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Valentina Bruk Lee
University of South Florida

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Measuring Social Stressors in Organizations: The Development of the Interpersonal
Conflict in Organizations Scale (ICOS)

by

Valentina Bruk Lee

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
Department of Psychology
College of Arts and Sciences
University of South Florida

Major Professor: Paul E. Spector, Ph.D.
Ellis Gesten, Ph.D.
Peter Rentos, Ph.D.
Kristen Salomon, Ph.D.
Joseph Vandello, Ph.D.

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Measuring Social Stressors in Organizations: The Development of the Interpersonal Conflict in Organizations Scale (ICOS)

Valentina Bruk Lee

ABSTRACT

Interpersonal conflict in organizations has been recognized as a leading social stressor across occupations with detrimental effects on employee well-being and organizational outcomes. However, reliable and valid measures of conflict are scarce and even the most widely used scales are limited by weaknesses in construct definition. In order to address the need for an improved measurement tool, the 63-item Interpersonal Conflict in Organizations Scale (ICOS) was developed. The ICOS was based on a comprehensive conceptualization of conflict that defines the construct on the basis of three definitional components: disagreement, interference, and negative emotion (Barki & Hartwick, 2004). In addition, the ICOS reliably measures four conflict types, including task outcome, task process, relationship, and non-task organizational conflict.

Data were collected in two phases. The phase I sample included 126 participants from a variety of occupations whose data were used for the purpose of refining the scale. The scale validation (phase II) sample consisted of 260 full-time employees, who were also representative of various occupations. Initial validity results supported significant relationships with various organizational and personal outcome variables, including depression, job satisfaction, somatic symptoms, negative emotions, turnover intentions, counterproductive work behaviors, and cardiovascular disease risk factors. Factor

analytic results for the four subscales, as well as, evidence for convergent validity are reported. Overall, the ICOS is a promising new measure of conflict that offers researchers the flexibility of assessing various types of conflict while addressing the conceptual limitations of existing scales.

Chapter One

Introduction

The impact of occupational stress on the health, safety, and well-being of employees has received significant attention from researchers across a variety of disciplines. In fact, the National Institute for Occupational Safety and Health (NIOSH) recognized occupational stress as a major workplace hazard with potential physical and psychological outcomes. A number of models exist to explain the process whereby job stress affects employees (see Jex, 1998, for a review). Occupational stress models differentiate between two main types of variables: Stressors and strains. Stressors are the perceived or objective environmental characteristics that may elicit a response from an employee. Strains, on the other hand, refer to the negative responses employees may experience when faced with a stressor and may be categorized as psychological/affective, physical, or behavioral (Jex & Beehr, 1991).

The most commonly studied stressors have been workload and role stressors, such as role conflict, role ambiguity, and role overload (Kahn, Wolf, Quinn, Snoek, & Rosenthal, 1964). However, an increasing number of occupational stress researchers have shifted their focus to stressors resulting from the social work environment, such as interpersonal conflict at work. This social stressor has been shown to have a detrimental impact on the emotional and psychological well-being of employees, as well as, a direct relationship with outcomes of organizational importance (De Dreu & Weingart, 2003;

Spector & Jex, 1988). Furthermore, conflict at work is recognized as a leading source of stress for workers across occupations, cultures, and age groups, thus its importance is generalized to a wide population of employees (Bolger, DeLongis, Kessler & Schilling, 1989; Keenan & Newton, 1985; Narayanan, Menon & Spector, 1999a). Nevertheless, measurement weaknesses have limited our understanding of this social stressor.

Consequently, the purpose of this research was to develop and validate the Interpersonal Conflict in Organizations Scale (ICOS). This paper will first review the literature on the personal and organizational outcomes associated with this social stressor. A discussion of the methodological issues facing the measurement of conflict and the deficiencies in construct conceptualization will follow. Last, the results of the scale development and validation of the ICOS will be presented.

The Prevalence of Interpersonal Conflict at Work

A diary study by Bolger et al., (1989) provided evidence for the importance of interpersonal relationships at work. The researchers found that interpersonal conflicts were considered the most upsetting stressor by a sample of married couples who were asked to report work and non-work sources of stress. Smith and Sulsky (1995) reported that 25% of respondents in a large sample of employees from a wide range of occupations considered interpersonal issues to be the most vexing stressors at work. In addition, negative social interactions with others at work accounted for three-fourths of all work situations that employees described as detrimental (Schwartz & Stone, 1993). Hahn (2000) asked participants, who were representative of a full time working sample in a variety of occupations, to record the number of conflicts they experienced at work and

to describe the occurrence. Content analysis of the data showed that respondents recorded interpersonal stressors on 50% of their workdays.

Keenan and Newton (1985) also used an open-ended method to assess stress among young engineers. Respondents completed the Stress Incident Record (SIR) by recording critical events that they considered stressful. Among the incidents reported, 74% were social in nature, such that they were caused by social interactions with superiors, subordinates, or colleagues. As expected, one of the most cited stressors was interpersonal conflict at work. Narayanan et al. (1999b) also used the SIR in a study that asked respondents from clerical, sales, and academic groups to report an incident that occurred within the past month and which was considered to be stressful. Interpersonal conflict was the most reported stressor for both the academic and sales groups. Gender analysis showed that women in the sales and academic groups reported interpersonal conflict as the leading source of stress while men reported it to be the second most important stressor. Further, the clerical group reported conflict to be the third major source of stress among a total of nine potential sources.

Kandel, Davies, and Raveis (1985) studied stress for women in the marital, occupational, and household roles. The occupational role was found to be one of the most stressful roles for women and a factor analysis of the data revealed seven sources of stress associated with it. Two of the sources were interpersonal in nature. Regression analyses indicated that interpersonal conflict was the strongest predictor of a measure of overall stress for the occupational role. Psychological well-being was also shown to be more strongly affected by interpersonal conflicts than by any other situational characteristic, such as the noxiousness of the work environment. Depersonalization,

which was measured with items similar to those found in widely used scales of interpersonal conflict at work, was also found to be the leading stressor in the occupational role of men and women (Pearlin, 1980).

Further evidence supports the notion that this stressor is among the most cited across occupations and cultures. Taylor and Daniel (1987) examined the sources of stress among soccer referees using the Soccer Official's Stress Survey and found that interpersonal conflict and peer conflict were two of the five stress factors that emerged from the data. Rainey's (1995) factor analysis of stress data gathered from a sample of baseball and softball umpires also included interpersonal conflict as one of four factors. Similarly, Stewart and Ellery (1998) examined the sources of stress among high school volleyball officials and indicated that interpersonal conflict was one of four factors that emerged from the data as significant sources of stress.

Cross-cultural evidence for the prevalence of interpersonal conflict at work as a source of significant stress has also been found. Narayanan et al. (1999a) reported that interpersonal conflict was the third most cited source of stress in a U.S. sample and the fourth most cited source of stress in an Indian sample. Respondents in both samples consisted of clerical workers and eleven possible stressor categories were considered. In this study, role stressors traditionally studied in occupational stress were the least reported sources of stress. Liu (2002) found that Chinese faculty reported experiencing significantly more overall interpersonal conflict and conflict with supervisors than American faculty did. Furthermore, the levels of interpersonal conflict among university support staff in the two countries did not differ, providing evidence for the presence of this stressor across cultures (Liu, 2002).

Social Stressors: The Outcomes of Interpersonal Conflict at Work

Two streams of research emerge from the conflict literature. One is focused on the styles of conflict management or resolution while the other is focused on measuring the level or occurrence of interpersonal conflict. The latter is the focus of this research as it fits into the occupational stress literature and is concerned with the frequency and consequences of employee conflict.

Researchers have found that the experience of interpersonal conflicts in the workplace is associated with personal and organizational outcomes. Variables of organizational importance that have received attention include job satisfaction, turnover intentions, counterproductive work behaviors, organizational commitment, and performance (Fox, Spector, & Miles, 2001; Spector & Jex, 1998). Meanwhile, the impact of conflict at work on employee health and well-being has been reported to result in depression, negative emotional states, psychosomatic complaints, life dissatisfaction, burnout, and psychiatric morbidity (Dormann & Zapf, 1999, 2002; Frone, 2000).

Social Stressors and Personal Well-Being

Depression is a psychological strain that has been widely reported in studies of interpersonal conflict at work. Dormann and Zapf (1999, 2002) found that increased social stress, as indicated by conflict, led to higher levels of depressive symptoms. The earlier study was a three wave longitudinal study, which showed that social stressors in all three waves of data were positively related to depression ($r=.14-.26$). The latter study provided support for Mohr's (1986) stress model and indicated a direct and mediated path between conflict and depressive symptoms. Bolger et al. (1989) concluded that interpersonal conflicts accounted for more than 80% of the variance in daily mood, which

was assessed by a measure of anxiety, hostility, and depression. They concluded that it was the most important stressor influencing psychological distress. A study by Frone (2000) also found support for a positive relationship between interpersonal conflict and depression. The study differentiated between conflict with supervisors and with coworkers based on Fiske's (1992) model of social relations. The results indicated that conflict with coworkers was positively related to depression ($r=.31$), which was assessed by various dimensions of depressive symptoms, including depressed mood, feelings of hopelessness, and sleep disturbance. Heinisch and Jex (1997) also reported a similar correlation between conflict and depression in a study of the moderating effects of gender and personality on the stress-depression relationship. Furthermore, meta-analytic findings of 13 studies supported a positive correlation between conflict and depression in the mid .30s (Spector & Jex, 1998).

Negative affective reactions to conflict at work have been reported by a number of studies. Keenan and Newton (1985) reported that anger, annoyance, and frustration were the most frequently cited emotions reported by their sample of engineers, who ranked interpersonal conflicts as one of the most commonly experienced work stressors. Similarly, Narayanan et al. (1999a,b) found that the stressors in their studies, including interpersonal conflicts at work, were associated with anger, annoyance, and frustration for three occupational groups. Further, a cross-cultural study showed that the most frequently cited emotional reactions by an American sample reporting interpersonal conflicts were frustration, annoyance, and anger, respectively. Hahn's (2000) diary study, which investigated the effects of locus of control on exposure and reactivity to work stressors, indicated that both internal and externals reported experiencing anxiety

and anger in response to incidents of conflict at work. However, those with an internal locus of control orientation experienced more anger than those with an external orientation. Work frustration and anxiety were also reported to be significant positive correlates of conflict at work in a longitudinal study by Spector and O'Connell (1994).

Further evidence of the affective outcomes of interpersonal conflict was presented by Spector, Dwyer, and Jex (1988) in a study with multiple data sources. Conflict was reported by incumbents to be positively correlated with anxiety and frustration. Interestingly, cross-source data using the supervisors' reports of incumbent conflict also showed a significant positive correlation with anxiety and frustration. Finally, meta-analytic findings also support a positive mean correlation in the mid .30s between conflict and anxiety, as well as, between conflict and frustration (Spector, 1997; Spector & Jex, 1998).

Fox et al. (2001) used the Job-Related Affective Well-Being Scale to obtain a negative emotion score derived from the responses to 15 items measuring various negative emotional states. The results supported a significant positive correlation ($r=.49$) between conflict and negative emotion. These findings were replicated by Spector, Fox, Goh, and Bruursema (2003) in a study that tested a model of voluntary work behaviors. Furthermore, Bruk-Lee and Spector (2006) showed that both conflict with coworkers and with supervisors was related to a measure of overall negative emotions ($r=.23-.30$) for a sample of full time working adults from a variety of occupations. The correlations remained significant even when using cross-source data, such that peer reports of conflict were correlated with self-reports of negative emotion, thus dispelling the argument that correlations may be due to common method bias.

Clearly, there is strong support for the negative affective outcomes of interpersonal conflict in the workplace. Due to research linking the experience and expression of anger to cardiovascular disease (Greenglass, 1996; Julkunen, 1996), the emotional reactions resulting from conflicts in the workplace may be of critical importance to employee health. Furthermore, the experience of negative emotional states, such as depression, has been shown to suppress human immune function (O'Leary, 1990).

As expected, interpersonal conflicts in the workplace have been associated with increased somatic complaints, which are self-reports of physical symptoms. Data from a diary study conducted by Hahn (2000) showed that participants reported more health symptoms following a conflict. Specifically, participants with an internal locus of control were more likely to report health symptoms after the occurrence of a conflict. Furthermore, Spector and Jex (1998) reported a correlation of .26 between the Physical Symptoms Inventory (PSI) and a measure of interpersonal conflict at work. Similarly, Frone (2000) found that when employees reported experiencing more conflict with their coworkers, they also reported higher levels of somatic symptoms as measured by a physical symptoms checklist.

A variety of other strains, such as burnout, life dissatisfaction, and psychiatric morbidity have also been reported in response to interpersonal conflict at work. Burnout refers to a feeling of emotional exhaustion that may result from the experience of stressors. Rainey (1995) tested a model of stress with a sample of sports officials and found that interpersonal conflict was the best predictor of burnout. The implications of these findings are important given the fact that burnout is associated with health

symptoms and a predictor of changes in cholesterol and triglycerides levels (Shirom, Westman, Shamai & Carel, 1997). In addition, Appelberg, Romanov, Honkasalo, and Koskenvuo (1991) conducted a study on the occupational and psychological factors associated with conflict at work using the Finish Twin Cohort. The results for both males and females indicated that employees reporting more conflict at work were also more dissatisfied with their lives and experienced more daily stress. An even more alarming finding was reported by Romanov, Appelberg, Honkasalo, and Koskenvuo (1996) in a longitudinal study using the same Finish sample. The researchers collected epidemiological follow up data in addition to health, education, psychosocial, sleep, and personality information. The follow up data included suicidal deaths, hospitalization and free medication due to psychiatric diagnoses. The results showed that employees who reported interpersonal conflicts in the last six months had a higher risk for psychiatric morbidity even after controlling for social class, mental instability, personality, alcohol consumption, health status, mental instability, marital status, and conflict with spouse. Although the results cannot establish causality, the researchers believe that “the extent to which interpersonal conflict at work can weaken an individual’s ability to solve his or her emotional problems and eventually lead to mental disease seems to be a crucial topic for future research and interventions in the occupational field” (Romanov et al., 1996, p. 169).

Social Stressors and Organizational Outcomes

The effects of interpersonal conflict at work are not limited to employee health and well-being, but also extend to the organization. Job satisfaction is a psychological strain traditionally studied in the occupational stress literature. Although it may also be

considered a personal outcome of social stressors, for the purpose of this review it will be treated as a variable of organizational relevance. Various studies have consistently shown a significant negative correlation between the experience of conflict at work and levels of overall job satisfaction.

Specifically, Frone (2000) reported that employees who reported more conflict with supervisors also reported lower levels of overall satisfaction with their jobs ($r=-.44$). Furthermore, a meta-analysis of 10 studies showed that the Interpersonal Conflict at Work Scale (ICAWS) correlated negatively ($r=-.32$) with job satisfaction (Spector & Jex, 1998). A similar negative correlation with job satisfaction was also reported by Spector et al. (1988) using self-report data. Last, a study testing a model of voluntary behaviors looked at the mediating role of job satisfaction in the stress process and found that conflict had a direct negative relationship with a measure of overall job satisfaction (Spector et al., 2003). These results indicate that employees who report experiencing higher levels of interpersonal conflicts at work also report lower job satisfaction.

Increased turnover intentions are also an organizational outcome resulting from the experience of interpersonal conflict at work. Given the positive relationship between turnover intentions and actual turnover, self-reports of intentions to quit are a good indicator of actual turnover (Carsten & Spector, 1987). In his study of young employees, Frone (2000) found that employees who reported more conflict with supervisors indicated higher intentions of quitting and were less committed to the organization. These findings supported the hypothesis that supervisors are viewed as a symbol of the organization and, therefore, conflict with supervisors is more likely to result in organizational consequences. Rainey (1995) reported that referees were more likely to

quit their jobs when they indicated higher levels of interpersonal conflict. Chen and Spector (1992) also found a strong positive correlation ($r=.39$) between interpersonal conflict and intentions to quit in a large sample of employees from a variety of occupations. Furthermore, the correlation between interpersonal conflict and intentions to quit was the strongest from among various job strains (Spector & Jex, 1998). These findings are also supported by research on intragroup conflict where different types of conflict result in less intention to stay with the group (Jehn, 1995).

An organizational outcome of conflict that has received considerable attention is counterproductive work behavior (CWB). These behaviors are aimed at hurting the organization and/or the individuals who are part of it. Numerous terms exist to refer to research in this area, such as deviance (Hollinger, 1986; Robinson & Bennett, 1995), organizational retaliatory behavior (Skarlicki & Folger, 1997), antisocial behaviors (Giacalone & Greenberg, 1997), and workplace aggression (Baron & Neuman, 1996). Each of these terms refers to detrimental behaviors that affect an organization's productivity and coworkers' performance. Behaviors that are considered counterproductive may include coming to work late without permission, stealing things from the workplace, aggressing against a coworker or supervisor, or taking unauthorized breaks. Murphy (1993) estimated the cost of a variety of counterproductive work behaviors to be between \$6 and \$200 billion annually in the U.S.

Chen and Spector (1992) found that conflict at work was positively related to a variety of CWB. Specifically, it was associated with more interpersonal aggression ($r=.49$), increased workplace hostility and complaining ($r=.46$), more sabotage ($r=.34$), and theft ($r=.16$). Fox et al., (2001) distinguished between CWB aimed at the

organization versus aimed at other individuals in their test of an emotion-centered model of voluntary behaviors. Their results showed direct positive relationships between conflict and both organizational and personal CWB, such that employees who reported more conflict also reported engaging in more counterproductivity. Spector et al. (2003) supported these findings by using multiple sources of data, which included self and peer reports. Self-report data provided further evidence for the positive relationship between conflict and personal CWB, but not for organizational CWB. Nevertheless, cross-source data, which used self-reports of conflict and peer reports of CWB, resulted in significant positive correlations between conflict and both organizational and personal CWB ($r=.20-.25$, respectively). Bruk-Lee and Spector (2006) also collected data from incumbents and their peers on a study of the relationship between sources of conflict and targets of CWB. The results showed a positive association between sources of conflict and CWB. Overall, employees who reported experiencing more conflict at work also reported engaging or were reported to have engaged in more CWB against the organization and other employees.

Business research has focused on the impact of intragroup conflict, which occurs within the group, on group level outcomes. Specifically, research on intragroup conflict has studied its effect on group performance and intragroup satisfaction. Although the unit of analysis for some of these studies is at the group level, the findings are very relevant to the current research because the conflict within groups remains interpersonal in nature. Furthermore, this area of research has distinguished between relationship and task conflict. Researchers have defined relationship conflict as conflicts caused by interpersonal differences among group members while task conflict refers to

disagreements related to the task being performed (Jehn, 1995). There has been a tendency in recent literature to classify relationship conflict as detrimental to group performance and satisfaction, while treating task conflict as beneficial to organizational functioning. Results, however, are mixed. Jehn (1995, 1997) conducted qualitative and quantitative research investigating the effects of task and relationship conflict on group performance and satisfaction using 26 management teams and 79 work groups. Her quantitative findings showed that employees reporting higher levels of intragroup relationship conflict indicated lower group satisfaction, however, there was no relationship between relationship conflict and group performance. Task conflict also showed a negative relationship with group satisfaction, but the results with performance were more complex. For groups performing non-routine work, task conflict was often found to be beneficial. However, this was not the case for groups with routine tasks, which could not deviate from their standardized procedures to resolve a task conflict. Therefore, it was concluded that outcomes resulting from the resolution of disagreements caused by task conflict could be beneficial for organizations due to the stimulation of new ideas which may lead to improved decision quality. Qualitative data on six work units indicated that low performance groups had higher levels of relationship conflict than did high performing groups. On the other hand, high performing groups had higher levels of task conflict than did low performing groups. Furthermore, how important were the perceived consequences of the conflict served a key role on the impact of the conflict on performance, such that it enhanced the positive or negative effects of task and relationship conflict, respectively.

Decision quality has also received attention in the conflict literature and may be treated as an indicator of group performance. It has been argued that task conflict results in better decisions and decision quality whereas relationship conflict acts as a hindrance (Amason, 1996; Simons & Peterson, 2000). The results of a meta-analysis, however, contradict the findings described above. De Dreu and Weingart (2003) concluded that conflict, regardless of the type, is detrimental to both team performance and team satisfaction. The average correlations between conflict and team satisfaction were $-.32$ (task) and $-.54$ (relationship). Furthermore, the average correlations between conflict and team performance were $-.23$ (task) and $-.22$ (relationship). These relationships remained negative even after moderator models, including the routine level of jobs, were tested.

Methodological Issues

Given the evidence above, it is clear that interpersonal conflict is a leading stressor in organizations and, consequently, of great importance to researchers of job stress. Furthermore, its relationship with numerous outcomes makes it a variable of critical importance at both the personal and organizational level. Nevertheless, a concise definition of conflict is lacking across studies and disciplines. In fact, researchers often fail to define conflict as it is measured in their studies or provide definitions that differ from one study to another. For example, conflict has been described as a “relationship in which a sequence of conditions and events moves toward aggressive behavior and disorder” (Ware & Barnes, 1992, p. 213) or as a “situation in which two individuals disagree about issues, actions, or goals and joint outcomes become important” (Gordon, 1999, p.275) among many other definitions. Furthermore, psychometrically sound measures of the occurrence of interpersonal conflict are scarce. Often, measures are

created for the purpose of the study, evidence for the validity or reliability of the scales is not presented or lacking, or present an incomplete conceptualization of the construct. For example, the Interpersonal Conflict at Work Scale (ICAWS; Spector & Jex, 1998) is a four item summated rating scale that is intended to assess the frequency of occurrence of different conflicting situations (i.e., “how often do others do nasty things to you?”).

Although the ICAWS has been shown to be a valid tool using a meta-analytic approach and its internal consistency is satisfactory, it is based on a narrow conceptualization of the construct of interpersonal conflict. Mainly, three of the items ask about situations where the respondent is simply a passive receiver of the action, thus suggesting that conflict is a one-way exchange. However, this is not consistent with the widely used definitions of interpersonal conflict, which emphasize the role of at least two parties and that underline the two-way interaction necessary for a situation to be labeled as conflicting (Barki & Hartwick, 2001; Fink, 1968). Moreover, the ICAWS seems to be more consistent with items that are intended to assess the construct of incivility defined as “low intensity deviant behavior with ambiguous intent to harm the target in violation of workplace norms for mutual respect” (Pearson, Andersson, & Porath, 2004). Incivility is consistent with the idea of the passive receiver or workplace victim that is implied in the ICAWS items.

Another widely used measure of conflict is Jehn’s (1995) scale of relationship and task based conflict. The scale was designed to measure intragroup conflict. Factor analytic data supports the two-dimensional model of conflict the scale is intended to measure and studies report good reliability coefficients (Simons & Peterson, 2000; Amason, 1996). However, Jehn’s (1995) scale primarily measures only one of three

components of conflict, namely disagreement (i.e., “to what extent are there differences in opinion in your work unit?). For example, task conflict refers to disagreements or differing points of views that revolve around the completion or implementation of a task. However, these disagreements may simply reflect brainstorming or an exchange of dissimilar ideas that would not necessarily be considered conflict by the parties involved or an objective bystander. In fact, to consider any interpersonal disagreement as conflict would suggest that research on brainstorming and conflict are the same. Further, research has indicated that items asking about disagreements load on a separate factors from items asking about conflict and that not all disagreements escalate to conflict, thus distinguishing between the two (Barki & Hartwick, 2001).

Another area of research that has investigated the impact of interpersonal conflict is that of information systems. Conflict scales tailored to the development and implementation of information systems include two scales by Barki and Hartwick (1994; 2001). One was composed of three items, which loaded on two separate factors when responses were factor analyzed. One factor was labeled disagreements while the other, containing only one item, was labeled conflict. Barki and Hartwick (2001) created a second scale to measure conflict between information system developers and users. Given their earlier findings, they assessed conflict as consisting of four properties, which included interdependence, disagreement, interference, and negative emotion. The measure was made up of 20 items that were assessed on an 11-point scale. The psychometric properties indicated good reliability and good criterion validity for the disagreement, interference, and negative emotion dimensions.

Overall, the currently used measures of interpersonal conflict suffer from one or more weaknesses. Whereas some have good psychometric properties, they may require a more careful operationalization of the construct being measured. Others do not capture all of the definitional properties of the construct under investigation. Further, some scales do not have the psychometric support that warrants their scientific use. Lastly, some conflict measures were created for use in specific settings and samples and are, thus, limited in their application to diverse settings.

Types of Interpersonal Conflict

Two main types of conflict, which were briefly described earlier, have emerged from the literature and received considerable attention: task and relationship conflict. Task conflict refers to conflict with regard to task related issues, such as differing viewpoints regarding the objectives of a work task. On the other hand, relationship conflict relates to conflict emerging from personality clashes or emotionally charged interactions with others due to issues of a personal nature. This differentiation was first made by Pinkley (1990) in a multidimensional scaling study that sought to understand the cognitive interpretations of conflict by those involved. This typology was later supported by Jehn (1994;1995), who made clear distinctions between the two types of conflict. Amason and Schweiger (1994) and Amason (1996) also made a similar distinction, however, they labeled conflict as either cognitive or affective. Cognitive conflict is “. . . functional [and] generally task oriented and focused on judgmental differences about how best to achieve common objectives” (Amason, 1996, p. 127). However, affective conflict is “when conflict is dysfunctional [and] tends to be emotional and focused on personal incompatibilities or disputes” (p. 129). Therefore, it is simple to observe the similarities

between task and cognitive conflict, as well as, between relationship and affective conflict.

The idea that a moderate amount of task conflict is functional and desirable in organizations has been a more recent focus of research in the business field (Van de Vliert & De Dreu, 1994). These studies also posit that relationship conflict is deleterious to the work environment. For example, task conflict was associated with enhanced decision quality among top management and increased understanding of the decision, while affective conflict was detrimental to decision quality (Amason, 1996). It has also been shown that task conflict is associated with the conception of new ideas, effective use of resources, task completion, and a more accurate assessment of the task (Baron, 1991; Tjosvold, Dann, & Wong, 1992; Fiol, 1994). On the other hand, relationship conflicts have a negative impact on both performance, group productivity, and satisfaction (Jehn, 1994, 1995; De Dreu & Weingart, 2003). Given these findings, it is not surprising that “the notion that task conflict may be productive and that relationship conflict is dysfunctional is strongly reflected in management teaching” (De Dreu & Weingart, 2003; p.742).

Nevertheless, various studies have reported a positive correlation between these two types of conflict, which makes the matter of encouraging task conflict while minimizing relationship conflict difficult. Simons and Peterson (2000) found that the positive correlation is weaker for groups that have high levels of intragroup trust and stronger for groups with low levels of trust. This interaction supports the argument that the positive relationship exists because task conflict leads to relationship conflict through

a misattribution of group member behavior. Under low trust, members are more likely to attribute negative intentions to the occurrence of task conflict, which in turn evolve into relationship conflict. However, Hartwick and Barki (2004) attribute the positive relationship to a weakness in the measurement of task and relationship conflict. They propose that both task and relationship conflict consist of three overlapping properties, which include negative emotion, disagreement and interference, and that these three definitional properties are positively correlated (Barki & Hartwick, 2001). Therefore, it is not surprising that task conflict, operationalized mainly as disagreements, and relationship conflict, operationalized primarily as negative emotion, would also be positively correlated.

A third less cited conflict type is process conflict (Jehn, 1997). It was defined as “conflict about how task accomplishments should proceed in the work unit, who is responsible for what, and how things should be delegated” (p. 540). Jehn (1997) suggested that process conflict was different from task conflict because the latter was traditionally studied in terms of disagreements over task outcomes. Research on process conflict, however, is very limited.

Definitional Components of Interpersonal Conflict

Barki and Hartwick (2001) proposed four definitional properties of interpersonal conflict based on the literature, which included interdependence, interference, disagreement, and negative emotion. Interdependence was defined as “exist[ing] when each party’s attainment of their goals depends, at least in part, on the actions of the other party” (p. 198). Interference represents the behavioral component of conflict in which the actions of one party interferes with the objectives of another party. Disagreement

refers to the cognitive component of conflict and “exists when parties think that a divergence of values, needs, interests, opinions, goals, or objectives exists” (p.198). Last, negative emotion taps into the affective component of conflict and refers to negative emotional states associated with the experience of conflict at work.

Barki and Hartwick (2001) tested a model in which interpersonal conflict at work was treated as a second order multidimensional variable composed of the four components described above. A 20-item measure of interpersonal conflict between information systems (IS) developers and users was created to tap into each of the components. In addition, a three item measure of conflict in general was created for the purposes of criterion validity (i.e., “how often did conflicts occur between you and the [IS staff] [users] concerning this project?”). The sample was divided into IS users and staff for purposes of cross validation. Previous to using structural equation modeling to examine the proposed model, a confirmatory factor analysis (CFA) using each of the samples was conducted. Data from the IS staff indicated that interference, disagreement, and negative emotion were positively correlated. However, interdependence was not significantly correlated with any of the other three components. Furthermore, interference, disagreement, and negative emotion all showed significant positive correlations with the overall conflict measure while interdependence did not. Data from the IS user sample also supported the previous findings. Specifically, interdependence was not significantly correlated with the other three dimensions of conflict nor with the criterion measure.

Based on these findings, interdependence was removed from the model when testing for model fit. The dimensionality of conflict was tested using structural equation

modeling and data from the IS staff sample. The results supported a second order multidimensional model of conflict with second-order factor loadings of .89 for disagreement, .93 for negative emotion, and .84 for interference. These findings were further supported using data from the IS user sample for which the second-order factor loadings were .80 for disagreement, .88 for interference, and .95 for negative emotion. The construct reliability was .88 and .91 for each sample, respectively. Additional cross validation evidence for the model was found using a multi-sample SEM analysis (Barki & Hartwick, 2001).

The results from this study served to create a framework of conflict that consists of a behavioral (interference), cognitive (disagreement), and affective (negative emotion) component. The researchers support a multiple theme perspective of conflict in which all three components must be present in order for the situation to constitute conflict (Barki & Hartwick, 2004). This perspective differs from others who conceptualize conflict in a broader sense and define it as the occurrence of interference, negative emotion, or disagreement. Another position defines conflict as the occurrence of at least two of its components (e.g., Mack & Snyder, 1957; Fink, 1968; Pondy, 1967). A third view defines conflict as exclusively disagreement, interference, or negative emotion (e.g., Jehn, 1995; Wall & Callister, 1995).

The Current Study

The goal of this study was to address the need for a construct valid and reliable measure of interpersonal conflict in organizations that is based on a comprehensive conceptualization of the construct. The current study adopted Barki and Hartwick's (2004) model, such that conflict was conceptualized as the occurrence of all three

definitional components and, as such, the ICOS assesses interference, disagreement, *and* negative emotion. Bolstering support for this perspective comes from previous research indicating that 95% of the variance in conflict was explained by the inclusion of all three components in the model (Barki & Hartwick, 2001). Given that a clear conceptualization of the construct is an essential and initial step in scale development, an adapted version of Barki and Hartwick's (2004) definition of conflict was utilized for the purposes of this research. Interpersonal conflict was defined as "a dynamic process that occurs between parties as they experience negative emotional reactions to perceived disagreements and interference with the attainment of their goals" (p.8). The condition that parties must be interdependent was omitted from the definition as previous research did not indicate support for its inclusion. Based on the definitional properties of conflict and the literature regarding different types of conflict, Barki and Hartwick's (2004) proposed a typology of conflict, which was adapted for use in the current scale development.

As seen in Table 1, the ICOS consists of four conflict subscales. At this stage of scale development it was decided that task outcome and task process conflicts would be treated as being distinct from one another. This differed from the original typology proposed by Barki and Hartwick (2004) in which both of these were classified as making up task conflict. Further, consistent with previous work, conflicts that were non-task related and of a more personal nature were categorized as encompassing relationship conflicts (Jehn, Chadwick, & Thatcher, 2000; Pinkley, 1990). Based on pilot research, a fourth type of conflict arising from non-task organizational issues (i.e, organizational policies) was also assessed. Each conflict subscale consists of items assessing all three definitional components of conflict. This differs from existing measures of conflict that

have traditionally measured only one of its components, namely disagreement, and have failed to provide a complete picture of the construct.

Table 1
Interpersonal Conflict Framework for Scale Development.

	Conflict Subscales			
	Task Outcome	Task Process	Non-task Organizational	Relationship
Disagreement	Disagreement over task outcome	Disagreement over task process	Disagreement over non-task organizational issue	Disagreement over relationship issue
Interference	Interference over task outcome	Interference over task process	Interference over non-task organizational issue	Interference over relationship issue
Negative emotion	Negative emotion resulting from task outcome disagreement and/or interference	Negative emotion resulting from task process disagreement and/or interference	Negative emotion resulting from non-task organizational disagreement and/or interference	Negative emotion resulting from relationship disagreement and/or interference

Scale Development and Validation

The scale validation process usually entails testing the hypothesized relationships between the construct of interest and its correlates (Spector, 1992). Validity for a scale may be demonstrated by indicating support for hypothesized relationships. Specifically, criterion related validity looks at the relationship between the construct of interest and

other variables, labeled criteria (Allen & Yen, 1979). Whenever possible, the hypothesized relationships are derived from theory and previous empirical findings. The literature review showed consistent support for the relationship of interpersonal conflict with various emotional, psychological, and behavioral strains. These included depressive symptoms, negative affect, somatic symptoms, job dissatisfaction, turnover intentions, and counterproductivity. However, due to the existing weaknesses in the measurement of interpersonal conflict, past research has not always differentiated between types of conflict and their relationship with specific strains. Therefore, hypotheses linking specific types of conflict to strains cannot be made based on past theory or empirical support and, hence, are exploratory in nature. The following hypotheses were developed to serve in the validation of the ICOS:

Hypothesis 1: The Interpersonal Conflict in Organizations Scale will be positively correlated with depression symptoms. Predictions regarding specific conflict subscales/depression relationships are exploratory.

Hypothesis 2: The Interpersonal Conflict in Organizations Scale will be positively correlated with a negative emotional state. It is expected that this correlation would exist for task outcome, task process, relationship, and non-task organizational conflict subscales.

Hypothesis 3: The Interpersonal Conflict in Organizations Scale will be positively correlated with somatic symptoms. Predictions regarding specific conflict subscales/somatic symptoms relationships are exploratory.

Hypothesis 4: The Interpersonal Conflict in Organizations Scale will be negatively correlated with job satisfaction. It is expected that this correlation exist for task outcome, task process, relationship, and non-task organizational conflict subscales.

Hypothesis 5: The Interpersonal Conflict in Organizations Scale will be positively correlated with intentions to quit. It is expected that this correlation exist for task outcome, task process, relationship, and non-task organizational conflict subscales.

Hypothesis 6: The Interpersonal Conflict in Organizations Scale will be positively correlated with withdrawal counterproductive work behaviors. Predictions regarding specific conflict subscales/CWB relationships are exploratory.

Hypothesis 7: The task outcome and task process conflict subscales of the ICOS will be positively correlated with Jehn's (1995) task conflict subscale, thus indicating convergent validity.

Hypothesis 8: The relationship conflict subscale of the ICOS will be positively correlated with Jehn's (1995) relationship conflict subscale, thus indicating convergent validity.

Hypothesis 9: The Interpersonal Conflict in Organizations Scale will be positively correlated with Spector and Jex's (1998) Interpersonal Conflict at Work Scale. Predictions regarding specific ICOS conflict subscales and this scale are exploratory in nature because the latter measure does not measure multiple types of conflict.

Hypothesis 10: The task outcome and task process conflict subscales will be positively correlated with the relationship conflict subscale.

Hypothesis 11: Trust will moderate the relationship between the relationship conflict subscale and both task conflict subscales, such that the relationship is weaker under high trust levels and stronger under low trust levels.

Hypothesis 12: Jehn's (1995) task conflict subscale will be positively correlated with the task disagreement subscales more strongly than with the task interference or task emotion subscales.

Hypothesis 13: Jehn's (1995) relationship conflict subscale will be positively correlated with the relationship emotion subscale more strongly than with the relationship disagreement or relationship interference subscales.

Chapter Two

Method

Data for this study were collected in two phases. Phase I was conducted for the purpose of scale refinement. Data from this phase were used to select the items for the refined version of the ICOS. Phase II data were used for final item selection, in the validation of the refined ICOS, and to test the factor structure of each of the four conflict subscales.

Participants

Phase I pilot sample. Ten participants employed full time reviewed the initial 131-item measure. Of these, five (50%) were male and five (50%) were female. Over half (60%) were White Non-Hispanic, 20% were Hispanic, 10% were Black Non-Hispanic, and 10% were Asian/Pacific Islander. On average, they were 36.8 years old and worked in their current jobs 6.2 years.

Phase I sample. Participants in this phase consisted of 126 employees representing a variety of occupations who worked an average of 41.2 hours per week (see Table 2). A total of 179 survey packets were mailed resulting in a response rate of 54.2% (N= 97) completed questionnaires. The remaining 29 participants were recruited through the participant pool in the Psychology Department at the University of South Florida. Of the total sample, 42 were male (33.3%) and 84 were female (66.7%). On average, participants were 35.9 years old and worked in their current jobs for 5.1 years. Participants were representative of a variety of racial/ethnic groups, including White non-

Hispanic (57.1%), Hispanic (23%), Black non-Hispanic (7.9%), Asian/Pacific Islander (5.6%), and other groups (6.3%).

Table 2
Breakdown of Participants by Industry Sector (Phase I; N=126)

Industry Sector	N	%
1. Communications	2	1.6
2. Education	28	22.2
3. Financial Services	11	8.7
4. Government	4	3.2
5. Hospitality	12	9.5
6. Manufacturing	4	3.2
7. Medical/Social Services	8	6.3
8. Military	1	0.8
9. Retail	9	7.1
10. Service	13	10.3
11. Technology	5	4.0
12. Other	28	22.2
Missing Data	1	0.8

Phase II sample. Participants in the validation phase consisted of a snowball sample of 260 employees from a variety of occupations who worked an average of 43.2 hours per week (see Table 3). A total of 237 employees were invited to participate and instructed to forward the invitation to other potential participants. Of the final sample, 72 were male (27.7%), 159 were female (61.2%), and 29 (11.2%) did not report their gender. The majority of the sample was white collar (80.8%). The average age of the sample was 37.1 years and the average job tenure was 7.4 years. Although 30 (11.5%) participants did not report their race, the racial/ethnic breakdown was similar to that of the sample for Phase I. Specifically, participants were White non-Hispanic (50.4%), Hispanic (27.3%), Black non-Hispanic (3.5%), Asian/Pacific Islander (1.2%), and other groups (6.2%).

Table 3
Breakdown of Participants by Industry Sector (Phase II; N=260)

Industry Sector	N	%
1. Communications	2	1.6
2. Education	48	18.5
3. Entertainment	2	0.8
3. Financial Services	21	8.1
4. Government	13	5.0
5. Hospitality	7	2.7
6. Manufacturing	9	3.5
7. Medical/Social Services	25	9.6
8. Military	1	0.4
9. Retail	4	1.5
10. Service	19	7.3
11. Technology	18	6.9
12. Other	53	20.4
Missing Data	28	10.8

Procedures

Phase I: Item Development and Scale Refinement

Pilot data collected earlier as part of a research grant was used in the item development. Sixty full time employees in a wide variety of jobs each participated in one of seven one-hour focus groups to discuss their perceptions and experiences of conflict in their jobs. Focus groups are semi-structured group interviews in which a researcher uses open-ended questions (see Appendix A) to stimulate a discussion about topic of empirical interest (Stacks & Hocking, 1999). This methodology is considered a very useful technique in conceptualizing a construct and its indicators (Pett, Lackey, & Sullivan, 2003). At the end of each focus group, participants were asked to write down two critical incidents of conflict in their workplace. For each critical incident, participants were asked to describe what led up to the incident and the context in which it occurred, exactly what happened during the conflict, the perceived consequences of the conflict, and whether or

not the consequences were within the control of the employee. A total of 117 critical incidents regarding the experience of interpersonal conflict at work were collected. Three research assistants sorted the incidents into categories, including task outcome conflict, task process conflict, relationship conflict, non-task organizational conflict, and other. Consensus was reached among raters for any incident on which they did not initially agree.

Items were developed based on the critical incidents, the qualitative data collected during the focus group sessions, and a thorough review of existing measures and items. A total of 145 scale items were written to conform to accepted standards in scale development. Four graduate students were instructed to sort the items into one of four conflict types: task outcome, task process, relationship, or non-task organizational conflict (refer to Table 4 for a definition of each). Overall there was good agreement among the raters and only 14 items on which two or more of the raters could not agree were deleted. A convenience sample of 10 employees were administered the initial items for the purpose of confirming that the instructions were clearly written, to establish the length of time necessary to complete the measure, and to identify any problems with wording or objectionable items. Open-ended comments were also requested at the end of the questionnaire. Based on the feedback received from the pilot sample six items were deleted to avoid redundancy, the interference items were reworded such that items described unidirectional behaviors, instructions were slightly modified for clarity, and the time required to complete the questionnaire was determined to be approximately 20-25 minutes. After revisions, the preliminary conflict scale consisted of 128 conflict items.

Table 4
Definitions of the Four Conflict Types Measured by the ICOS

Conflict Type	Definition
Task outcome	Conflict over the goals, objectives, and completion of a work task.
Task process	Conflict about how task accomplishments should proceed, who is responsible for what, how things should be delegated, and the procedures to follow in performing a task
Relationship	Conflict emerging from personality clashes or emotionally charged interactions with others. For example, conflict over not liking a coworker for personal reasons. These conflicts are over non-work related issues, such as social groups, rumors, and personal dislike.
Non-task organizational	Conflict emerging from issues that are not related to a specific task, but are over issues that are organizational in nature.

Survey packets containing the 134-item questionnaire (including demographics), an informational letter, a self-addressed stamped envelope, and an engraved business pen were mailed to a convenience sample of 116 participants. In addition, the most recent list of all University Support and Personnel Systems (USPS) and Administrative and Professional (A&P) employees was obtained from the University of South Florida's human resources department at the time of data collection. A random sample of 63 employees selected from the list was sent the survey packets through campus mail. The study was also posted in Experimentrak making it available for employed students to sign up for an appointment time to complete the questionnaire in person. Appointments were scheduled in groups of up to five participants and students received one extra credit for participating. All participants were instructed to complete the questionnaire with regard

to their experiences in their present job. Completed questionnaires were returned through campus mail, regular postal service, or in person depending upon the sample.

Phase II: Scale Validation

Participants in this phase were sent an invitation by electronic mail to complete the 128-item questionnaire online and encouraged to forward the invitation to other potential participants. The electronic message contained a website link to SurveyMonkey which took the employee directly to an informational letter describing the purpose of the study and instructing them to answer the questionnaire with regard to their present job. Upon completing the questionnaire, participants were given instructions to enter a raffle for an opportunity to win one of two \$50 gift cards.

Measures Phase I (See Appendix B-C)

Demographics. Information regarding the participants' age, gender (1=male, 2=female), job tenure, number of weekly work hours, race, and industry sector was collected.

Interpersonal conflict. Conflict was measured using the preliminary 128-item measure. Items could be summed to create four subscale scores. Of these, 26 were task outcome conflict items (7 disagreement, 10 interference, 9 emotion), 27 were task process conflict items (10 disagreement, 10 interference, 7 emotion), 39 were relationship conflict items (12 disagreement, 17 interference, 10 emotion), and 36 were non-task organizational conflict items (14 disagreement, 14 interference, 8 emotion). Items were assessed on a 5-point Likert type scale ranging from *1 = Never* to *5 = Every day*. Cronbach's alpha coefficients for the four conflict subscales ranged between .94-.95.

Measures Phase II (see Appendix D-O)

Demographics. Information regarding the participants' age, gender (1=male, 2=female), job tenure, number of weekly work hours, race, job type (1=white collar, 2=blue collar), industry sector, and number of days absent from work in the past 90 days was collected.

Interpersonal conflict. Conflict was measured using the 64-item scale that was refined in Phase I. Items could be summed to create a subscale score for task outcome, task process, relationship, and non-task organizational conflict. The measure consisted of 16 items per conflict type with 5 disagreement, 6 interference, and 5 emotion items each. Items were assessed on a 5-point Likert type scale ranging from *1 = Never* to *5 = Every day*. Cronbach's alpha coefficients for the four conflict subscales ranged between .91-.93.

A modified version of Jehn's (1995) measure of intragroup conflict was also used. The scale included eight conflict items rated on a 5-point Likert type scale ranging from *1=None* to *5=A very great deal*. Task and relationship conflict were measured with four items each. The internal consistencies of the task and relationship conflict subscales were .87 and .92, respectively.

The ICAWS (Spector & Jex, 1998) consists of four questions that measure the extent to which the employee experienced arguments, yelling, and rudeness when interacting with the others at work. The items were rated on a 5-point Likert scale ranging from *1 = Never* to *5 = Every day* where high scores represented higher levels of conflict. The internal consistency for the ICAWS was .72.

Depression. Dormann and Zapf's (2002) shortened version of Mohr's (1986) depressive symptoms scale was used. The edited three-item version omits items that refer

to psychosomatic symptoms or anxiety as a way of avoiding overlap with these constructs. Internal consistency for the shortened version was .76. Higher scores indicated higher levels of depressive symptoms with items rated on a 7 point scale where *1=Almost always* to *7=Never*.

Negative emotional state. The negative emotion subscale of the Job-Related Affective Well-Being Scale was used to measure negative emotional reactions to job conditions (JAWS; Van Katwyk, Fox, Spector, & Kelloway, 2000). Respondents rated how often their present jobs made them feel each of 10 negative emotions. Each item was rated on a 5-point scale ranging from *1=Never* to *5 = Every day*. A negative emotion score was calculated by summing the scores on all items. The internal consistency of the negative emotion subscale of the JAWS was .91.

Psychosomatic symptoms. The revised 13-item Physical Symptoms Inventory (PSI; Spector & Jex, 1998) was used to assess physical somatic health symptoms. Each item was a condition/state about which a person would likely be aware, such as headaches. Respondents rated each item on a 5-point scale ranging from *1= Less than once per month or never* to *5= Several times per day*.

Job satisfaction. The three-item Cammann, Fichman, Jenkins, and Klesh (1979) job satisfaction scale from the Michigan Organizational Assessment Questionnaire was used. Items asked participants about their satisfaction with the job overall and were rated on a 6-point Likert type scale ranging from *1=Disagree very much* to *6=Agree very much*. Higher scores represented higher levels of job satisfaction. The scale had an internal consistency of .84.

Turnover intentions. Intentions to quit was measured with one item (i.e., “How often have you seriously considered quitting your job?”) on a scale ranging from *1=Never* to *6=Extremely often* (Spector, Dwyer, & Jex, 1988).

Counterproductive work behaviors. The five withdrawal items from the Counterproductive Work Behaviors Checklist (CWB-C; Spector, Fox, Penney, Bruursema, and Kessler, 2006) were used. Respondents indicated how often they performed each of the listed behaviors in their current job on a scale from *1 = Never* to *5 = Every day*.

Trust. A modified version of Simons and Peterson’s (2000) five-item trust scale was used. One item was reworded to make it applicable to all employees and not just executives. Items were rated on a 5-point Likert type scale ranging from *1=Never* to *7=Always*. The internal consistency of the scale was .94.

Cardiovascular disease risk factors. One item asked participants if they had been diagnosed with any of four different CVD risk factors, including high blood pressure, coronary disease, high cholesterol, and high triglycerides. Individuals were either given a total score from 0-4 depending on the number of risk factors selected or categorized as having been diagnosed with at least one risk factor.

Accident/Injury. One item was included to measure the number of accidents or injuries experienced on the current job. Respondents selected among four options: 0, 1-2, 3-4, or 5+ accidents/injuries.

Chapter Three

Results

Phase I

Item analyses were conducted as part of the scale refinement process. The purpose of the item analyses was to identify a set of internally consistent items for each of the four conflict subscales. Based on considerations regarding the length of the final measure, it was determined that the subscales should contain no more than 16 items each, therefore, the items with the highest item-total correlations for each of the definitional components were kept for Phase II and 64 items were deleted. This strategy is one of several widely accepted ways of refining a scale (Spector, 1992). The intercorrelations between the four conflict scales (containing all the original items) ranged between .70 and .92 (see Table 5).

Table 5
Correlations and Alpha Coefficients for the ICOS Subscales Containing all the Original Items

Subscale	M	SD	Min/Max	1	2	3	4
1. Task outcome	47.0	15.7	25/126	(.95)			
2. Task process	45.3	15.7	27/135	.92**	(.95)		
3. Relationship	54.7	18.1	38/195	.71**	.70**	(.94)	
4. Non-task organizational	54.8	18.3	35/180	.80**	.81**	.80**	(.95)

Note: Reliability estimates appear on the diagonal; N=126; ** p<.01

While the correlation between task outcome and task process conflict was high, they were kept as distinct for Phase II. Descriptive statistics for the four refined scales,

including the mean, standard deviation, total number of items, minimum/maximum values, and coefficient alpha can be seen in Table 6.

Table 6
Descriptive Statistics for the Refined ICOS (Phase I)

Subscale	M	SD	# Items	Min/Max	Alpha
1. Task outcome	27.9	10.1	16	16/80	.93
2. Task process	28.2	10.3	16	16/80	.93
3. Relationship	24.4	9.0	16	16/80	.92
4. Non-task organizational	25.0	9.2	16	16/80	.91

Phase II

An item analysis was conducted for each of the four conflict subscales for further refinement. Items that had an item-total correlation of $<.35$ and whose inclusion would lower the internal consistency of the scale were deleted. Only one item was removed from the relationship conflict scale because it did not meet this criteria. All other items for the task outcome, task process, and non-task organizational conflict scales were retained. Subscales consisted of 16 items each except for the relationship conflict subscale, which had 15 items. Table 7 shows the descriptive statistics and intercorrelations for the final four conflict subscales, which ranged between $.57$ and $.83$. Component scores (i.e., relationship disagreement) were factor analyzed using principal axis factoring and subjected to a varimax rotation. An orthogonal rotation was chosen given the exploratory nature of the study and the fact that it provided the simplest factor structure. The factor structure was determined by examining the eigenvalues, the factor loadings, and the scree plots. The results indicated that a three-factor solution explained 59.9% of the variance (see Table 8).

Table 7
Intercorrelations Between the Final ICOS Subscales and the Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Task Outcome [†]	34.5	11.5	(.93)																
2. Task Process [†]	27.1	9.3	.83**	(.93)															
3. Relationship [†]	22.6	7.2	.61**	.57**	(.91)														
4. Non-task Organizational [†]	25.6	9.3	.65**	.65**	.63**	(.92)													
5. Depression	7.8	3.2	.28**	.23**	.32**	.24**	(.76)												
6. Job Satisfaction	14.3	3.8	-.33**	-.33**	-.34**	-.48**	-.25**	(.84)											
7. Negative Emotion	19.5	7.5	.58**	.58**	.57**	.65**	.48**	-.61**	(.91)										
8. Somatic Symptoms	21.2	6.6	.26**	.28**	.29**	.30**	.31**	-.24**	.42**	(na)									
9. CWB	9.7	3.7	.21**	.22**	.20**	.29**	.37**	-.28**	.46**	.26**	(na)								
10. Turnover Intention	2.7	1.4	.42**	.42**	.50**	.55**	.29**	-.65**	.65**	.24**	.37**	(na)							
11. CVD Risk Factors	.35	.70	.14*	.16*	.11	.24**	.11	-.13*	.17*	.14*	.07	.12	(na)						
12. Accident	1.13	.37	-.01	.05	-.01	.07	-.01	.08	.04	.11	.04	-.06	.21**	(na)					
13. Trust	25.9	6.9	-.41**	-.40**	-.49**	-.48**	-.19**	-.38**	-.35**	-.10	-.14*	-.33**	-.03	-.10	(.94)				
14. Absence	1.7	2.5	-.06	-.02	.04	.05	.08	-.14*	.17*	.19*	.37**	.13	-.10	-.03	-.12	(na)			
15. Task Conflict (Jehn)	10.0	3.0	.57**	.52**	.44**	.55**	.26*	-.29**	.44**	.19**	.23**	.38**	.07	.01	-.50**	-.04	(.87)		
16. Relationship Conflict (Jehn)	10.4	3.4	.55**	.50**	.59**	.58**	.24**	-.42**	.51**	.27**	.19**	.49**	.16*	.04	-.61**	.02	.72**	(.92)	
17. ICAWS	5.9	2.29	.49**	.47**	.44**	.43**	.07	-.29**	.44**	.16*	.10	.32**	.04	.07	-.40**	.04	.31**	.51**	(.72)

Note: Alpha coefficients are on the diagonal; N=213-254

[†]Min/Max values: 16/75 (task outcome); 16/63 (task process); 15/49 (relationship); 16/66 (non-task org.)

* p<.05, **p<.01

Table 8
Total Variance Explained by the Three Extracted Factors of the ICOS

Factor	Initial Eigenvalues			Extracted Sums of Squares Loadings		
	Total	% Variance	Cumulative %	Total	%Variance	Cumulative %
I	6.820	52.46	52.46	6.44	49.55	49.55
II	1.21	9.29	61.75	.84	6.42	55.97
III	1.00	7.63	69.38	.51	3.93	59.91

Figure 1 shows a scree plot of the data, which also suggests the existence of three factors. All the component scores had a factor loading of at least $>.40$ on one of the factors (see Table 9). These factors were labeled task conflict, relationship conflict, and non-task organizational conflict. Given the exploratory nature of the factor analysis and theoretical arguments by Jehn (1997), task outcome and task process conflict were kept separate for the remainder of the analyses. Furthermore, combining the items from these two subscales reduced some of the relationships with outcome variables and made factor analytic results at the subscale level less interpretable.

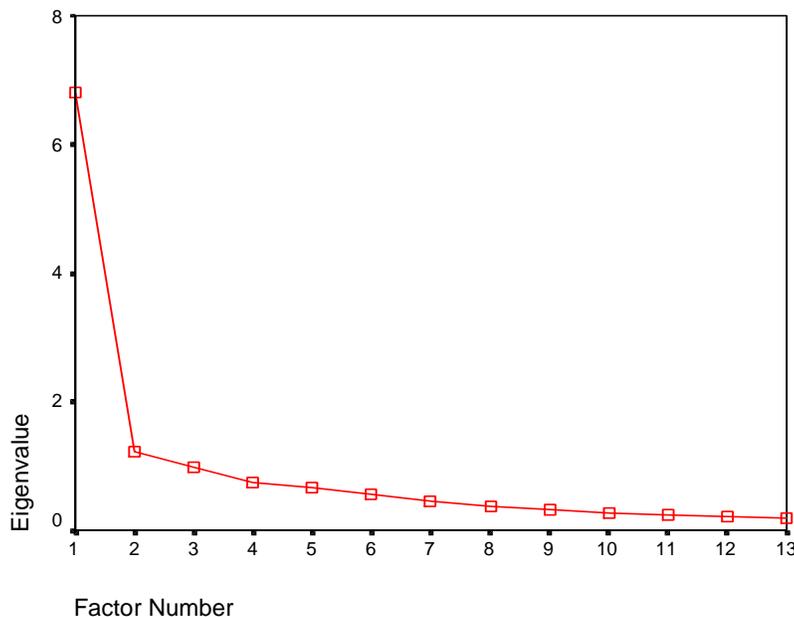


Figure 1. Scree plot for the Interpersonal Conflict in Organizations Scale.

Table 9
Factor Loadings from the Rotated Factor Structure Matrix for the ICOS

Conflict Type	Factors		
	1	2	3
<i>Task Conflict</i>			
1. Task outcome disagreement	.54	.34	.35
2. Task outcome interference	.70	.19	.21
3. Task outcome emotion	.68	.31	.31
4. Task process disagreement	.65	.42	.32
5. Task process interference	.80	.22	.17
6. Task process emotion	.76	.29	.25
<i>Non-task Organizational Conflict</i>			
1. Non-task organizational disagreement	.32	.65	.37
2. Non-task organizational interference (target)	.26	.73	.22
3. Non-task organizational interference (actor)	.18	.48	.14
4. Non-task organizational emotion	.33	.62	.37
<i>Relationship Conflict</i>			
1. Relationship disagreement	.22	.28	.74
2. Relationship interference	.27	.19	.61
3. Relationship emotion	.26	.31	.62

To provide evidence for scale validity, correlations were computed between the four conflict subscales and various criteria. These correlations, as well as means, standard deviations, and alpha coefficients for the ICOS and outcome variables are also shown in Table 7.

Hypothesis 1 proposed that the ICOS would be positively correlated with symptoms of depression. As predicted, the four subscales had significant positive correlations with depression ranging between .23 (task process) and .32 (relationship; see Table 7). Regression analyses were conducted to test whether the various conflict types could explain incremental validity. Controls were not entered into the equation for two

main reasons. First, none of the demographic variables showed a consistent pattern of significant relationships with the other variables (see Table 10).

Table 10
Correlations Between the Demographics and Outcome Variables

Variable	Gender	Age	Weekly Hours	Tenure	Race	Industry	Collar
Task Outcome	.00	.01	.16*	.03	.03	.11	.10
Task Process	-.08	.00	.15*	-.04	.03	.12	.06
Relationship	-.03	.04	.12	.04	.10	.12	.14*
Non-task Organizational	-.03	.09	.09	.01	.00	.07	.11
Task Conflict (Jehn)	-.07	.04	.17*	-.02	.06	.08	.10
Relationship Conflict (Jehn)	.02	.15*	.07	.10	.05	.03	.13
ICAWS	.00	-.04	.03	.04	.05	.01	.11
Depression	.04	-.08	-.13*	-.10	-.16*	.00	.04
Job Satisfaction	-.05	.04	.04	.04	-.07	-.12	.03
Negative Emotion	.03	-.01	.05	-.06	.05	.07	.08
Somatic Symptoms	.27**	.04	.02	-.01	.07	.14*	-.11
CWB	.03	-.14*	-.21**	-.08	.00	-.05	.07
Turnover Intentions	.08	.00	-.02	.00	.03	.02	.06
CVD Risk Factors	-.02	.42**	.05	.30**	-.09	.04	-.02
Accident	-.02	.13	.10	.09	.05	-.06	.17*
Trust	-.04	.03	-.01	.03	-.05	-.03	-.08
Absence	.15*	-.05	-.18**	.01	.06	.07	.00

N=210-232; * p<.01, **p<.05

Second, even when controls were added to the regression equation, the pattern of results did not change. As seen in Table 11, the only significant predictor of depression after all of the conflict types were entered into the regression equation was relationship conflict, $\beta = .23$, $p < .05$.

It was also hypothesized that the ICOS would show a positive relationship with negative emotional states. As shown in Table 7, the correlations with negative emotional states were significant and ranged between .57 (relationship) and .65 (non-task organizational). Regression analyses indicated that both relationship ($\beta = .21$, $p < .05$) and non-task organizational ($\beta = .35$, $p < .05$) conflict were significant predictors of negative emotion (see Table 11).

Hypothesis 3 proposed that the ICOS would be positively related to psychosomatic symptoms. Support for this hypothesis was also found across the four conflict subscales (see Table 7). Specifically, the correlations were .26, .28, .29, and .30 for task outcome, task process, relationship, and non-task organizational conflict, respectively. Table 11 indicates that when all conflict types are entered into the regression equation, only non-task organizational conflict ($\beta = .19, p < .05$) remains a significant predictor of psychosomatic symptoms.

As proposed by hypothesis 4, the ICOS showed significant negative correlations with job satisfaction. The correlations ranged between -.33 (task outcome/process) and -.48 (non-task organizational) for the four conflict types. The regression analyses shown in Table 11 indicate that non-task organizational conflict ($\beta = -.38, p < .05$) is the only significant predictor of job satisfaction when all conflict types are entered into the equation.

Significant correlation coefficients were also calculated between the ICOS and turnover intentions (see Table 7). Task outcome ($r = .42$), task process (.42), relationship (.50), and non-task organizational ($r = .55$) conflict subscales were positively correlated with intentions to quit. As with other criteria, Table 11 shows that when turnover intention was regressed on all four conflict types, the only significant predictors were relationship ($\beta = .26, p < .05$) and non-task organizational conflict ($\beta = .35, p < .05$).

It was posited in hypothesis 6 that the ICOS would be positively correlated with CWB. While the correlation coefficients were smaller with this criterion than with those previously discussed, they were in the predicted direction (see Table 7).

Table 11

Summary of Multiple Regression Analysis for ICOS Subscales Predicting Study Outcome Variables

Independent Variable	Dependent Variable					
	Depression	Negative Emotion	Somatic Symptoms	Job Satisfaction	Turnover Intentions	Withdrawal CWB
Task Outcome	.09	.15	-.07	.04	-.01	.02
Relationship	.23**	.21**	.09	-.14	.26**	.03
Task Process	.02	.11	.16	-.05	.07	.03
Non-Task Organizational	.05	.35**	.19*	-.38**	.35**	.24**
Total R ²	.10**	.50**	.11**	.24**	.34**	.09**

* p<.05, ** p<.01

Specifically, the task outcome ($r=.21$), task process ($r=.22$), relationship ($r=.20$), and non-task organizational ($r=.29$) conflict scales correlated significantly with CWB. Furthermore, as shown in Table 11 non-task organizational conflict ($\beta =.24$, $p<.05$) was the only significant predictor when CWB was regressed on all four conflict types.

Furthermore, exploratory analyses showed that the ICOS had significant relationships with diagnosed cardiovascular disease risk factors. Task outcome, task process, and non-task organizational conflict showed positive correlations that ranged between .14 and .24 (refer to Table 7). A logistic regression was conducted after dichotomizing the CVD variable. Respondents were categorized by whether they had been diagnosed with at least one of the risk factors. Given the high correlation between age and CVD risk factors, it was entered as a control in the regression analysis. The results shown in Table 12 indicate that in addition to age, non-task organizational conflict was a significant predictor of CVD risk factors and explained incremental variance above the other four conflict types.

Table 12
Summary of Logistic Regression Analysis for ICOS Subscales Predicting CVD Risk Factors

Independent Variable	Dependent Variable: CVD Risk Factors		
	B	SE B	e^B
Step 1			
Age	.09**	.02	1.10
Task Outcome	.02	.03	1.02
Task Process	-.01	.04	.765
Relationship	-.03	.03	.974
Non-task Organizational	.06*	.03	1.06
X^2	43.09**		
df	5		

* $p<.05$, ** $p<.01$

On the other hand, significant correlations between the ICOS and the occurrence of accidents were not supported. This could be due to the fact that the majority of the sample was white-collar and accidents had a positive correlation with job type, thus, indicating that blue-collar workers reported more accidents.

Hypotheses 7-9 refer to the convergent validity of the ICOS with other conflict scales. Table 7 shows the intercorrelations between the ICOS, the ICAWS, and Jehn's (1995) conflict subscales. As hypothesized, both task outcome ($r=.57$) and task process ($r=.52$) conflict have significant positive correlations with Jehn's (1995) task conflict subscale. In addition, the ICOS relationship conflict scale correlated significantly with Jehn's (1995) relationship conflict scale ($r=.59$). Hypothesis 9 did not make specific predictions regarding the relationships between the four ICOS subscales and the ICAWS because the latter does not distinguish between conflict types. The results indicated that the task outcome ($r=.49$), task process ($r=.47$), relationship ($r=.44$), and non-task organizational conflict ($r=.43$) subscales were all significantly correlated with the ICAWS.

Specific hypotheses regarding the discriminant validity of the ICOS were not made, however, the correlation between the relationship subscale of the ICOS and Jehn's (1995) task conflict subscale, as well as, between the task subscales of the ICOS and Jehn's (1995) relationship conflict subscale were tested using partial correlation. The ICOS relationship subscale ($r=.09$) did not correlate significantly with Jehn's (1995) task conflict subscale when the effects of Jehn's (1995) relationship conflict subscale were controlled for. The ICOS task outcome and task process conflict subscales were significantly correlated ($r=.23$ and $.20$, respectively) to Jehn's (1995) relationship conflict

subscale, even after partialling out the effects of Jehn's (1995) task conflict subscale. Nevertheless, these relationships were smaller than those between the ICOS task conflict subscales and Jehn's (1995) task conflict subscale ($r=.32$ and $.28$) when controlling for Jehn's (1995) relationship conflict.

As noted earlier, relationship conflict correlated positively with both task outcome ($r=.61$) and task process ($r=.57$), thus supporting hypothesis 10. Regression analyses were conducted to test the moderating effects of trust on the association between task and relationship conflict (see Table 13). Both the interaction term ($\beta =-.38$) and the change in R^2 reached significance when testing the moderating role of trust in the task outcome/relationship conflict correlation. Figure 2 illustrates the moderating effect of trust on the relationship between the two conflict types, such that under low levels of trust the relationship between the two is stronger than under high levels of trust. However, as indicated by a non-significant interaction term, support for the moderating role of trust in the task process/relationship correlation was not found.

In order to test the moderating role of trust on the relationship between task/non-task organizational conflict, two additional regression analyses were conducted even though specific hypotheses had not been made. Trust was a significant moderator in the relationships between task outcome and non-task organizational conflict, as well as, between task process and non-task organizational conflict ($\beta = -.59$ and $\beta =-.37$, respectively). As before, the correlations between the conflict subscales are stronger under low levels of interpersonal trust and weaker under high levels of interpersonal trust (see Figures 3 and 4).

Table 13

Multiple Regression Analysis of the Moderating Role of Interpersonal Trust

Dependent Variable: Relationship Conflict		
Independent Variable	Step1	Step 2
Task Outcome	.46**	-.82**
Trust	-.30**	.01
Task Outcome X Trust		.38*
R ² at each step	.42**	.43**
R ² change		.01*

Dependent Variable: Relationship Conflict		
Independent Variable	Step1	Step 2
Task Process	.45**	.56**
Trust	-.31**	-.21
Task Process X Trust		-.12
R ² at each step	.40**	.40**
R ² change		0

Dependent Variable: Non-task Organizational Conflict		
Independent Variable	Step1	Step 2
Task Outcome	.54**	1.10**
Trust	-.26**	.21
Task Outcome X Trust		-.59*
R ² at each step	.48**	.50**
R ² change		.02**

Dependent Variable: Non-task Organizational Conflict		
Independent Variable	Step1	Step 2
Task Process	.54**	.90**
Trust	-.26**	.03
Task Process X Trust		-.37*
R ² at each step	.48**	.49**
R ² change		.01*

* p<.05, ** p<.01

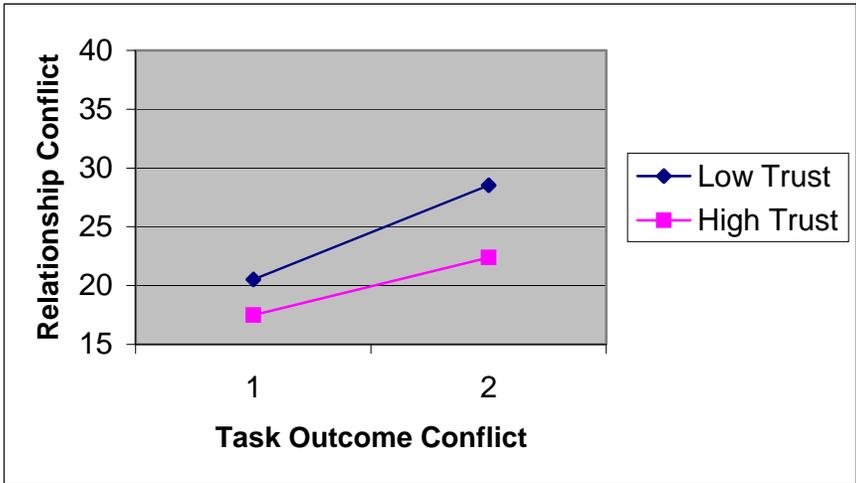


Figure 2. Moderating Effects of Trust on the Correlation Between Task Outcome and Relationship Conflict.

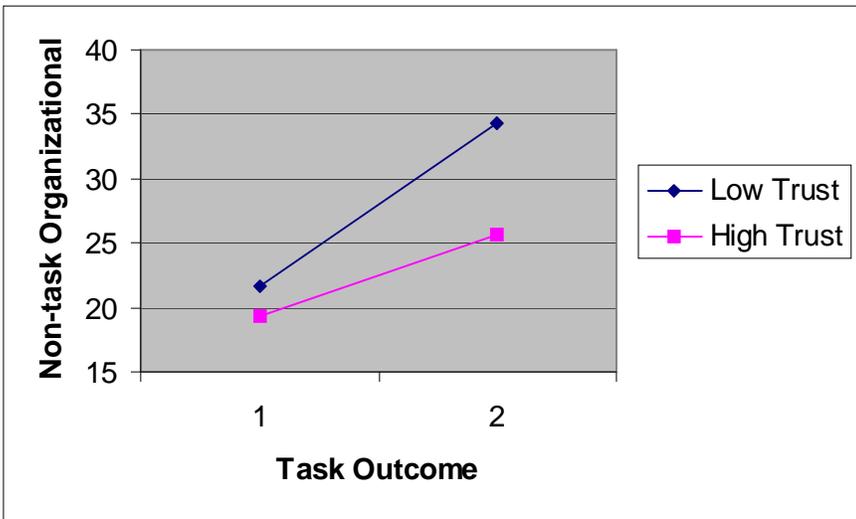


Figure 3. Moderating Effects of Trust on the Correlation Between Task Outcome and Non-task Organizational Conflict.

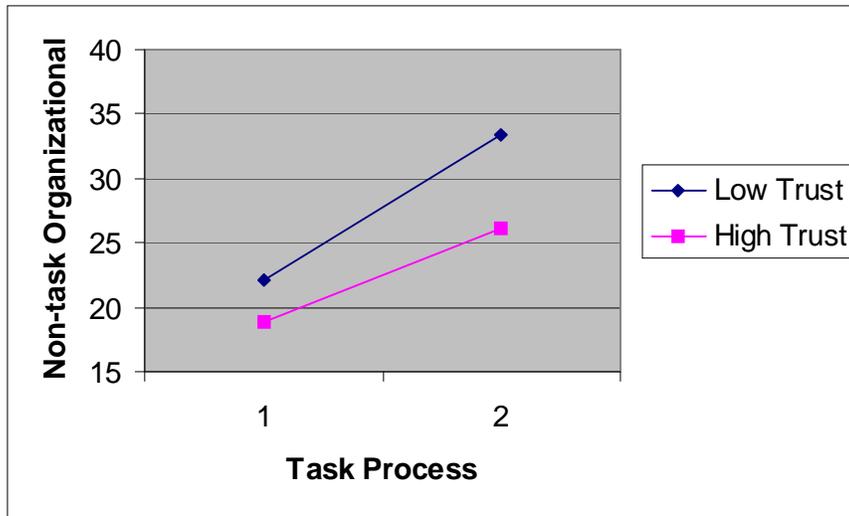


Figure 4. Moderating Effects of Trust on the Correlation Between Task Process and Non-task Organizational Conflict.

Hypothesis 12-13 proposed that Jehn’s (1995) task and relationship conflict subscales would be more strongly correlated with specific components of each of the four ICOS conflict subscales. In order to test these hypotheses, it was first necessary to determine that each conflict type was, in fact, composed of the three theorized definitional components (disagreement, interference, and emotion). Data for each of the four conflict subscales were factor analyzed using principal axis factoring and subjected to varimax rotation. A minimum factor loading of .40 was used to determine which items would be retained. Items loading on multiple factors were grouped under the factor that was closest to the item’s initial conceptualization. Therefore, the theoretical interpretation of the data was also key in determining the final factor structure.

Task Outcome Conflict Factor Analysis

As seen in Table 14, 65% of the variance in the data was accounted for by a three-factor structure for task outcome conflict. The scree plot shown in Figure 5 also supports

a three-factor solution. Table 15 shows the factor loadings from the rotated factor solution and indicates that items grouped together based on whether they assessed disagreement, interference, or emotion. Only one item loaded $>.40$ on more than one factor. The factor correlations, means, standard deviations, and alpha coefficients are presented in Table 16.

Table 14
Total Variance Explained by the Three Extracted Factors of the Task Outcome Conflict Subscale

Factor	Initial Eigenvalues			Extracted Sums of Squares Loadings		
	Total	% Variance	Cumulative %	Total	%Variance	Cumulative %
I	8.09	50.59	50.59	7.75	48.42	48.42
II	1.96	12.25	62.84	1.62	10.11	58.52
III	1.33	8.33	71.17	.98	6.14	64.66

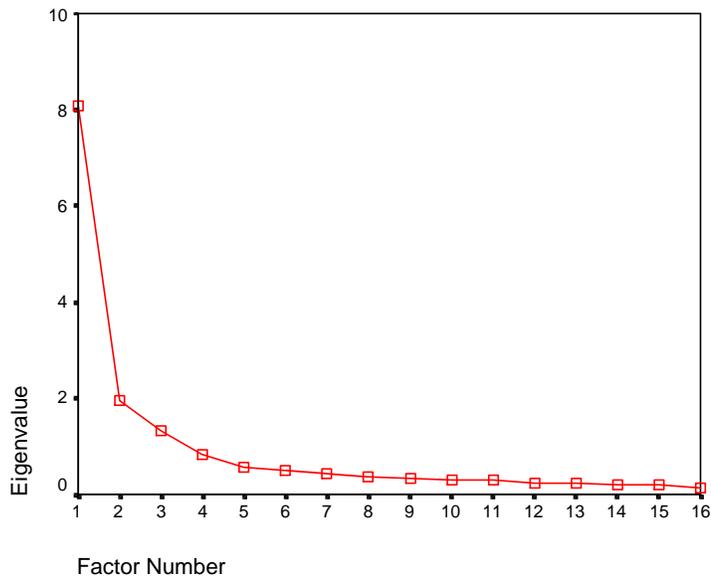


Figure 5. Scree plot for the task outcome conflict subscale.

Table 15
Factor Loadings From the Rotated Factor Structure Matrix for the Task Outcome Conflict Subscale

Task Outcome Items	Factors		
	1	2	3
<i>Disagreement</i>			
1. Do you disagree with someone on the goals of a work task?	.17	.69	.37
2. Do you have differences in opinion regarding what should be the end product of a work task?	.20	.83	.18
3. Do you disagree with someone on what is the content of a work task to be performed?	.19	.77	.29
4. Do you get into conflicts with someone over what should be done in a work task?	.24	.68	.28
5. Do you have incompatible ideas regarding what should be the outcome of a work task?	.22	.78	.24
<i>Interference</i>			
1. Do others prevent you from completing your work tasks?	.72	.09	.34
2. Do others impede you from accomplishing the goals of your work tasks?	.74	.16	.38
3. Does someone interfere with your job making it difficult for you to finish your work tasks?	.70	.16	.42
4. Do you impede others from accomplishing the goals of their work tasks?	.74	.26	.09
5. Do you interfere with someone's job making it difficult for them to finish their work tasks?	.69	.18	.07
6. Do you interfere with what others think should be done in a work task?	.61	.26	.21
<i>Emotion</i>			
1. Do you feel angry with others because they interfere with what you think should be done in a work task?	.31	.38	.60
2. Do you feel frustrated with others over the outcome of a work task?	.19	.30	.72
3. Do you feel irritated with others because you do not agree with the goals of a work task?	.20	.30	.78
4. Are you edgy with others over what the outcome of a work task should be?	.26	.30	.69
5. Do you feel annoyed by others at work because they make your work tasks more difficult to complete?	.37	.22	.67

Table 16

Intercorrelations between the Definitional Components of the ICOS Subscales and Jehn's Conflict Subscales

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Task Outcome</i>																	
1. Disagreement	11.4	4.2	(.91)														
2. Interference	12.0	5.1	.50	(.89)													
3. Emotion	11.1	4.3	.65	.62	(.90)												
<i>Task Process</i>																	
4. Disagreement	8.7	3.2	.67	.53	.64	(.84)											
5. Interference	9.3	3.4	.49	.74	.59	.65	(.81)										
6. Emotion	9.1	3.9	.55	.60	.73	.73	.69	(.90)									
<i>Relationship</i>																	
7. Disagreement	7.9	3.1	.51	.42	.51	.47	.37	.41	(.84)								
8. Interference	7.8	3.2	.42	.42	.39	.41	.38	.37	.58	(.81)							
9. Emotion	6.7	2.2	.39	.36	.51	.52	.38	.51	.63	.52	(.90)						
<i>Non-task Organizational</i>																	
10. Disagreement	8.1	3.3	.50	.42	.54	.64	.46	.52	.51	.47	.47	(.84)					
11. Interference (target)	4.8	2.3	.37	.38	.50	.51	.43	.51	.43	.31	.48	.64	(.86)				
12. Interference (actor)	3.5	1.3	.36	.30	.25	.39	.29	.24	.36	.19	.23	.40	.48	(.90)			
13. Emotion	9.2	4.3	.51	.45	.57	.57	.43	.52	.47	.43	.45	.69	.62	.36	(.89)		
<i>Jehn's Conflict Scales</i>																	
14. Task Conflict	10.0	3.0	.49	.41	.55	.48	.42	.49	.40	.35	.36	.50	.46	.25	.48	(.87)	
15. Relationship Conflict	10.4	3.4	.39	.45	.55	.49	.40	.46	.51	.42	.53	.51	.53	.26	.51	.46	(.92)

Note: Reliability estimates appear on the diagonal; N=228-258

All correlations are significant at $p < .01$

Task Process Conflict Factor Analysis

Factor analysis of the task process conflict data also resulted in a three-factor solution accounting for 59% of the variance (see Table 17). As shown by Figure 6, the scree plot also provides for three main factors that represent disagreement, interference, and emotion. However, the interpretation of the three factors in this case is a bit more complex than for the other conflict types. Table 18 shows that six items had loadings $>.40$ on multiple factors. In four of these cases, the item was grouped under the factor that was congruent with the item's conceptualization. However, this was not possible for two of the interference items because neither of them loaded $>.40$ on the interference factor. The next best fit for these two items based on both quantitative methods and conceptual reasoning would be under the disagreement factor. However, the task process interference subscale reliability drops from $.81$ to $.75$ when removing these two items. Given the exploratory nature of the factor analysis and the fact that the pattern of relationships described earlier did not change when these two interference items were included in the disagreement subscale, these two items were kept in the interference subscale. Table 16 shows the factor correlations, means, standard deviations, and alpha coefficients.

Table 17
Total Variance Explained by the Three Extracted Factors of the Non-task Organizational Conflict Subscale

Factor	Initial Eigenvalues			Extracted Sums of Squares Loadings		
	Total	% Variance	Cumulative %	Total	%Variance	Cumulative %
I	7.91	49.45	49.45	7.52	47.02	47.02
II	1.64	10.27	59.72	1.19	7.44	54.46
III	1.05	6.54	66.26	.68	4.24	58.70

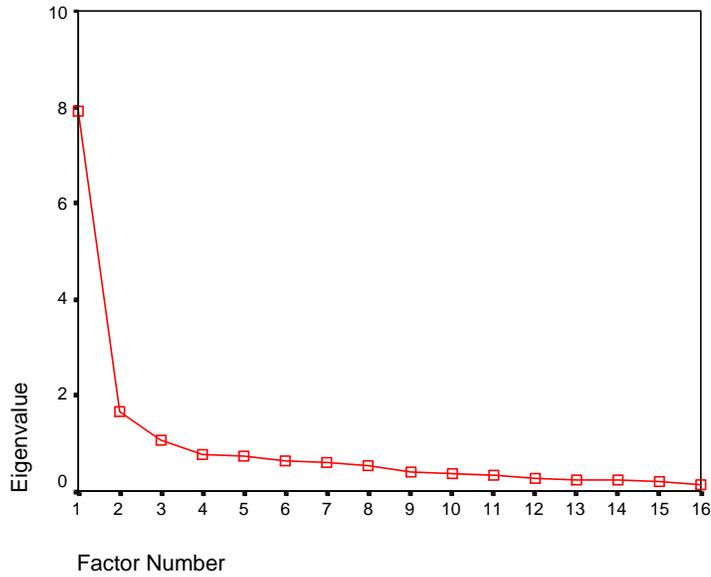


Figure 6. Scree plot for the task process conflict subscale.

Table 18

Factor Loadings from the Rotated Factor Structure Matrix for the Task Process Conflict Subscale

Task Process Items	Factors		
	1	2	3
<i>Disagreement</i>			
1. Do you disagree with someone over how you manager your work tasks?	.66	.25	.16
2. Do you disagree with someone because of something you or they do in performing the work tasks?	.64	.25	.28
3. Are you in conflict with someone over how work tasks are assigned?	.59	.23	.14
4. Do you have differences in opinion regarding when a work task should be performed?	.61	.16	.21
5. Do you have differences in opinion regarding how a work task should be performed?	.72	.25	.30
<i>Interference</i>			
1. Does someone interfere with the way in which you manage your work tasks?	.47	.52	.20

Table 18 (continued)

2. Do others obstruct you from performing your work tasks at the time when you want to ?	.25	.55	.52
3. Do others prevent you from following the procedures for performing a work task?	.42	.55	.27
4. Do you block others from completing their work tasks in the manner in which they want to?	.30	.22	.68
5. Do you interfere with the way in which others manage their work tasks?	.18	.10	.71
6. Do you obstruct others from performing their work tasks at the time when they want to?	.04	.16	.65
<i>Emotion</i>			
1. Do you feel angry with others due to differences in opinion regarding how you should complete your work tasks?	.64	.51	.06
2. Do you feel irritated with others because they keep you from performing your tasks at the time that you want to?	.34	.79	.31
3. Do you feel annoyed by others because they want you to perform your work tasks in a different way?	.60	.47	-
4. Do you feel frustrated with others over who is responsible for specific work tasks?	.53	.53	.14
5. Do you feel annoyed by others because they get in the way of you completing your works tasks as you planned to?	.31	.79	.30

Relationship Conflict Factor Analysis

A three-factor structure also emerged from the relationship conflict data. In this case, 55% of the variance was explained by the three factors (see Table 19). Figure 7 provides additional support for a three-factor solution. All but one item, which was deleted from the final scale to increase its reliability, had factor loadings of $>.40$ on at least one of the factors (see Table 20). Two of the items had strong loadings on multiple factors and were classified according to the initial conceptualization of the item. As before, the items grouped together into the three main components labeled disagreement,

interference, and emotion. The factor correlations, means, standard deviations, and alpha coefficients are presented in Table 16.

Table 19
Total Variance Explained by the Three Extracted Factors of the Relationship Conflict Subscale

Factor	Initial Eigenvalues			Extracted Sums of Squares Loadings		
	Total	% Variance	Cumulative %	Total	%Variance	Cumulative %
I	6.75	44.97	44.97	6.32	42.14	42.14
II	1.56	10.42	55.39	1.52	7.68	49.82
III	1.28	8.52	63.91	.85	5.65	55.48

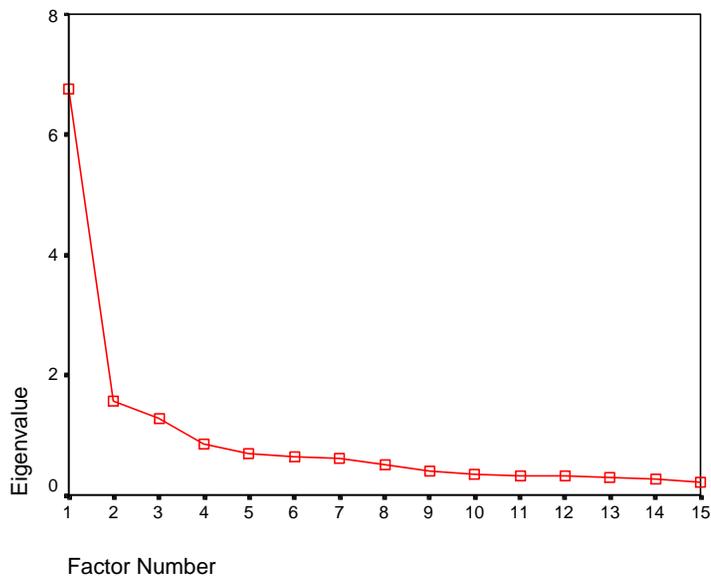


Figure 7. Scree plot for the task process conflict subscale.

Table 20

Factor Loadings From the Rotated Factor Structure Matrix for the Relationship Conflict Subscale

Relationship Items	Factors		
	1	2	3
<i>Disagreement</i>			
1. Do you get into disagreements with others at work because of differences in personality?	.44	.33	.53
2. Do you disagree with someone at work due to differences in personal values?	.41	.23	.42
3. Do you argue with someone at work because you do not like working together?	.20	.23	.69
4. Do you differ in opinion with someone at work because you simply cannot get along?	.12	.17	.80
5. Do you get into conflicts with others at work because of a lack of personal trust?	.36	.27	.60
<i>Interference</i>			
1. Do others say negative things about you that jeopardize how you are viewed at work?	.23	.70	.16
2. Do others get you into trouble at work because they do not like you?	.10	.78	.21
3. Do others at work do things to annoy you because you cannot get along?	.34	.57	.37
4. Do you say negative things about others that jeopardize how they are viewed at work?	.21	.48	.13
5. Do you get others into trouble at work because you do not like them?	.15	.52	.16
<i>Emotion</i>			
1. Do you feel mad because of personal friction with others in your workplace?	.72	.29	.17
2. Do you feel anxious due to personality differences with others at work?	.82	.11	.17
3. Do you feel frustrated with others at work because you cannot get along?	.66	.31	.33
4. Do you feel apprehensive about coming to work due to personality clashes with others at work?	.67	.18	.17
5. Do you feel tense working with others at your workplace?	.73	.22	.23

Non-task Organizational Conflict Factor Analysis

In the case of non-task organizational conflict, a three and four-factor solution were tested. A four-factor solution was retained because it resulted in a better interpretation of the data and because it impacted the pattern of validity coefficients described below. As seen in Table 21, a four-factor solution explains 65% of the variance in the data. The scree plot shown in Figure 8 also supports a four-factor structure. All of the items had factor loadings $>.40$ on their primary factors and two items loaded on multiple factors (see Table 22). In these cases, the conceptual meaning of the item was considered when grouping it with other items. Based on the content of the items in each factor, it was determined that they represented disagreement, emotion, interference behaviors performed by the individual, and interference behaviors performed towards the individual. Table 16 shows the factor correlations, means, standard deviations, and alpha coefficients.

Table 21
Total Variance Explained by the Three Extracted Factors of the Non-task Organizational Conflict Subscale

Factor	Initial Eigenvalues			Extracted Sums of Squares Loadings		
	Total	% Variance	Cumulative %	Total	%Variance	Cumulative %
I	7.63	47.70	47.70	7.28	45.52	45.52
II	1.96	12.24	59.94	1.71	10.67	56.19
III	1.12	7.01	66.95	.77	4.83	61.02
IV	1.04	6.52	73.47	.70	4.35	65.37

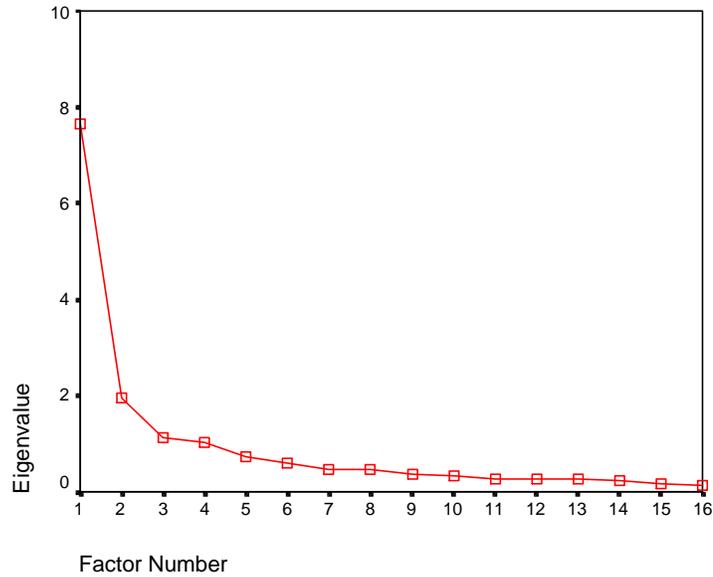


Figure 8. Scree plot for the non-task organizational conflict subscale.

Table 22

Factor Loadings From the Rotated Factor Structure Matrix for the Non-Task Organizational Conflict Subscale

Non-task Organizational Items	Factors			
	1	2	3	4
<i>Disagreement</i>				
1. Are you in a dispute with someone at work caused by differences in organizational power?	.43	.07	.42	.40
2. Are you in a disagreement with someone at work because of a company policy?	.40	.08	.55	.26
3. Do you disagree with someone about hiring decisions in your organization?	.32	.04	.76	.06
4. Do you disagree with someone over organizational-related issues that do not pertain to a specific work task?	.18	.24	.67	.22
5. Do you dispute with someone at work because of poor organizational leadership?	.36	.24	.52	.35
<i>Interference Performed Towards the Individual (target)</i>				
1. Do others impede your work because an organizational policy allows them to?	.23	.21	.16	.66
2. Does someone make your life more difficult over an organizational-related issue that does not pertain to a specific work task?	.27	.21	.22	.79

Table 22 (continued)

3. Do others block you from attaining your objectives because of differences in organizational power?	.42	.31	.24	.59
<i>Interference Performed by the Individual (actor)</i>				
1. Do you make someone's life more difficult over an organizational-related issue that does not pertain to a specific work task?	.19	.80	.08	.25
2. Do you block others from attaining their objectives because of differences in organizational power?	.13	.90	.04	.26
3. Do you impede someone's work because an organizational policy allows you to?	.10	.81	.23	.04
<i>Emotion</i>				
1. Do you feel anxious due to the actions of someone with more organizational power?	.66	.08	.19	.28
2. Do you feel frustrated with others because of issues related to a company policy?	.71	.09	.26	.33
3. Do you feel mad due to conflicts over organizational changes?	.80	.22	.22	.20
4. Do you feel tense because others in your organization do not value your work?	.70	.15	.25	.10
5. Do you feel frustrated with others because of issues related to personnel staffing?	.62	.16	.33	.23

To test hypotheses 12-13, items within each factor were summed to form a factor or component score and correlated with Jehn's (1995) task and relationship conflict subscales (see Table 17). The task outcome disagreement ($r=.49$) factor score did not correlate significantly stronger with Jehn's (1995) task conflict subscale than did the task outcome interference ($r=.41$) or task outcome emotion ($r=.55$) factor scores. Similar findings were found for task process where the task process disagreement ($r=.48$) factor score did not correlate significantly stronger with Jehn's (1995) task conflict subscale than did the task process interference ($r=.42$) or task process emotion ($r=.49$) factor

scores. As proposed by hypothesis 13, the relationship emotion ($r=.53$) factor score correlated more strongly with Jehn's (1995) relationship conflict subscale than did the relationship disagreement ($r=.51$) or relationship interference ($r=.42$) factor scores. Hotelling's t test for dependent correlations indicated that only the difference between the relationship emotion and interference factors was significant, $t(231) = -2.03, p < .05$.

Other interesting findings emerged from the data when studying the relationships between the conflict components, or factors, and the outcome variables (see Table 23). For example, the interference factors of the relationship ($r=.05$), task outcome ($r=.11$), and task process ($r=.07$) conflict scales did not significantly correlate with the CWB measure. Furthermore, non-task organizational interference behaviors performed by the individual were not significantly related to depression ($r=.08$) or psychosomatic symptoms ($r=.10$). Further, as shown in Table 24, interference behaviors performed by the individual were less strongly related to job satisfaction, turnover intentions, and negative emotion than were interference behaviors performed towards the individual.

Table 23

Correlations Between the Components of the ICOS Subscales and Outcome Variables

Variable	Depression	Negative Emotion	Somatic Symptoms	Job Satisfaction	Turnover Intentions	CWB	Trust	Accidents	CVD Risk Factors
Task Outcome									
1. Disagreement	.25**	.51**	.14*	-.26**	.35**	.22**	-.32**	.01	.07
2. Interference	.19**	.42**	.25**	-.24**	.29**	.11	-.30**	.00	.15*
3. Emotion	.29**	.54**	.26**	-.33**	.43**	.22**	-.42**	-.03	.13
Task Process									
1. Disagreement	.19**	.55**	.25**	-.30**	.44**	.29**	-.37**	.06	.16*
2. Interference	.12	.43**	.21**	-.23**	.30**	.07	-.30**	.08	.17*
3. Emotion	.29**	.55**	.28**	-.34**	.40**	.23**	-.39**	.01	.10
Relationship									
1. Disagreement	.21**	.46**	.20**	-.28**	.45**	.17**	-.44**	-.03	.09
2. Interference	.19**	.34**	.26**	-.17*	.25**	.05	-.39**	.03	.07
3. Emotion	.40**	.59**	.28**	-.39**	.52**	.25**	-.40**	-.02	.13
Non-Task Org									
1. Disagreement	.16*	.49**	.22**	-.38**	.47**	.23**	-.41**	.04	.16*
2. Interference (target)	.13*	.49**	.19**	-.41**	.41**	.23**	-.48**	.07	.23**
3. Interference (actor)	.08	.33**	.10	-.16*	.21**	.14*	-.22**	-.02	.15*
4. Emotion	.31**	.68**	.36**	-.49**	.55**	.31**	-.42**	.08	.23**

N =226-254; * p<.01, **p<.05

Table 24
Hotelling's t-Test for Dependent Correlations

Variable	Interference (target)	Interference (actor)	Hotelling's t test
Job satisfaction	-.41**	-.16*	-3.96*
Turnover intentions	.41**	.21**	3.94*
Negative emotion	.49**	.33**	2.69*

* $p < .01$, ** $p < .05$

Chapter Four

Discussion

The primary goal of this study was to develop a reliable and valid measure of interpersonal conflict in organizations based on a comprehensive conceptualization of the construct, and to provide preliminary evidence for construct validity. Research on interpersonal conflict has identified it as a leading source of stress in the workplace, however, our knowledge has been limited by the weaknesses in our measurement. Given the various definitions of conflict it is not surprising that existing measures operationalize conflict in different ways, thus making it difficult to compare findings across studies. Research by Barki and Hartwick (2004) addressed this issue by proposing a conceptual model of conflict that was developed from their earlier empirical work. The definition of conflict used for this study was adapted from Barki and Hartwick's (2004) research and describes conflict as a dynamic process that occurs between parties as they experience negative emotional reactions to perceived disagreements and interference with the attainment of their goals. Three main definitional properties of conflict are proposed in this conceptualization: disagreement, interference, and negative emotion. Researchers have used a combination of these three properties to define and assess conflict across various disciplines (see Barki & Hartwick, 2004 for a review). Nevertheless, Barki and Hartwick's (2004) model proposes that the inclusion of all three definitional components is essential in the measurement of conflict and, therefore, an adequate measure of the construct should tap into all three properties. Furthermore, not only was the new measure

intended to include items that addressed conflict's definitional properties, but also measure conflict arising from different sources. The Interpersonal Conflict in Organizations Scale (ICOS) was created to measure task outcome, task process, relationship, and non-task organizational conflict. Items within each of the four conflict subscales were written to assess conflict's three definitional components.

The psychometric evidence presented in Phase I and Phase II indicated that each of the four subscales had a high coefficient alpha, thus supporting the notion that the items reflected a common, underlying construct. Furthermore, significant relationships were found for each of the outcome variables and the ICOS. While the construct validity of any scale involves numerous samples and studies, the results presented are very promising and provide initial support for the validity of the scale.

The findings of the validation phase support the notion that conflict can be deleterious to employee well-being. Although previous occupational stress research has also found support for the detrimental effects of conflict, the research in our field has not distinguished between conflict types. Furthermore, research that has differentiated between conflict types has been focused on other types of criteria, such as job satisfaction and performance. This study showed that the four conflict types measured by the ICOS had significant relationships with depression, somatic complaints, negative emotional states, and CVD risk factors. Furthermore, the regression analyses indicated that in the case of these four criteria, two conflict types emerged as having incremental validity above the rest. Specifically, relationship conflict was the only significant predictor of depression while non-task organizational conflict was the only significant predictor of

somatic symptoms and CVD risk factors. Both relationship and non-task organizational conflict were significant predictors of negative emotional states. A contribution of this research was to distinguish between conflict types in our study of this social stressor and its impact on personal well-being. Furthermore, these findings allowed us to address whether task conflict, traditionally studied in relation to performance, was also important to well-being. Given the results, it seems that task conflict relates to well-being outcomes through its shared variance with relationship conflict.

Moreover, the validation data also indicated significant relationships between the four conflict types measured by the ICOS and organizational variables, including job satisfaction, turnover intentions, and withdrawal CWB. The findings were consistent with previous research showing a significant relationship between task and relationship conflict with job satisfaction (De Dreu & Weingart, 2003). At the same time, the study addressed a need for studying additional variables of organizational relevance beyond performance and job satisfaction. Interestingly, the results indicated that relationship and non-task organizational conflict were the only two significant predictors of these three organizational variables. Given that non-task organizational conflict is not part of the conventional conflict typology, these findings suggest that using the ICOS can provide additional insight into our current knowledge of the stress/strain process.

Convergent and Discriminant Validity

The ICOS showed very good convergent validity with Jehn's (1995) conflict scales and the ICAWS. Given the moderate to high intercorrelations among the four ICOS conflict scales the evidence for discriminant validity was not as strong. For instance, the relationship with the criteria was very similar across the four conflict

subscales. However, high intercorrelations among the subscales were expected based on past conflict research. In fact, a meta-analysis by DeDreu and Weingart (2003) indicated that the mean correlation between task and relationship conflict across 24 studies was $r=.54$. Nevertheless, some evidence for discriminant validity was found for the ICOS relationship subscale. Specifically, the ICOS relationship conflict subscale was significantly related to Jehn's (1995) relationship conflict subscale but not to the task conflict subscale when the effects of the latter were partialled out.

Are Task Process and Task Outcome Conflicts the Same?

It is worth noting that while the task process and task outcome conflict subscales were highly intercorrelated, it was determined that they should be kept distinct at this point of the scale development process. This decision was driven by the fact that several of the correlations with the outcome variables were lower when the items from these two subscales were combined. Also, factor analytic results indicated a more interpretable factor structure at the subscale level when items were kept separate. Last, it may be too early to determine whether these two conflict types can be subsumed into one since it may be possible that they have differential relationships with other outcomes not measured in this study. The factor structure of the two subscales should be re-examined upon further use of the ICOS.

Interpersonal Trust and its Moderating Effects on Conflict Types

Simons and Peterson (2000) concluded that the positive correlation between Jehn's (1995) task and relationship conflict subscales was due to a misattribution process. Under conditions of low trust, groups were likely to misattribute the intentions behind task conflict to be more personal in nature. Misattributed intentions would then be

reciprocated in the form of relationship conflict. Although the moderating role of trust was originally tested at the group level of analysis, the current study tested it at the individual level. The correlation between the ICOS task outcome and relationship conflict subscales was stronger under conditions of low interpersonal trust than under conditions of high trust, thus providing further support for the moderating role of trust. Furthermore, data from this study made it possible to apply the same test to the relationship between task and non-task organizational conflict. Interestingly, trust was found to moderate the relationship between task outcome and non-task organizational conflict, as well as, the relationship between task process and non-task organizational conflict. Hence, not only can misattributed intentions escalate from task conflicts into relationship conflict for low trust groups, but they can also escalate into non-task organizational conflict.

Definitional Components of the Four Conflict Subscales

The results supported the three main definitional components of conflict described by Barki and Hartwick (2004). The factors for the task outcome, task process, and relationship conflict subscales assessed disagreement, interference, and negative emotion. The only subscale that deviated from this factor structure was non-task organizational conflict. In this case, interference could be further divided into interference behaviors performed by the individual or towards the individual.

Barki and Hartwick (2004) categorized Jehn's (1995) task and relationship conflict subscales as defining conflict in terms of pure disagreement or pure negative emotion, respectively. Consequently, it was expected that the disagreement component of the task conflict subscales in the ICOS would relate stronger to Jehn's (1995) task conflict subscale than the other two components (interference or emotion). Similarly, it

was expected that the negative emotion component of the ICOS relationship conflict subscale would relate more strongly to Jehn's (1995) relationship conflict subscale than then other two components (disagreement or interference). While some support was found for the latter, there were no significant differences across components and their relationship to Jehn's (1995) task conflict subscale. A possible explanation for this is that given the general wording in Jehn's (1995) conflict scale, respondents may be considering all components of conflict when responding to the items despite the construct definition intended by the researcher.

As noted in the results, some interesting patterns emerged from the two interference factors of the non-task organizational scale. Interference behaviors over non-task organizational issues that are performed *toward* the individual have a greater impact on job satisfaction, turnover intentions, depression, and psychosomatic symptoms than interference behaviors performed by the individual. Although the factor structure of the task outcome, task process, and relationship conflict subscales did not support differentiating between the targets of the interference behaviors, exploratory tests were done to see if similar patterns would arise. However, differential relationships were not found for the other conflict subscales. A possible explanation for these findings is that some of the non-task organizational interference behaviors imply differential organizational power, therefore, being the victim of such behaviors can be understandably more detrimental than being the actor.

The ICOS and other Conflict Scales

The results of this study provide promising support for the use of the new scale. The ICOS was a significant correlate of several criteria for which the ICAWS or Jehn's

conflict scales were not. These included depression, withdrawal CWB, and CVD risk factors. In addition, the ICOS includes two additional conflict subscales that are not assessed by neither the ICAWS nor Jehn's (1995) conflict scales. Therefore, researchers have the flexibility of choosing among the conflict subscales that they are interested in assessing in their investigations. The development of the ICOS was in response to a call for needed instruments to assess the three definitional components of conflict. However, it is foreseeable that some researchers may view this conceptualization of conflict as being too restrictive. Barki and Hartwick (2004) would argue that subscribing to the three-component view of conflict would improve our ability to compare findings across studies and prevent conflict researchers from confounding conflict with the actual measurement of similar constructs. Nevertheless, given the factor structure for each of the subscales, it is possible for a researcher to only use specific components in calculating a score for a conflict type making this an advantage of the ICOS over other commonly used conflict measures.

Limitations

Several limitations of this study should be noted. Among them is the fact that all variables were measured using self-report. A common criticism of self-report measures is that shared biases may inflate the relationship between variables. While other conflict studies have used cross-source data and found similar patterns of relationships among variables (Bruk-Lee & Spector, 2006; Spector et al., 2003), it is possible that biases may have affected responses to both predictor and criterion measures. Also, both Phase I and II samples were largely female and although gender showed a non-significant

relationship with almost all of the study's variables, one should exercise caution when generalizing to a mostly male population.

In addition, given that the sample for the validation phase of this study was a snowball sample, it may be that the findings are not generalizable to other samples that are less cooperative and may otherwise choose not to participate in this type of study. Also, while a variety of occupations participated in both phases of the scale development, subgroup comparisons could not be made due to the very small sample sizes in each industry sector. Similarly, the majority of the participants were white collar, thus making it impossible to make comparisons between blue and white-collar samples. Given the significant correlation between the type of job (blue vs. white collar) and accidents, it is possible that the non-significant relationships between conflict and the number of accidents or injuries suffered on the job was due to a restriction of range on the latter.

Another limitation is that the data were cross-sectional. The conflict process is dynamic in nature and may be better captured by a longitudinal study design. Nevertheless, the results of this scale development and validation study are promising and consistent with previous findings, therefore, lending confidence to its results.

Future Research Directions

Building support for the construct validity of a scale is a process that occurs over time. Further validation of the ICOS is necessary in order to show its relationship to additional criteria, as well as, to replicate the current findings using the same criteria. While this study focused primarily on variables commonly studied in occupational stress research, it is necessary for future studies to validate the scale against measures of

performance. Given past findings regarding the relationships between task conflict and performance, regression analyses may show a different pattern of significant predictors.

The validation phase of this study resulted in some interesting findings regarding non-task organizational conflict. While the primary focus of researchers has been on task and relationship conflict, little research has been conducted on the impact of non-task organizational conflict on employee well-being. This study supports the notion that interpersonal conflicts over issues that are of an organizational nature, but not specifically about the work task to be performed, may be among the most detrimental when compared to other conflict types. Future research is needed to replicate these findings and to further illustrate the importance of measuring other conflict types than those traditionally assessed.

Furthermore, future ICOS validity studies should refine the relationships between the four conflict subscales and the criteria by investigating additional moderators. For example, it has been shown that the level of routine in people's work and the perceived consequences of the conflict moderate the relationship between conflict and performance (Jehn, 1995; De Dreu & Weingart, 2003). However, it is unknown if the same type of relationships are found when studying conflict's impact on employee well-being. It is also possible that an employee's conflict management style acts as moderator. Future research may test whether effective conflict management styles buffer individuals from the negative consequences of conflict while ineffective conflict management styles exacerbate the effects of conflict.

Spector and Bruk-Lee (in press) reviewed the role of personality in the conflict/strain process and provided a model to explain whereby personality impacts this

process. For example, it may be that some personality types are hyper-reactive to the experience of conflict at work or that they create conditions conducive to conflict. There are several personality traits that have been shown to have a substantive relationship with conflict. Although some researchers would suggest controlling for the effects of personality traits such as negative affectivity, Spector and Bruk-Lee (in press) propose that they may act as moderators and their effects should not be partialled out of conflict/strain relationships (see also Spector, Zapf, Chen, & Frese, 2000). Therefore, while investigating the effects of personality on the conflict/strain process was beyond the scope of this study, future research should assess the moderating role of locus of control, negative affectivity, Type A, and trait anger on the relationships between the four conflict types measured by the ICOS and various well-being and organizational outcomes. Undoubtedly, such a study would make a significant contribution to our understanding of conflict's impact on personal and organizational outcomes and would help to further develop the proposed model (see Spector & Bruk-Lee, in press).

Concluding Remarks

This study addressed a significant gap in our research through the development of a construct valid and reliable measure of conflict based on a comprehensive definition of the construct. Not only was this new measure designed to assess the more traditionally studied task and relationship conflict types, but it also assesses task process and non-task organizational conflict. By having differentiated between task outcome and task process conflict, additional research may be conducted to determine whether these two conflict types are, in fact, distinct. Furthermore, factor analyses supported subscale structures that consisted of items measuring disagreement, interference, and emotion. Although some

may suggest that specific outcomes may be better predicted by the combination of only a few of the components, the ICOS was designed to support a three-component model of conflict. Nevertheless, specific factor scores may be calculated which is another advantage of this scale above other widely used measures.

The findings from the validation phase challenge the notion that conflict may serve constructive functions and further support the role of conflict as a leading social stressor among working people. The development of the ICOS has the potential of making a significant contribution to our understanding of conflict's impact on personal and organizational outcomes by offering researchers a reliable and comprehensive instrument for measuring task outcome, task process, relationship, and non-task organizational conflict. To date, none of the other widely used measures provide such a comprehensive assessment of interpersonal conflict in organizations.

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Appendices

Appendix A: Focus Group Script

Good (morning/afternoon/evening). I'm Valentina Lee, a graduate student in the Industrial/Organizational Psychology program at USF. I will lead you in a discussion about conflict in the workplace.

I am sure you have questions about why you are here today and what is expected of you. To answer your questions, I want to explain to you the purpose of this study. Researchers have found that conflict in the workplace can have important organizational and personal consequences for employees, however there are few ways to assess conflict in the workplace. AS a result, I am working on the development of a conflict scale that can measure this important source of stress more effectively than the measures currently being used. Your discussion today will be very important in the development of such scale.

I would like you to know that everything you say here today will remain strictly confidential. Any notes that I take will be written in such a manner that no individual can be identified. Also, your participation is voluntary.

I will first pass out a paper with six demographic questions that will be used for research purposes only. At the end of the session, I will ask you to write down two incidents that you may described throughout our discussion in which you experienced or observed conflict in the workplace. These two incidents will be anonymous, as you will not write your name or any identifiable information on them.

1. What do you think defines conflict in the workplace?
2. In a scale of 1 to 5, where 1 is never and 5 is everyday, do you encounter conflict in the workplace?

Appendix A (Continued)

3. Tell me about an instance when you experience conflict at work? Has anyone else experienced a similar situation?
4. What are some sources of conflict in your workplace?
5. Do you think that your reaction to conflict varies depending on the source of the conflict?
6. In a scale of 1 to 5, where 1 is never and 5 is every time, how often do you think your conflict has been resolved?
7. In a scale of 1 to 5, where 1 is never and 5 is always, how often do you think conflict can be seen as being positive?
8. Can you give me some examples of times when conflict was positive?
9. Can you now give me some examples of times when conflict was negative?
10. Do you think that others in your department experience the same amount of conflict that you do?
11. Would you say that you are encountering more conflict in your current job than in a past job?
12. Do you think conflict in your workplace varies as a function of time (e.g., day, month, or year)?
13. In a scale of 1 to 5, where 1 is never and 5 is always, do you think that conflict is a consequence of your emotional state?
14. How often do you think that incivility precedes conflict? For example, someone being rude to you.
15. Do you think conflict is associated with gender or race?

Appendix B: Demographical Information

1. Gender: _____ Male _____ Female
2. Age: _____
3. How many hours a week do you work in your current job(s)? _____
4. How long have you worked in your current job? _____ years _____ months
5. Mark with an 'x' the group that best describes you:
 Asian/Pacific Islander Black Non-Hispanic Hispanic
 American Indian/Alaskan Native White Non-Hispanic Other
6. Mark with an 'x' the industry sector you work in:
 Manufacturing Retail Education
 Government Entertainment Financial Services
 Hospitality Communications Technology
 Medical/Social service Service Military
 Other (please specify) _____
- *7. Is your job
 White collar Blue collar
- *8. How many days have you missed from work other than vacation in the past 90 days?

* Questions appeared only in Phase II

Appendix C: Original Items of the Interpersonal Conflict in Organizations Scale

The following questions ask about your interpersonal relationships *at work*. Please indicate *how often* each of the following events occurs in your *present* job by placing an X in the appropriate box. Answer each item as accurately as possible even if it appears to be similar to another. Please note that your answers will be used for research purposes only.

1. Do you disagree with someone on the goals of a work task?
2. Do you get into disagreements with others at work over *non-work* related issues?
3. Are you in a dispute with someone at work caused by differences in organizational power?
4. Do you have differences in opinion regarding the recognition that you deserve?
5. Do you argue with someone over how you manage your work task(s)?
6. Do you have conflicts with others at work due to gossip over personal matters?
7. Are you in disagreement with someone at work because of a company policy?
8. Do you have different viewpoints regarding a work task?
9. Are you in conflict with someone at work because of organizational changes?
10. Do you get into disagreements with others at work because of differences in personality?
11. Are you in disagreement with someone over salary issues?
12. Do you disagree with someone because of something you or they do in performing the work task(s)?
13. Are you in conflict with someone over how work tasks are assigned?
14. Are you in disagreement with someone over personnel staffing issues?
15. Do you disagree with someone over who is responsible for specific work task(s)?
16. Do you have differences in opinion regarding what should be the end product of a work task?
17. Do you get into disagreements with others at work caused by jealousy?
18. Are you in a dispute for not following the standard procedures for performing a work task?
19. Do you have differences in opinion regarding when a work task should be performed?
20. Do you disagree with someone about the hiring decisions in your organization?
21. Do you disagree with someone on what is the content of a work task to be performed?
22. Do you disagree with someone at work due to differences in personal values?
23. Do you get into conflicts with someone over issues related to the office equipment?
24. Are you in conflict with someone because they do not follow through on their part of a work task?
25. Do you argue with someone at work because of racial tensions?
26. Do you argue with someone over how work tasks are assigned?
27. Do you disagree with someone over how to plan your work task(s)?
28. Do you argue with someone at work because you do not like working together?
29. Do you argue with someone at work over issues related to absenteeism/tardiness?

Appendix C (Continued)

30. Are you in a disagreement with someone over issues related to the organizational culture?
31. Do you have differences in opinion regarding how a work task should be performed?
32. Do you have misunderstandings with others at work due to differences in cultural backgrounds?
33. Do you differ in opinion with someone at work because you simply cannot get along?
34. Do you disagree with someone over organizational-related issues that do not pertain to a specific work task? (i.e., fringe benefits, parking, etc).
35. Do you get into conflicts with someone over what should be done in a work task?
36. Do you get into conflicts with others at work because of a lack of personal trust?
37. Do you have incompatible ideas regarding what should be the outcome of a work task?
38. Do you argue with others at work because they do not keep their personal problems to themselves?
39. Do you dispute with someone at work because of poor organizational leadership?
40. Do you quarrel with someone because they tell you how to perform your work task(s)?
41. Do you argue with others at work due to differences in the social groups you or they belong to?
42. Do you have disagreements with someone over issues related to a promotion?
43. Do you argue with someone at work because of implied organizational policies? (i.e., being expected to work late even though it is not a formal requirement)

The following questions ask about behaviors that you may engage in or experience in your workplace. Please indicate *how often* each of the following events occurs in your *present* job by placing an X in the appropriate box.

44. Do YOU prevent OTHERS from completing their work task(s)?
45. Do OTHERS prevent YOU from completing your work task(s)?
46. Do YOU block OTHERS from completing THEIR work tasks in the manner in which THEY want to?
47. Do OTHERS block YOU from completing YOUR work tasks in the manner in which YOU want to?
48. Do YOU interfere in the personal life of OTHERS at work?
49. Do OTHERS at work interfere in YOUR personal life?
50. Do YOU block OTHERS from attaining THEIR objectives because of differences in organizational power?
51. Do OTHERS block YOU from attaining YOUR objectives because of differences in organizational power?
52. Do YOU block OTHERS at work from accomplishing THEIR personal goals?
53. Do OTHERS at work block YOU from accomplishing YOUR personal goals?

Appendix C (Continued)

54. Do YOU interfere with the way in which OTHERS manage their work task(s)?
55. Do OTHERS interfere with the way in which YOU manage your work task(s)?
56. Do YOU say negative things about OTHERS that jeopardize how THEY are viewed at work?
57. Do OTHERS say negative things about YOU that jeopardize how YOU are viewed at work?
58. Do YOU impede OTHERS from accomplishing the goals of their work task(s)?
59. Do OTHERS impede YOU from accomplishing the goals of your work task(s)?
60. Do YOU get OTHERS into trouble at work because YOU do not like THEM?
61. Do OTHERS get YOU into trouble at work because THEY do not like YOU?
62. Do YOU interfere with SOMEONE'S goals because of a salary related issue?
63. Does SOMEONE interfere with YOUR goals because of a salary related issue?
64. Do YOU interfere with SOMEONE'S job making it difficult for THEM to finish THEIR work task(s)?
65. Does SOMEONE interfere with YOUR job making it difficult for YOU to finish YOUR work task(s)?
66. Do YOU impede SOMEONE's work because an organizational policy allows YOU to?
67. Do OTHERS impede YOUR work because an organizational policy allows THEM to?
68. Do YOU interfere with what OTHERS think should be done in a work task?
69. Do OTHERS interfere with what YOU think should be done in a work task?
70. Do YOU do things to annoy OTHERS at work because you cannot get along?
71. Do OTHERS at work do things to annoy YOU because you cannot get along?
72. Do YOU make OTHERS look bad because of delays in completing YOUR work task(s)?
73. Do OTHERS make YOU look bad because of delays in completing THEIR work task(s)?
74. Do YOU obstruct OTHERS from performing their work tasks at the time when THEY want to?
75. Do OTHERS obstruct YOU from performing your work tasks at the time when YOU want to?
76. Do YOU make it impossible for OTHERS to enjoy THEIR jobs because YOU simply do not like THEM?
77. Do OTHERS make it impossible for YOU to enjoy YOUR job because THEY simply do not like YOU?
78. Do YOU prevent OTHERS from following the procedures for performing a work task?
79. Do OTHERS prevent YOU from following the procedures for performing a work task?
80. Do YOU make SOMEONE's life more difficult over an organizational-related issue that does not pertain to your specific work tasks? (i.e., fringe benefits, parking, etc)

Appendix C (Continued)

81. Does SOMEONE make YOUR life more difficult over an organizational-related issue that does not pertain to your specific work task(s)? (i.e., fringe benefits, parking, etc)
82. Do YOU thwart SOMEONE'S goal/objectives because of personal differences?
83. Does SOMEONE at work thwart YOUR goals/objectives because of personal differences?
84. Do YOU impede OTHERS from doing THEIR job because YOU do not have the resources necessary to complete YOURS?
85. Do OTHERS impede YOU from doing YOUR job because THEY do not have the resources necessary to complete THEIRS?
86. Do YOU make SOMEONE'S life more difficult at work because of personal differences?
87. Does SOMEONE make YOUR life at work more difficult because of personal differences?
88. Do YOU affect the work of OTHERS because of changes to YOUR job?
89. Do OTHERS affect YOUR work because of changes to THEIR job?
90. Do YOU meddle with SOMEONE'S process for completing their work task(s)?
91. Does SOMEONE meddle with YOUR process for completing your work task(s)?
92. Do YOU interfere with SOMEONE's objectives because the organizational culture supports this type of behavior?
93. Does SOMEONE interfere with YOUR objectives because the organizational culture supports this type of behavior?
94. Are you in a physical fight with someone at work because of personal matters?

The following questions ask about emotions you may experience as a result of your interpersonal relationships at work. Please indicate *how often* each of the following events occurs in your *present* job by placing an X in the appropriate box.

95. Do you feel frustrated with others because you are asked to complete work tasks that are not a part of your job?
96. Do you feel angry with others due to differences in opinions regarding how you should complete your work task(s)?
97. Do you feel annoyed by others because of the requirements of a work task?
98. Do you feel irritated by personal differences in your workplace?
99. Do you feel frustrated with others because they interfere with you achieving the goals of a work task?
100. Do you feel mad at someone else's attempt to thwart your goals/objectives because they dislike you?
101. Do you feel irritated with others because you do not agree with the goals of a work task?
102. Do you feel frustrated with others at work over issues related to salary?
103. Do you feel mad because of personal friction with others in your workplace?
104. Do you feel annoyed by others at work because they make your work task(s) more difficult to complete?

Appendix C (Continued)

105. Do you feel tense because of disagreements over *non-work* related issues?
106. Do you feel tense because of conflicts caused by a lack of personnel?
107. Do you feel angry at the people you work with because they do not "follow through" on their work task(s)?
108. Do you feel angry at others because of arguments caused by racial tensions?
109. Do you feel anxious due to the actions of someone with more organizational power?
110. Are you edgy with others over what the outcome of a task should be?
111. Do you feel anxious due to personality differences with others at work?
112. Do you feel irritated with others because they keep you from performing your tasks at the time that you want to?
113. Do you feel annoyed by others because they want you to perform your works tasks in a different way?
114. Do you feel frustrated with others because of issues related to a company policy?
115. Do you feel angry with others because they interfere with what you think should be done in a work task?
116. Do you feel upset with others because of issues related to a promotion?
117. Do you feel frustrated with others at work because you cannot get along?
118. Do you feel frustrated with others over the outcome of a work task?
119. Do you feel apprehensive about coming to work due to personality clashes with others at work?
120. Do you feel upset with others because of the way in which work task(s) are delegated/assigned?
121. Do you feel mad due to conflicts over organizational changes?
122. Do you feel annoyed by others because they get in the way of you completing your work tasks as you plan to?
123. Do you feel tense because others in your organization do not value your work?
124. Do you feel frustrated with others over who is responsible for specific work task(s)?
125. Do you feel tense working with others in your workplace?
126. Do you feel tense because of disagreements caused by not following the standard procedures for performing a work task?
127. Do you feel angry with the people at your workplace because you do not like them?
128. Do you feel frustrated with others because of issues related to personnel staffing?

Appendix D: Final Items on the Interpersonal Conflict in Organizations Scale

Task Outcome Subscale

The following questions ask about your interpersonal relationships at work. Please indicate how often you experience each of the following events in your present job.

1. Do you disagree with someone on the goals of a work task?
2. Do you have differences in opinion regarding what should be the end product of a work task?
3. Do you disagree with someone on what is the content of a work task to be performed?
4. Do you get into conflicts with someone over what should be done in a work task?
5. Do you have incompatible ideas regarding what should be the outcome of a work task?

The following questions ask about behaviors that you may experience or engage in at work. Please indicate how often each of the following events occurs in your present job.

6. Do OTHERS prevent YOU from completing your work task(s)?
7. Do OTHERS impede YOU from accomplishing the goals of your work tasks?
8. Does SOMEONE interfere with YOUR job making it difficult for you to finish your work task(s)?
9. Do YOU impede OTHERS from accomplishing the goals of their work task(s)?
10. Do YOU interfere with SOMEONE's job making it difficult for them to finish their work task(s)?
11. Do YOU interfere with what OTHERS think should be done in a work task?

The following questions ask about emotions you may experience as a result of your interpersonal relationship at work. Please indicate how often each of the following events occurs in your present job.

12. Do you feel angry with others because they interfere with what you think should be done in a work task?
13. Do you feel frustrated with others over the outcome of a work task?
14. Do you feel irritated with others because you do not agree with the goals of a work task?
15. Are you edgy with others over what the outcome of a work task should be?
16. Do you feel annoyed by others at work because they make your work task(s) more difficult to complete?

Task Process Subscale

The following questions ask about your interpersonal relationships at work. Please indicate how often you experience each of the following events in your present job.

Appendix D (Continued)

1. Do you argue with someone over how you manage your work task(s)?
2. Do you disagree with someone because of something you or they do in performing the work task(s)?
3. Are you in conflict with someone over how work task(s) are assigned?
4. Do you have differences in opinion regarding WHEN a work task should be performed?
5. Do you have differences in opinion regarding HOW a work task should be performed?

The following questions ask about behaviors that you may experience or engage in at work. Please indicate how often each of the following events occurs in your present job.

6. Does SOMEONE interfere with the way in which YOU manage your work task(s)?
7. Do OTHERS obstruct YOU from performing your work task(s) at the time when you want to?
8. Do OTHERS prevent YOU from following the procedures for performing a work task?
9. Do YOU block OTHERS from completing their work task(s) in the manner in which they want to?
10. Do YOU interfere with the way in which OTHERS manage their work task(s)?
11. Do YOU obstruct OTHERS from performing their work tasks at the time when they want to?

The following questions ask about emotions you may experience as a result of your interpersonal relationship at work. Please indicate how often each of the following events occurs in your present job.

12. Do you feel angry with others due to differences in opinion regarding how you should complete your work task(s)?
13. Do you feel irritated with others because they keep you from performing your tasks at the time that you want to?
14. Do you feel annoyed by others because they want you to perform your work tasks in a different way?
15. Do you feel frustrated with others over who is responsible for specific work tasks?
16. Do you feel annoyed by others because they get in the way of you completing your work tasks as you planned to?

Relationship Subscale

The following questions ask about your interpersonal relationships at work. Please indicate how often you experience each of the following events in your present job.

Appendix D (Continued)

1. Do you get into disagreement with others at work because of differences in personality?
2. Do you disagree with someone at work due to differences in personal values?
3. Do you argue with someone at work because you do not like working together?
4. Do you differ in opinion with someone at work because you simply cannot get along?
5. Do you get into conflicts with others at work because of a lack of personal trust?

The following questions ask about behaviors that you may experience or engage in at work. Please indicate how often each of the following events occurs in your present job.

6. Do OTHERS say negative things about YOU that jeopardize how you are viewed at work?
7. Do OTHERS get YOU into trouble at work because they do not like you?
8. Do OTHERS at work do things to annoy YOU because you cannot get along?
9. Do YOU say negative things about OTHERS that jeopardize how they are viewed at work?
10. Do YOU get OTHERS into trouble at work because you do not like them?

The following questions ask about emotions you may experience as a result of your interpersonal relationship at work. Please indicate how often each of the following events occurs in your present job.

11. Do you feel mad because of personal friction with others in your workplace?
12. Do you feel anxious due to personality differences with others at work?
13. Do you feel frustrated with others at work because you cannot get along?
14. Do you feel apprehensive about coming to work due to personality clashes with others at work?
15. Do you feel tense working with others at your workplace?

Non-task Organizational Subscale

The following questions ask about your interpersonal relationships at work. Please indicate how often you experience each of the following events in your present job.

1. Are you in a dispute with someone at work caused by differences in organizational power?
2. Are you in a disagreement with someone at work because of a company policy?
3. Do you disagree with someone about the hiring decisions in your organization?
4. Do you disagree with someone over organizational-related issues that do not pertain to a specific work task? (i.e. policies, organizational culture, benefits)
5. Do you dispute with someone at work because of poor organizational leadership?

Appendix D (Continued)

The following questions ask about behaviors that you may experience or engage in at work. Please indicate how often each of the following events occurs in your present job.

6. Do OTHERS impede YOUR work because an organizational policy allows them to?
7. Does SOMEONE make YOUR life more difficult over an organizational-related issue that does not pertain to a specific work task? (i.e., policies, organizational culture, benefits)
8. Do OTHERS block YOU from attaining your objectives because of differences in organizational power?
9. Do YOU make SOMEONE's life more difficult over an organizational-related issue that does not pertain to a specific work task?(i.e., policies, organizational culture, benefits)
10. Do YOU block OTHERS from attaining their objectives because of differences in organizational power?
11. Do YOU impede SOMEONE's work because an organizational policy allows you to?

The following questions ask about emotions you may experience as a result of your interpersonal relationship at work. Please indicate how often each of the following events occurs in your present job.

12. Do you feel anxious due to the actions of someone with more organizational power?
13. Do you feel frustrated with others because of issues related to a company policy?
14. Do you feel mad due to conflicts over organizational changes?
15. Do you feel tense because others in your organization do not value your work?
16. Do you feel frustrated with others because of issues related to personnel staffing?

All items are rated:

- 1 = Never
- 2 = Once or Twice
- 3 = Once or Twice a MONTH
- 4 = Once or Twice a WEEK
- 5 = Every Day

Appendix E: Jehn's (1995) Conflict Scale

Please indicate how much/often the following events occur in your workplace:

- 1= None
- 2= Very Little
- 3= Some
- 4= A Great Deal
- 5= A *Very* Great Deal

1. How much friction is there in your workplace?
2. How much are personality conflicts evident in your workplace?
3. How much tension is there among people at your work?
4. How much emotional conflict is there among people at your work?
5. How often do people you work with disagree about opinions regarding the work being done?
6. How frequently are there conflicts about ideas at your work?
7. How much conflict about the work you do is there?
8. To what extent are there differences of opinion in your workplace?

Appendix F: Interpersonal Conflict at Work Scale

Please indicate how often the following events occur in your present job.

- 1= Never
- 2= Once or Twice
- 3= Once or Twice a *Month*
- 4= Once or Twice a *Week*
- 5= Every Day

1. How often do you get into arguments with others at work?
2. How often do other people yell at you at work?
3. How often are people rude to you at work?
4. How often do other people do nasty things to you at work?

Appendix G: Depression Scale

Please indicate how often you have felt each of the following:

- 1= Almost Always
- 2= Very Often
- 3= Often
- 4= Sometimes
- 5= Seldom
- 6= Very Seldom
- 7= Never

1. I feel alone even when I am with others.
2. It is difficult for me to come to decisions.
3. I have sad moods.

Appendix H: Job Affective Well-being Scale

Please indicate how often any part of your present job (e.g., the work, co-workers, supervisor, clients, pay) has made you feel the listed emotion in the last 30 days.

- 1= Never
- 2= Once or Twice
- 3= Once or Twice a *Month*
- 4= Once or Twice a *Week*
- 5= Every Day

1. My job made me feel angry.
2. My job made me feel anxious.
3. My job made me feel bored.
4. My job made me feel depressed.
5. My job made me feel discouraged.
6. My job made me feel disgusted.
7. My job made me feel fatigued.
8. My job made me feel frightened.
9. My job made me feel furious.
10. My job made me feel gloomy.

Appendix I: Physical Symptoms Inventory

Over the past 6 months, how often have you experienced each of the following symptoms?

- 1= Less than once per month or never
- 2= Once or twice per month
- 3= Once or twice per week
- 4= Once or twice per day
- 5= Several times per day

1. An upset stomach or nausea
2. A backache
3. Trouble sleeping
4. Headache
5. Acid indigestion or heartburn
6. Eye strain
7. Diarrhea
8. Stomach cramps (Not menstrual)
9. Constipation
10. Ringing in the ears
11. Loss of appetite
12. Dizziness
13. Tiredness or fatigue

Appendix J: Job Satisfaction Scale

Please indicate your agreement or disagreement with the following statements:

- 1= Disagree Very Much
- 2= Disagree Moderately
- 3= Slightly Disagree
- 4= Agree Slightly
- 5= Agree Moderately
- 6= Agree Very Much

1. In general, I don't like my job.
2. All in all, I am satisfied with my job.
3. In general, I like working here.

Appendix K: Turnover Intentions

Please indicate how often you have considered the following:

- 1= Never
- 2= Rarely
- 3= Sometimes
- 4= Somewhat Often
- 5= Quite Often
- 6= Extremely Often

1. How often have you seriously considered quitting your job?

Appendix L: Counterproductive Work Behaviors

Please indicate how often you have done each of the following in your present job.

- 1= Never
- 2= Once or Twice
- 3= Once or Twice a *Month*
- 4= Once or Twice a *Week*
- 5= Every Day

1. Daydreamed rather than did your work.
2. Came to work late without permission.
3. Stayed home from work and said you were sick when you were not.
4. Taken a longer break than you were allowed to take.
5. Left work earlier than you were allowed to.

Appendix M: Trust Scale

Please indicate the how often the following statements occur in your workplace.

- 1= Never
- 2= Very Seldom
- 3= Seldom
- 4= Sometimes
- 5= Often
- 6= Very Often
- 7= Always

1. The people I work with and I absolutely respect each other's opinions.
2. Every employee shows absolute integrity.
3. The people I work with and I expect the complete truth from each other.
4. The people I work with and I are all certain that we can fully trust each other.
5. The people I work with and I count on each other to fully live up to our word.

Appendix N: Cardiovascular Disease Risk Factor Item

1. Have you been diagnosed with any of the following? (Check all that apply)

High blood pressures

Coronary disease

High cholesterol

High triglycerides

Does not apply

Appendix O: Accidents/Injuries Item

1. How many times have you suffered an accident or injury in your current job?

___ 0

___ 1-2

___ 3-4

___ 5+

About the Author

Valentina Bruk Lee was born in Caracas, Venezuela. She received her Bachelor of Science in Communications from the University of Miami in 2000 with double majors in Public Relations and Psychology. Valentina began the doctorate program in Industrial/Organizational Psychology at the University of South Florida working under the guidance of Dr. Paul E. Spector. She was the first graduate with a concentration in Occupational Health Psychology from USF. Valentina has published in the Journal of Occupational Health Psychology and has authored various book chapters and encyclopedia entries. She has also presented her research at national conferences, including the Annual Meeting of the Society for Industrial/Organizational Psychologists and the Work, Stress, and Health conference.