Tang, S. F., & Westwood, R. I. (1991). Chinese conflict preferences and negotiating behaviour: Cultural and psychological influences. *Organization studies, 12*(3), 365-386.

Kool, V. K., & Sen, M. (1984). The Nonviolence Test. In D. M. Pestonjee (Ed.), *Second handbook of psychological and social instruments* (pp. 48-55). Ahmedabad, India: Indian Institute of Management.

Kozan, M. K., & Ergin, C. (1999). The influence of intra-cultural value differences on conflict management practices. *International Journal of Conflict Management, 10*(3), 249–267. doi:10.1108/eb022826

Kurdek, L. A. (1994). Conflict resolution styles in gay, lesbian, heterosexual nonparent, and heterosexual parent couples. *Journal of Marriage and Family Therapy, 56*(3), 705 722.

Laursen, B., & Collins, W. A. (1994). Interpersonal conflict during adolescence. *Psychological bulletin, 115*(2), 197.

Leung, A. K. Y., & Cohen, D. (2011). Within-and between-culture variation: individual differences and the cultural logics of honor, face, and dignity cultures. *Journal of personality and social psychology, 100*(3), 507-526.

Leung, K., Koch, P. T., & Lu, L. (2002). A dualistic model of harmony and its implications for conflict management in Asia. *Asia Pacific Journal of Management, 19*, 201-220.

Levine, E., & Tamburrino, M. (2014). Bullying Among Young Children: Strategies for prevention. *Early Childhood Education Journal, 42,* 271-278.

Litman, J. A. (2006). The COPE inventory: Dimensionality and relationships with approach and avoidance-motives and positive and negative traits. *Personality and Individual differences, 41*(2), 273-284.

Little, R. J. A., & Rubin, D. B. (2002). Statistical analysis with missing data (2nd ed.). New York, NY: Wiley.

Liu, E. & Roloff, M. E. (2015). Exhausting silence: Emotional costs of withholding complaints. *International Association for Conflict Management and Wiley Periodicals, Inc, 8*(1), 25-40.

Lorr, M. (1957). Orthogonal versus oblique rotations. *Journal of Consulting Psychology, 21*(6), 448–449. doi:10.1037/h0039976

Marmolejo-Ramos, F., & Gonzalez-Burgos, J. (2013). A power comparison of various tests of univariate normality on ex-Gaussian distributions. *Methodology, 9*(4), 137-149. doi: 10.1027/1614-2241/a000059

Marmorstein, N. R., & Iacono, W. G. (2004). Major depression and conduct disorder in youth: Associations with parental psychopathology and parent– child conflict. *Journal of Child Psychology and Psychiatry, 45*, 377–386.

Marsden, P. (1998). Memetics and social contagion: Two sides of the same coin. *Journal of Memetics-Evolutionary Models of Information Transmission, 2*(2), 171-185.

Marshall, J. C., & Caldwell, S. D. (September 2007). "Caring School Community™ Implementation Study: Four Year Evaluation Report." Final technical report on Grant R215S020232, Office of Safe and Drug Free Schools, Fund for the Improvement of Education, U.S. Department of Education.

Matson, J., L., & Wilkins, J. (2009). Psychometric Testing Methods for Children's Social Skills. *Research in Developmental Disabilities, 30,* 249-274.

Mayer, J. D., Salovey, P., & Caruso, D. (2002). Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), Version 2.0. Toronto, Canada: Multi-Health Systems.

Mayton, D. M., Nogle, K. S., Mack, J. L., Maxcy, R. T., Weeks, R. G., Hamilton, D. L., et al. (1998, August). *Teenage Nonviolence Test: A new measure of nonviolence*. Paper presented at the annual meeting of the American Psychological Association, San Francisco.

Mayton, D. M., Susnjic, S., Palmer, B. J., Peters, D. J., Gierth, R., & Caswell, R. N. (2002). The measurement of nonviolence: A review. *Peace and Conflict: Journal of Peace Psychology, 8*(4), 343-354.

McCormick, M. P., Cappella, E., O'Connor, E. E., & McClowry, S. G. (2015). Social Emotional Learning and Academic Achievement: Using causal methods to explore classroom-level mechanisms. *American Education Research Association Open, 1*(3), 1-26.

McEachan, R. R. C., Conner, M., Taylor, N. J., & Lawton, R. J. (2011). Prospective prediction of health-related behaviours with the Theory of Planned Behaviour: A meta-analysis. *Health Psychology Review, 5*, 97–144. doi: 10.1080/17437199.2010.521684

Merrell, K. W. (1994). Preschool and kindergarten behavior scales. Test manual. Clinical Psychology Publishing Company, Inc. ISBN-0-88422-152-0

Missotten, L. C., Luyckx, K., Branje, S., & Petegem, S. V. (2018). Adolescents' conflict management styles with mothers: Longitudinal associations with parenting and reactance. *Journal of Youth and Adolescence*. doi: 10.1007/s10964-017-0634-3

Moffitt, T. E., Caspi, A., Rutter, M., & Silva, P. A. (2001). *Sex differences in antisocial behavior: Conduct disorder, delinquency, and violence in the Dunedin Longitudinal Study*. Cambridge, England: Cambridge University Press.

Murphy, A. M., Askew, K. L., & Sumner, K. E. (2017). Parents' intention to allow youth football participation: Perceived concussion risk and the Theory of Planned Behavior. *Sport, Exercise, and Performance Psychology, 6*(3), 230-242.

Narr, R. K., Allen, J. P., Tan, J. S., & Loeb, E. L. (2019). Close friendship strength and broader peer group desirability as differential predictors of adult mental health. *Child Development, 90*(1), 298–313. Doi: 10.1111/cdev.12905

Napolitano, L. A., & McKay, D. (2007). Dichotomous thinking in borderline personality disorder. *Cognitive Therapy and Research*, *31*, 717–726.

Nassiri, V., Lovik, A. O., Molenberghs, G., & Verbeke, G. (2018). On using multiple imputation for exploratory factor analysis of incomplete data. *Behavior Research Methods, 50,* 501-517. doi: 10.3758/s13428-017-1013-4

Newcomb, A. F., Bukowski, W. M., & Pattee, L. A. (1993). Children's peer relations: A meta-analytic review of popular, rejected, neglected, controversial and average sociometric status. *Psychological Bulletin, 113,* 99–128.

Neuringer, C. (1961). Dichotomous evaluations in suicidal individuals. *Journal of Consulting Psychology, 25*, 445–449.

Norusis, M. J. (2003). SPSS 12.0 Statistical Procedures Companion. Upper Saddle, NJ: Prentice Hall.

Ortega, Y. M., Gomà-i-Freixanet, M., & Deu, A. F. (2016). The COPE-48: An adapted version of the COPE inventory for use in clinical settings. *Psychiatry research*, *246*, 808-814.

Ortega-Maldonado, A., & Salanova, M. (2018). Psychological capital and performance among undergraduate students: the role of meaning-focused coping and satisfaction. *Teaching in Higher Education*, *23*(3), 390-402.

Osburn, H. G. (2000). Coefficient alpha and related internal consistency reliability coefficients. *Psychological Methods, 5*(3), 343-335. doi: I082-989X.5.3.343

Osborne, J., W. & Costello, A., B. (2004). Sample size and subject to item ratio in principal components analysis. *Practical Assessment, Research & Evaluation, 9*(11).

Oshio, A. (2012). An all-or-nothing thinking turns into darkness: Relations between dichotomous thinking and personality disorders. *Japanese Psychological Research, 54*(4), 424-429. doi: 10.1111/j.1468-5884.2012.00515.x

Porter, B., & O'Leary, K. D. (1980). Marital discord and childhood behavior problems. *Journal of abnormal child psychology, 8*(3), 287-295.

Ratto, N., Doyle, A-B., & Markiewicz, D. (2016). Attachment with mother and adolescents' conflict with romantic partner or close friend. *Canadian Journal of Behavioural Science, 48*(1), 68-77. doi: /10.1037/cbs0000031

Rubenstein, J. L., & Feldman, S. S. (1993). Conflict-resolution behavior in adolescent boys:

Antecedents and adaptational correlates. *Journal of Research on Adolescence, 3,* 41-66.

Rubio, D. M., Berg-Weger, M., Tebb, S. S., Lee, E. S., & Rauch, S. (2003). Objectifying content validity: Conducting a content validity study in social work research. *Social work research, 27*(2), 94-104.

Salvas, M., Vitaro, F., Brendgen, M., Dionne, G., Tremblay, R. & Boivin, M. (2014). Friendship conflict and the development of generalized physical aggression in the early school years: a genetically informed study of potential moderators. *Developmental Psychology, 50*(6), 1794-1807. doi: 10.1037/a0036419

Schmitt, T. A., & Sass, D. A. (2011). Rotation criteria and hypothesis testing for exploratory factor analysis: Implications for factor pattern loadings and interfactor correlations. *Educational and Psychological Measurement, 71*(1), 95–113. doi:10.1177/0013164410387348

Shenkar, O., & Ronen, S. (1987). The cultural context of negotiations: The implications of Chinese interpersonal norms. *Journal of Applied Behavioral Science, 23,* 263–275.

Sicorello, M., Stevanov, J., Ashida, H., & Hecht, H. (2019). Effect of gaze on personal space: A Japanese–German cross-cultural study. *Journal of Cross-Cultural Psychology, 50*(1), 8–21. doi:10.1177/0022022118798513

Sinha, D., & Tripathi, R. C. (1994). Individualism in a collectivist culture: A case of coexistence of opposites.

Siu, A. M. H., & Shek, D. T. L. (2010). Social problem solving as a predictor of well-being in adolescents and young adults. *Social Indicators Research, 95*, 393-406. doi: 10.1007/s11205-009-9527-5

Smith, B. H., & Low, S. (2013). The role of social-emotional learning in bullying prevention efforts. *Theory Into Practice, 52*(4), 280-287.

Straus, M. A. (1979). Measuring intrafamilial conflict and violence: The Conflict Tactics (CT) Scales. *Journal of Marriage and the Family*, *41*, 75-88.

Straus, M. A., Hamby, S. L., Boney-McCoy, S., & Sugarman, D. B. (1996). The Revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues, 17*(3), 283-316.

Sue, D. W., & Sue, D. (1977). Barriers to effective cross-cultural counseling. *Journal of counseling psychology, 24*(5), 420-429.

Tabachnick, B. G., & Fidell, L. S. (2007). Using multivariate statistics (5th ed.). Boston: Allyn and Bacon.

Terry, D. J. (1993). Self-efficacy expectancies and the theory of reasoned action. In D. J. Terry, C. Gallois, & M. McCamish (Eds.), *The theory of reasoned action: Its application to AIDs-preventive behavior* (pp. 135–151). Oxford: Pergamon.

Tinsley, C. H., & Brett, J. M. (2001). Managing workplace conflict in the United States and Hong Kong. *Organizational behavior and human decision processes, 85*(2), 360-381.

Tucker, C. J., McHale, S. M., & Crouter, A. C. (2003). Conflict resolution: Links with adolescents' family relationships and individual well-being. *Journal of Family Issues, 24*, 715-736.

Van Doorn, M., Branje, S., VanderValk, I, De Goede, I., & Meeus, W. (2011). Longitudinal spillover effects of conflict resolution styles between adolescent-parent relationships and adolescent friendships. *Journal of Family Psychology, 25*(1), 157-161. doi:10.1037/a0022289

Walley-Jean, J. C. (2009). Debunking the myth of the "angry Black woman": An exploration of anger in young African American women. *Black Women, Gender & Families, 3*(2), 68-86.

Wang, L., Wang, W., Gu, H., Zhan, P., Yang, X., & Barnard, J. (2014). Relationships among teacher support, peer conflict resolution, and school emotional experiences in adolescents from Shanghai. *Social Behavior and Personality: an international journal, 42*(1), 99-113. doi:10.2224/sbp. 2014.42.1.99

Webster-Stratton, C. & Hammond, M. (1999). Marital conflict management skills, parenting styles, and early-onset conduct problems: Processes and pathways. *Journal of Child Psychology and Psychiatry, 40*(6), 917-927.

Whitaker, K., M., Wilcox, S., Liu, J., Blair, S. N., & Pate, R. R. (2016). Pregnant women's perceptions of weight gain, physical activity, and nutrition using Theory of Planned Behavior constructs. *Journal of Behavioral Medicine, 39*(41), 41-54.

Yarcheski, A., Mahon, N. E., Yarcheski, T, J. (2011). Stress, hope, and loneliness in young adolescents. *Psychological Reports, 108*(3), 919-922.

Zacchilli, T. L., Hendrick, C., & Hendrick, S. S. (2009). The romantic partner conflict scale: A new scale to measure relationship conflict. *Journal of Social and Personal Relationships, 26*(8), 1073-1096.

Zhang, H., Chang, K., Zhang, F., Greenberger, E., & Chen, C. (2011). Mental health problems and coping styles of urban and rural high school students in China. *Journal of Community Psychology*, *39,* 1019-1030.

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment, 52*, 30–41. doi:10.1207/s15327752jpa5201_2

Zins, J. E., & Elias, M. J. (2007). Social and emotional learning: Promoting the development of all students. *Journal of Educational and Psychological Consultation*, *17*(2-3), 233 255.

APPENDIX A
65-ITEM CMSBS– ATTITUDINAL BELIEFS

Directions: Think about how helpful it is for you to do the following when you and a close friend are mad or upset with each other.

	Very Unelpful	Somewhat Unelpful	Neither Helpful nor Unhelpful	Somewhat Helpful	Very Helpful
Pointing out things a close friend is saying that I agree with (even if I don't agree with all of their side)	1	2	3	4	5
Admitting to a close friend when I'm wrong	1	2	3	4	5
Telling a close friend I was wrong for something I said or did	1	2	3	4	5
Acknowledging how they feel	1	2	3	4	5
Trying to understand their side of the story	1	2	3	4	5
Really listening to what they're trying to say	1	2	3	4	5
Trying to work something out we can both agree on	1	2	3	4	5
Telling them the parts of what they're saying that I agree with	1	2	3	4	5
Telling them my side of the story	1	2	3	4	5
Taking a break, then coming back to continue talking about the problem	1	2	3	4	5
Saying something mean to get my point across	1	2	3	4	5
Telling them they're always getting mad	1	2	3	4	5
Walking away because I can't deal with it	1	2	3	4	5
Ignoring what they're saying	1	2	3	4	5
Changing the subject	1	2	3	4	5
Not telling my side of the story	1	2	3	4	5
Not sticking up for myself	1	2	3	4	5
Telling them we should just forget the whole thing	1	2	3	4	5
Letting them know I would like to take a break and come back when I'm calm	1	2	3	4	5
Trying to make sure the other person wants to be my friend after the argument	1	2	3	4	5
Telling them directly what I'm mad about	1	2	3	4	5

APPENDIX B
65-ITEM CMSBS – CONTROL BELIEFS

Directions: Think about how easy or hard it is for you to do the following when you and a close friend are mad or upset with each other.

	Very Hard for me to do	Somewhat Hard for me to do	Neither easy nor hard for me to do	Somewhat easy for me to do	Very easy for me to do
Listening to what a close friend has to say	1	2	3	4	5
Trying to understand what a close friend is saying	1	2	3	4	5
Even when angry, asking how what I did made them feel	1	2	3	4	5
Even when I'm upset, trying to understand my close friend's side of the story	1	2	3	4	5
Even when mad, trying to work something out that my close friend and I can agree on	1	2	3	4	5
Trying to find middle ground with a close friend I'm upset with	1	2	3	4	5
Telling a close friend they hurt my feelings	1	2	3	4	5
Even when angry, trying to "work it out" with a close friend	1	2	3	4	5
Talking through why we're both mad	1	2	3	4	5
Saying sorry for something I said	1	2	3	4	5
Directly telling a close friend what I'm mad about	1	2	3	4	5
Saying something I didn't mean when I'm angry at a close friend	1	2	3	4	5
Changing the subject when I'm mad at a close friend	1	2	3	4	5
Telling a close friend I'm mad at that I want to (physically) hurt them	1	2	3	4	5
Telling a close friend to just "forget about the argument"	1	2	3	4	5
Avoiding a friend when I know they are mad at me	1	2	3	4	5
Getting away from an argument with a good friend	1	2	3	4	5
Telling a good friend that something they are mad about is not a big deal	1	2	3	4	5

Taking a break, then coming back to continue talking	1	2	3	4	5
Admitting to a close friend how I might have been wrong	1	2	3	4	5
Not looking at a close friend when they're trying to talk to me	1	2	3	4	5
Pretending like I don't care about what they're saying	1	2	3	4	5

APPENDIX C
65-ITEM CMSBS – NORMATIVE BELIEFS

Directions: What do your closest friends do when they are mad or upset with a good friend?

	None of my friends do this	Very few of my friends do this	About half of my friends do this, and half don't	Most of my friends do this	All of my friends do this
Listen to the other person's side of the argument	1	2	3	4	5
Listen to why the other person is mad	1	2	3	4	5
Listen when the other person is speaking	1	2	3	4	5
Try to understand the other person's viewpoint	1	2	3	4	5
Try to work something out	1	2	3	4	5
Try to figure what both people can do to feel better	1	2	3	4	5
Try to meet in the middle	1	2	3	4	5
Take a break if they are too angry or upset, then come back to try to figure it out	1	2	3	4	5
Let the other person know how they feel	1	2	3	4	5
Speak up about their side of the argument	1	2	3	4	5
Let their friend know when they're mad	1	2	3	4	5
Call the other person mean names	1	2	3	4	5
Put the other person down	1	2	3	4	5
Walk away when they are mad, and not come back	1	2	3	4	5
Ignore the other person	1	2	3	4	5
Not listen to the other person	1	2	3	4	5
Stop being friends with the other person	1	2	3	4	5
Take a break to calm down, then coming back to talk it through	1	2	3	4	5
Try to say something so the other person will still "like" them when the fight is over	1	2	3	4	5

Admit to their close friend how they might have been wrong	1	2	3	4	5
Avoid talking about the fight by changing the subject	1	2	3	4	5
Pretend like they don't care what the other person is saying	1	2	3	4	5

APPENDIX D
49-ITEM CMSBS – ATTITUDINAL BELIEFS

Directions: Think about how helpful it is for you to do the following when you and a close friend are mad or upset with each other.

	Very Unelpful	Somewhat Unelpful	Neither Helpful nor Unhelpful	Somewhat Helpful	Very Helpful
Pointing out things a close friend is saying that I agree with (even if I don't agree with all of their side)	1	2	3	4	5
Admitting to a close friend when I'm wrong	1	2	3	4	5
Telling a close friend I was wrong for something I said or did	1	2	3	4	5
Acknowledging how they feel	1	2	3	4	5
Trying to understand their side of the story	1	2	3	4	5
Really listening to what they're trying to say	1	2	3	4	5
Trying to work something out we can both agree on	1	2	3	4	5
Telling them the parts of what they're saying that I agree with	1	2	3	4	5
Telling them my side of the story	1	2	3	4	5
Telling them they're always getting mad	1	2	3	4	5
Walking away because I can't deal with it	1	2	3	4	5
Ignoring what they're saying	1	2	3	4	5
Changing the subject	1	2	3	4	5
Not telling my side of the story	1	2	3	4	5
Not sticking up for myself	1	2	3	4	5
Telling them we should just forget the whole thing	1	2	3	4	5

APPENDIX E
49-ITEM CMSBS – CONTROL BELIEFS

Directions: Think about how easy or hard it is for you to do the following when you and a close friend are mad or upset with each other.

	Very Hard for me to do	Somewhat Hard for me to do	Neither easy nor hard for me to do	Somewhat easy for me to do	Very easy for me to do
Even when angry, asking how what I did made them feel	1	2	3	4	5
Even when I'm upset, trying to understand my close friend's side of the story	1	2	3	4	5
Even when mad, trying to work something out that my close friend and I can agree on	1	2	3	4	5
Trying to find middle ground with a close friend I'm upset with	1	2	3	4	5
Telling a close friend they hurt my feelings	1	2	3	4	5
Even when angry, trying to "work it out" with a close friend	1	2	3	4	5
Talking through why we're both mad	1	2	3	4	5
Saying sorry for something I said	1	2	3	4	5
Directly telling a close friend what I'm mad about	1	2	3	4	5
Saying something I didn't mean when I'm angry at a close friend	1	2	3	4	5
Changing the subject when I'm mad at a close friend	1	2	3	4	5
Telling a close friend to just "forget about the argument"	1	2	3	4	5
Avoiding a friend when I know they are mad at me	1	2	3	4	5
Getting away from an argument with a good friend	1	2	3	4	5
Telling a good friend that something they are mad about is not a big deal	1	2	3	4	5
Admitting to a close friend how I might have been wrong	1	2	3	4	5

APPENDIX F
49-ITEM CMSBS SCALE – NORMATIVE BELIEFS

Directions: What do your closest friends do when they are mad or upset with a good friend?

	None of my friends do this	Very few of my friends do this	About half of my friends do this, and half don't	Most of my friends do this	All of my friends do this
Listen to the other person's side of the argument	1	2	3	4	5
Listen to why the other person is mad	1	2	3	4	5
Listen when the other person is speaking	1	2	3	4	5
Try to understand the other person's viewpoint	1	2	3	4	5
Try to work something out	1	2	3	4	5
Try to figure what both people can do to feel better	1	2	3	4	5
Try to meet in the middle	1	2	3	4	5
Take a break if they are too angry or upset, then come back to try to figure it out	1	2	3	4	5
Let the other person know how they feel	1	2	3	4	5
Speak up about their side of the argument	1	2	3	4	5
Let their friend know when they're mad	1	2	3	4	5
Call the other person mean names	1	2	3	4	5
Put the other person down	1	2	3	4	5
Walk away when they are mad, and not come back	1	2	3	4	5
Ignore the other person	1	2	3	4	5
Not listen to the other person	1	2	3	4	5
Stop being friends with the other person	1	2	3	4	5
Take a break to calm down, then coming back to talk it through	1	2	3	4	5
Try to say something so the other person will still "like" them when the fight is over	1	2	3	4	5

Admit to their close friend how they might have been wrong	1	2	3	4	5
Avoid talking about the fight by changing the subject	1	2	3	4	5
Pretend like they don't care what the other person is saying	1	2	3	4	5

APPENDIX G

DISCARDED ITEMS FROM ORIGINAL 100-ITEM CMSBS (FACTOR LOADING)

Control Beliefs:
Repeating back some of what a close friend said (.416)
Saying back part of why I think a close friend may be mad (.431)
Even when upset, asking sincere questions (.359)
Telling a close friend I was wrong for some things I said
Telling my side of the disagreement with a close friend (.489)
Speaking up to a close friend about what's bothering me is (.715)
Expressing how I feel about what a close friend said or did (.133)
Telling a close friend to just "forget about the argument" (.322)

Attitudinal Beliefs:
Saying back parts of their perspective (.349)
Checking to see if I'm understanding them right (.389)
Listening to why they're mad at me (.740)
Talking about how to help (.762)
Telling them they hurt my feelings (.627)
Trying to solve our disagreement (.729)
Trying to find a way to repair the fight in the middle of being mad (-.57)
Speaking up about how I feel (.555)
Telling them how I feel (.674)
Calling them a mean name (reverse scored)
Cursing at them (.636) (reverse scored)
Spreading rumors about them to other people (.618)
Threatening to hit them (.747)
Punching them (.74)
Telling them it's their fault we're arguing (.781)
Telling them the mean things they're saying about me are true (.316)
Believing the mean things they're saying about me are true (.59)
Telling them I'm sorry when I'm not (.627)
Even when upset, asking sincere questions (.361)

Normative Beliefs
Admit their feelings are hurt (.492)
Speak up about their side of the story (.498)
Speak up about their side of the argument (.597)
Let their friend know when they're mad (.574)
Asking how they feel (.663)
Letting them know my side of our disagreement (.666)
Be straightforward about why they are mad (.476)
Yell at their friend when they are mad or upset (.419) (reverse scored)

APPENDIX H

THE CONFLICT RESOLUTION STYLE INVENTORY – ADOLESCENT VERSION, SELF

Directions: Using the scale 1= Never to 5 = Always, rate how often YOU use the following skills to deal with your friends when you are mad or upset with each other.

Items		You				
		Never				Always
1	Launching personal attacks *(Lanzar ataques personales)*	1	2	3	4	5
2	Focusing on the problem at hand *(Centrarse en el problema en cuestión)*	1	2	3	4	5
3	Remaining silent for long periods of time*(Permanecer en silencio durante largos períodos de tiempo)*	1	2	3	4	5
4	Exploding and getting out of control *(Enfadarse y perder el control)*	1	2	3	4	5
5	Sitting down and discussing differences Constructively *(Sentarse y hablar de las diferencias de manera constructiva)*	1	2	3	4	5
6	Reaching a limit, ''Shutting down'', and refusing to talk any further *(Llegar al límite, ''cerrarse'', y negarse a hablar más)*	1	2	3	4	5
7	Getting carried away and saying things that aren't meant *(Dejarse llevar y decir cosas que no se quieren mencionar)*	1	2	3	4	5
8	Finding alternatives that are acceptable to each of us *(Encontrar alternativas que sean aceptables para los dos)*	1	2	3	4	5
9	Tuning the other person out *(Dejar de hacer caso a la otra persona)*	1	2	3	4	5
10	Not defending one's position *(No defender la propia opinión)*	1	2	3	4	5
11	Throwing insults and digs *(Lanzar insultos y pullas)*	1	2	3	4	5
12	Negotiating and compromising *(Negociar y asumir compromisos con el/la otro/a)*	1	2	3	4	5
13	Withdrawing, acting distant and not interested *(Encerrarse en uno mismo actuando de forma distante)*	1	2	3	4	5

APPENDIX I
CONFLICTALK

Directions: Rate each phrase on a scale of 1 to 5 indicating if you (1) "never say things like this" or (5) "almost always say things like this":

1. Can't you see how stupid you are?

1 2 3 4 5
Never say things like this Almost always say things like this

2. I'm not good at this. I just don't know how to make you feel better.

1 2 3 4 5
Never say things like this Almost always say things like this

3. What's going on? We need to talk

1 2 3 4 5
Never say things like this Almost always say things like this

4. I'm no help to you, I never know what to say.

1 2 3 4 5
Never say things like this Almost always say things like this

5. We need to fix this.

1 2 3 4 5
Never say things like this Almost always say things like this

6. I wish we could just avoid the whole thing.

1 2 3 4 5
Never say things like this Almost always say things like this

7. Let's talk about this and find an answer.

1 2 3 4 5
Never say things like this Almost always say things like this

8. Shut up! You're wrong! I'm not going to listen.

1 2 3 4 5
Never say things like this Almost always say things like this

9. It's your fault! And, I'm never going to help you.

1 2 3 4 5
Never say things like this Almost always say things like this

10. You will do as I say; I'm going to make you!

1 2 3 4 5
Never say things like this Almost always say things like this

11. It will work if we work together.

1 2 3 4 5
Never say things like this Almost always say things like this

12. We will work this thing out.
1 2 3 4 5
Never say things like this Almost always say things like this

13. Okay, I give up, whatever you want.
1 2 3 4 5
Never say things like this Almost always say things like this

14. I don’t want to do this anymore, let’s quit and leave it alone.
1 2 3 4 5
Never say things like this Almost always say things like this

15. This isn’t going anywhere, let’s just forget the whole thing, okay?
1 2 3 4 5
Never say things like this Almost always say things like this

16. If you won’t do it, forget you; I’ll just ask someone else.
1 2 3 4 5
Never say things like this Almost always say things like this

17. We need to figure out what the problem is together.
1 2 3 4 5
Never say things like this Almost always say things like this

18. You can’t do anything. Get out of my way and let me do it.
1 2 3 4 5
Never say things like this Almost always say things like this

APPENDIX J
MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT

Directions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you **Very Strongly Disagree**
Circle the "2" if you **Strongly Disagree**
Circle the "3" if you **Mildly Disagree**
Circle the "4" if you are **Neutral**
Circle the "5" if you **Mildly Agree**
Circle the "6" if you **Strongly Agree**
Circle the "7" if you **Very Strongly Agree**

1.	There is a special person who is around when I am in need.	1	2	3	4	5	6	7	SO
2.	There is a special person with whom I can share my joys and sorrows.	1	2	3	4	5	6	7	SO
3.	My family really tries to help me.	1	2	3	4	5	6	7	Fam
4.	I get the emotional help and support I need from my family.	1	2	3	4	5	6	7	Fam
5.	I have a special person who is a real source of comfort to me.	1	2	3	4	5	6	7	SO
6.	My friends really try to help me.	1	2	3	4	5	6	7	Fri
7.	I can count on my friends when things go wrong.	1	2	3	4	5	6	7	Fri
8.	I can talk about my problems with my family.	1	2	3	4	5	6	7	Fam
9.	I have friends with whom I can share my joys and sorrows.	1	2	3	4	5	6	7	Fri
10.	There is a special person in my life who cares about my feelings.	1	2	3	4	5	6	7	SO
11.	My family is willing to help me make decisions.	1	2	3	4	5	6	7	Fam
12.	I can talk about my problems with my friends.	1	2	3	4	5	6	7	Fri

Note: The items tended to divide into factor groups relating to the source of the social support, namely family (Fam), friends (Fri) or significant other (SO).

APPENDIX K
DEMOGRAPHIC DATA COLLECTED FROM PRE-PILOT STUDY

Data from the pre-pilot study comes from 46 children, between the ages of 14 and 18. Ethnicities reported are as follows: African American (5%), Latino/a (5%), Native American (50%), White (32.5%), and Other (7.5%). The adolescents were all in grades 10, 11, and 12 and there was equal distribution between the grades. Thirty-two adolescents reported using texting, with 7 reporting not using texting. Thirty-five adolescents engage in communication with their friends through social media, and five either reported they do not or did not respond.

Twenty-one point four percent of the adolescents in the pre-pilot live with both biological parents, 38.1% live with one biological parent, 16.7% live with other relative(s), 2.4% live with foster parents (non-relative), and 14.3% live with one biological parent and one step-parent. Three participants did not respond to the question regarding family situation, comprising 7.1% missing responses for this inquiry. Family income was assessed via “Please check the statement that you feel best describes your family’s economic situation”. Two participants did not respond, comprising 4.8% of the sample missing from this data point. Two-point four percent of the participants endorsed “we do not have much money at all; we have trouble making ends meet”; 38.1% endorsed “we do okay, but money is tight”; 35.7% endorsed “we live comfortably and my family usually has more money than we need to get by”, and 19% endorsed “I don’t know what my family’s financial situation is”.

APPENDIX L

THEORY OF PLANNED BEHAVIOR MODEL