# Assessing the Conflict Resolution Profiles of Emerging Information Systems Professionals

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#### **ABSTRACT**

Conflict among Information Systems (IS) employees, and between IS employees and others outside their group, has the potential to add significantly to the cost of doing business for U.S. firms. While some conflict may serve the purpose of crafting a more refined product, significant or unresolved conflict can effectively serve to delay or scuttle even the most well-planned or well-designed project.

Information Systems educators are in a unique position to contribute to the effective management of conflict. By using assessment/measurement techniques such as those illustrated in this study, opportunities to understand and manage conflict in the classroom and in classroom projects may be enhanced. Further, conflict assessment techniques learned and utilized by students in classroom exercises may be carried forward by those students as they begin their professional careers, thereby possibly contributing to the more effective management of conflict by IS organizations.

This study was designed to demonstrate how educators may objectively measure or assess the conflict resolution traits of students who in many cases represent prospective/emerging IS employees. Some 200+ college students, the majority of whom were Information Systems majors, were assessed regarding their tendency toward collaboration, cooperation, accommodation, compromise, competition, and conflict avoidance. Results of the study reinforce previous studies which support the reliability of such assessment techniques. Other findings indicate that overall group means for the students were quite comparable to industry norms but that differences in a number of aspects related to conflict resolution styles exist between males and females, traditional and non-traditional age students, and between those with and those without work experience. Participants scored highest on the compromising construct, followed in order by the modes of avoiding, accommodating, collaborating, and competing.

Keywords: Conflict Resolution, Information Systems Students, Conflict Profiles, Conflict Resolution Strategies.

## 1. INTRODUCTION

Managers may spend as much as 18% of their time managing employee conflicts, a figure that has nearly doubled in the past ten to fifteen years (McShulskis, 1996). If not managed properly, conflict may significantly affect employee morale, turnover rates, and even result in litigation ultimately affecting the overall health of the organization (Hirschman, 2001; McKenzie, 2002). As a result of the increase in the time, effort and money spent managing conflict, whether seeking employees with "the ability to work with others" or the

attributes of a "team player", employers are increasingly emphasizing the ability of their employees to manage or resolve conflict as a key ingredient of future success for both the individual and the firm.

But how well prepared are tomorrow's Information Systems (IS) graduates to assume this role of team player? Many academic programs, in an effort to model industry practice, assign group projects in an attempt to facilitate the teamwork and conflict resolution skills of their graduates. Unfortunately, both in the classroom and in the workplace, projects are often assigned with limited objective information regarding how individuals

or groups will mediate the conflict that may arise. And when those individual or group efforts encounter difficulty or fail altogether, rarely do those supervising the performance have the tools and/or the information available that could enable them to identify and resolve the cause of current problems or possibly avoid some of those problems in the future.

This study, then, was designed to "begin at the beginning" by illustrating how a proven instrument can be used to accurately and reliably assess existing conflict resolution styles. In this way, the study is designed to provide insight into how such a tool can or should be used, illustrate the potential value (for conflict management purposes) of the information provided by such an instrument, and also challenge the existing assumptions regarding the conflict resolution skills held by this group of emerging IS professionals.

## 1.1 Background

Conflict has long been a source of study in the management literature with many definitions abounding. Rahim (2001) suggests that while no one definition of conflict has been accepted, in general conflict can be described as "...an interactive process manifested in incompatibility, disagreements, or dissonance within or between social entities (i.e., individual, group, and organization)" (p. 32). The definition supplied by the authors of the instrument used in this study simply describes conflict as a situation where "...the concerns of two people appear to be incompatible." (Thomas-Kilmann, 1974, p. 9)

Regardless of the specific definition applied, increasingly firms have moved from efforts to eliminate conflict effectively managing acknowledging that conflict is simply an expected (and sometimes even desirable) byproduct of organizational processes. But how can that which is not objectively measured or assessed be managed? It is the contention of the authors of this study that without first performing an accurate assessment of the potential for conflict (and identifying the types of conflict likely to occur) managing the conflict process becomes extremely difficult. Again, the primary purpose of this study, then, is to demonstrate the effective use of an instrument designed to assess conflict resolution profiles (conflict tendencies), with implications for the conflict management process.

## 1.2 An Opportunity for Educators

Because the participants in this study are first and foremost Information Systems students, the research presented here offers specific opportunities for those charged with educating tomorrow's IS professionals. First, the potential for conflict exists in every classroom. Whether one considers the entire class as individuals with conflicting interests or as subgroups with

competing concerns, a significant potential for conflict exists. The instrument used in this study offers the potential to provide information to the educator that could very well make the conflict management process and classroom management a more successful endeavor. If, for example, an entire class of students were asked to complete a conflict mode survey, individuals who repeatedly clash during class discussions could be counseled in light of their profiles in an effort to reduce the negative consequences of their conflict. For group projects, the instructor could easily assess the conflict resolution styles of the students prior to creating such groups in an attempt to facilitate the progress and success of that group.

In either case, simply providing students with the opportunity to assess their own profile and educating them on the preferred styles appropriate for various conflict situations has the potential to make them better managers of their own conflicts and would have the potential for enhancing the classroom experience for both the instructor and the students.

Equally important as educating students on the concepts of conflict resolution modes for classroom purposes, is the fact that students as emerging professionals, will likely have the future opportunity to bring such knowledge to bear in a wide variety of employment situations. Just as important as providing students with relevant technical skills or knowledge, we believe, is the task of educating students regarding the most effective organizational or group processes to be used as either participants or managers of the application development effort.

#### 2. RELATED STUDIES

The Thomas-Kilmann instrument was used in a study of graduate students (all of whom possessed professional experience) by Volkema and Bergmann (1995). The purpose of this study was to identify a linkage between the self-reported conflict handling strategies and actual resulting behaviors. While effectively finding that such linkages do exist, the results of their study indicated that the Thomas-Kilmann survey may differentiate more effectively between assertive orientations than between cooperative orientation.

Johnson (1997) also used the Thomas-Kilmann instrument in a study which indicated that the conflict mode preferences of personality type groups were related to and consistent with the Myers-Briggs Type Indicator (MBTI) categories. According to the results of this study, Thinkers (T) preferred competition; Feelers (F) preferred accommodation; Extraverts (E) preferred collaboration; and Introverts (I) preferred conflict avoidance.

Carter's (1999) study on conflict used the Thomas-Kilmann instrument along with the Piers-Harris instrument to identify the relationship between students' characteristics and formal conflict resolution. Ethnicity and gender were two factors identified by the study that were shown to influence conflict resolution styles.

Haferkamp (1992), utilizing a different measure of conflict resolution preferences also found differences in conflict resolution strategies, based on subjects' gender. This study found that males were more likely to utilize avoidance strategies than their female counterparts in resolving conflict. Further, the study indicated that females were more likely to use a cooperative strategy to resolve conflict than the male subjects.

Unfortunately, despite the number of conflict resolution studies found in the social, behavioral sciences and other areas, there is a distinct lack of investigation/research found among the population identified in the current study. Given the lack of prior research in the area and the numerous sources of potential conflict for this population of subjects, such a study would appear highly appropriate.

## 3. RESEARCH DESIGN

Some 225 students (approximately 25% of the university's population of declared IS majors) enrolled in undergraduate Information Systems courses at a large Midwestern university were assessed with regard to their particular propensity for conflict resolution using the Thomas-Kilmann Conflict Mode Instrument.

In addition to the 30-item conflict mode instrument, in order to investigate the differences in the subgroups of students represented in the study, study participants were asked to respond to a number of items related to their personal characteristics (age, gender, etc.) and educational experiences. This demographic data was collected in order to study the relationships between those characteristics and the conflict constructs measured by the Thomas-Kilmann Conflict Mode instrument.

Once collected, the data were subjected to a thorough statistical analysis using a variety of techniques including ANOVA and t-test assessment. Unless otherwise specified, all reported findings were significant at the .05 level.

# 3.1 The Instrument

The two-dimension model derived by Blake and Mouton (1964) is the theoretical foundation for many conflict studies and/or instruments. One of the best-known resulting measures, and also the instrument used

in this study, is the Thomas-Kilmann Management of Difference Instrument (MODE), initially developed in 1974.

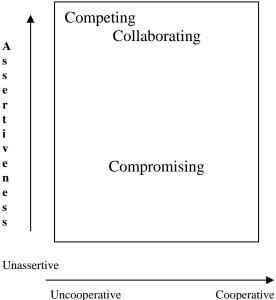
Previous research cited in the area suggests that conflict profiles can be measured with success using the Thomas-Kilmann instrument and other factors associated with these profiles readily identified. Reliability data for the Thomas-Kilmann instrument has been reported as ranging from .61-.68 (test-retest) and .43-.71 (Cronbach alpha) (Rahim, p. 47-49) indicating that the instrument is a highly reliable device for such assessments.

#### 3.2 Factors Assessed

The instrument is designed to assess an individual's behavior using the two dimensions of assertiveness and cooperativeness. Assertiveness is defined for purposes of this instrument as those situations in which an individual is concerned with satisfying their own wants or needs. Cooperativeness, then, is used to describe the situation in which an individual's effort is directed at satisfying the needs of others. Using the two dimensions described above, five "conflict-handling modes" are derived as illustrated in the following model:

Figure 1 – Two-dimensional Conflict Handling Model (Thomas & Kilmann, 1974)

Assertive



The mode of *competing*, the construct in the upper left quadrant of Figure 1, is used to describe behavior that is assertive and uncooperative. In this first of the five

Cooperativeness

styles of conflict resolution, an individual is intent on pursuing their own goals at the expense of others. This mode is further described by the instrument's authors as being "power-oriented" (Thomas and Kilmann, p. 10).

The second construct in the series of conflict handling styles, located in the lower right quadrant of Figure 1, is accommodating. It is used to describe behavior that is unassertive and cooperative. An individual described as accommodating attempts to meet the needs of others, sacrificing their own interests to satisfy those of others.

The third style of conflict resolution, the construct found in the lower left quadrant in Figure 1, is termed *avoiding*. It is used to describe behavior that is unassertive and uncooperative. A person pursuing this strategy will simply attempt to not deal with the conflict at hand. Avoidance, postponement and withdrawal are behaviors associated with this type of conflict resolution strategy.

Collaborating, the construct found in the upper right quadrant of Figure 1, is used to identify behavior that is assertive and cooperative. It describes the process of constructing a solution that meets the needs of both parties involved in the conflict. Issues of conflict would be identified explored, understood and resolved as a result of this process.

In the middle of Figure 1, lies the construct known as *Compromising*. In this process, some concession is made by one of the parties involved, unlike collaboration in which the solution represents the best interests of both parties. Also unlike the collaborative process, the solution found through compromise can sometimes be reached rather quickly.

Further, while no single style of conflict resolution mode is always appropriate, certain styles may be more appropriate for given conflict situations. Relationships between conflict resolution modes and the situations in which each may be preferred are illustrated in Table 1.

# 3.3 Research Questions

While one focus of this study was the basic assessment of the overall group means for the various conflict resolution profiles that existed among the students, the specific research questions addressed by the study were based on a strategy of dividing the study participants into various subcategories or groups and examining the differences (if any) that existed between those groups for each of the five conflict resolution constructs. The subgroups studied included males, females, traditional (ages 18-22) and nontraditional (age 23+) students, IS majors (33 hours/11 semester-long courses of IS coursework), non-majors (IS minors, 18 hours/6 semester-long courses of IS coursework), students with

and without IS work experience, and finally the various classification of students (freshmen, sophomores, juniors, seniors). The specific research questions posed by the study examined whether:

- (1) mean **competing** scores the various subgroups or categories of students are the same
- (2) mean **collaborating** scores the various subgroups or categories of students are the same
- (3) mean **compromising** scores the various subgroups or categories of students are the same
- (4) mean **avoiding** scores the various subgroups or categories of students are the same
- (5) mean **accommodating** scores the various subgroups or categories of students are the same

In addition to the individual groups studied, in some cases additional analyses were performed using a combination of these groups (traditional, male students for example) in order to study the interaction that might exist between the identified group characteristics.

#### 4. RESULTS

#### 4.1 Demographic Data

Results from the demographic questions are summarized in Table 2. Responses indicate that 170 (76%) of the study subjects were male and 151 (67%) were traditional (18-22) in terms of their ages. Of the traditional age students, some 125 or 83% were male with 26 or 17% being female. Non-traditional students (age 23+) were made up of 45 (61%) males, with 29 (39%) being female. Some 186 (83%) were upper-class (junior-level and above) students with 109 college seniors representing the largest group (48%) of students.

Table 2 - Study Subjects' Characteristics (n=225)

Characteristic	•		
Gender	Male = 170	Female = 55	
Age	18-22 = 151	23+ = 74	
Age * Gender	18-22 Male =	18-22 Female =	
	125	26	
	23 + Male = 45	23+ Female = 29	
Classification	Jr. or $> 186$	Sr. = 109	
IS Hours*	9+ = 151	12+ = 97	
Completed			
Math Hours	6+ = 179	12+ = 40	
ACT Scores**	22+=151	30+ = 19	
GPA (Overall)	3.0+=154	3.5+=75	
GPA (IS Major)	3.0+ = 185	3.5+ = 115	
IS Major	Yes = 175	No (Minor +	
		Other) = $34$	
Work	Yes = 98	No = 127	
Experience			

<sup>\*</sup> A typical course is 3 hours long, meeting 3 hours each week during the 16-week semester

Table 1 – Conflict Modes and Their Uses (Thomas & Kilmann, 1974)

Conflict Mode	Uses
Competing	-When rapid decision-making is critical
	-Where issues are critical and unpopular
	decisions must be made
	-Where issues are critical to the company and the
	decision-maker is confident of their decision
	-In a competitive environment where you risk being taken
	advantage of by being noncompetitive
Collaborating	-When goals of both parties must be met
	-When the process of understanding both your own goals
	and those of your competitor are critical
	-When incorporation of multiple perspectives is critical
	-When commitment is critical
	-When it's necessary to resolve past feelings of ill will
Compromising	-When objectives are only somewhat important and
	disruption is the greater risk
	-When strong opponents pursue mutually exclusive
	objectives
	-When time is critical
	-When collaboration or competition fail
Avoiding	-When an issue does not warrant attention
	-When potential for success is limited
	-When risk exceeds potential benefit
	-When reflection is warranted
	-When more information is required
	-When others can resolve the situation more readily
	-When the issue is related to another more fundamental
	issue
Accommodating	-When your position is indefensible
	-When the issue is unimportant to you
	-To gain favor
	-When you are about to lose
	-When preserving the peace is critical
	-To allow others to learn from experience

Table 3 - Group Means for Conflict Resolution Mode Categories (n=217)

	Competing	Collaborating	Compromising	Avoiding	Accommodating
Mean	5.244	5.281	7.115	6.300	5.889
Median	5.000	5.000	7.000	6.000	6.000
Std Dev	2.917	2.281	2.095	2.360	2.411

A strong majority (151 of 225 or 67%) of the students had taken 9 or more hours (3+ semester- long courses) in the IS major with 97 students (43%) having taken 12 or more hours (4+ semester-long courses) in the major. A strong majority (179 or 80%) had taken 2 or more (6+ hours) college-level math courses.

ACT scores for the subjects were largely greater than 22 (151 or 67% possessed ACT scores of 22 or above). A strong majority (154 or 68%) of the students surveyed

reported a 3.0 or greater (on a 4.0 scale) overall grade point average, with 185 or 82% reporting a GPA greater than 3.0 in the IS major.

Fully 175 or 78% of the students studied were IS majors (11 courses for a total of 33 hours in IS), with the remainder either being IS minors (6 courses for a total of 18 hours in IS) or other majors. Finally, 98 or 44% of the study subjects reported having significant

(approximately 1 year) IS work experience.

**Table 4 - Norms for the Thomas-Kilmann Conflict Mode Instrument** 

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Thomas-Kilmann, 1974, p. 8

Dependent Sample Test 2-tailed Higher Variable Size Groups Statistic p-value Mean Competing 217 Traditional vs Nontraditional t = 2.0150.045 Traditional t = 2.4750.014 Competing 201 Major vs Minor Minor Collaborating t = 2.4600.015 217 Male vs Female Female Traditional Males vs Collaborating 146 **Traditional Females** t = 3.3370.001 **Traditional Females** Compromising 217 Experienced vs Nonexp. t = 2.2050.028 Experienced Compromising 200 Fresh. & Soph., Jrs. & Srs. F = 3.6340.028 Seniors Avoiding 146 Traditional Males & Females t = 2.1960.03 Traditional Males Nontraditional Avoiding 217 Age & Gender F = 4.4880.035 Females Accommodating 146 Traditional Males vs Females t = 2.3460.02 Traditional Males Nontraditional 217 F = 4.2040.042 Accommodating Age & Gender Females 201 Major vs Minor t = 2.3320.021 Major Accommodating

**Table 5 – Group Differences for Conflict Resolution Mode Categories** 

# **4.2 Conflict Resolution Modes**

Scores for each of the conflict resolution modes are accumulated by counting the responses to groups or clusters of questions contained in the survey. The minimum score for each category would be 0, with the maximum score being 12.

Group means for each of the five categories are contained in Table 3. From this table it can be seen that students scored highest on the construct of compromising, followed by scores for avoiding, accommodating, collaborating and competing respectively. When compared to the norms established by the instrument's developers (representing scores from some 400 mid and upper level managers in business and government), however, all of the means fall within the middle 50% (Table 4) of those norms. These means become more significant as we discuss the mean scores for each of the five conflict resolution categories for the various subgroups found within the study population.

**4.2.1 Competing:** Findings resulting from a statistical analysis of the data indicate that with regard to the conflict resolution mode of competing, a significant

difference exists between the means for traditional and non-traditional students (Table 5). The mean competing score for the non-traditional students was 4.676 while the traditional students' mean score was significantly higher at 5.521. Therefore, with regard to research question 1, mean competing scores for nontraditional students are not the same as the competing scores for traditional students.

Also with regard to the competing construct and research question 1, IS minors had significantly higher means than the IS majors. The mean score for non-IS majors was 6.353, with the mean competing score for IS majors being 5.000.

**4.2.2 Collaborating:** With regard to research question and construct 2, a significant difference was identified for male and female subjects for the collaborating conflict resolution mode. Female mean scores (5.943) were higher than males (5.067). This difference was also shown to exist when comparisons were made between age and gender. Traditional female subjects had a significantly different (higher) mean collaborating score (6.577) than did nontraditional females (5.333).

Further analysis of the data collected for male students

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however, found no significant difference between the collaborating mean scores of male traditional-age students (4.975) and male non-traditional age students (5.318).

- **4.2.3 Compromising:** With regard to research question 3, subjects with work experience in the IS field were found to have significantly higher scores (7.394) on the compromising mode than did those subjects with no work experience (6.902). Compromising mean scores for the various classifications of students also varied significantly between under-class (freshmen and sophomores) students (7.000) and juniors (6.578) and seniors (7.462).
- **4.2.4 Avoiding:** Regarding research question 4, mean avoiding scores for traditional female students (5.308) were significantly lower than those for traditional male students (6.467).

In studying the interaction between age and gender, female non-traditional students had significantly higher mean avoiding scores (6.667) than did traditional female students (5.308).

**4.2.5 Accommodating:** With regard to this final conflict resolution mode and the final research question (5), traditional female students had a significantly lower mean (4.731) than did traditional males (5.950).

In examining the interaction between age and gender, non-traditional female students had significantly higher accommodating scores (6.444) than did traditional age female students (4.731).

Finally, in comparing the mean accommodating scores for IS majors and minors, majors were shown to have a significantly higher mean score (6.108) for this construct than did the minors (5.059).

### 4.3 Summary of Results

The results of the statistical analyses performed as part of this study reveal some interesting overall trends or patterns present in the data:

- 1) Overall, the group of students evaluated possessed relatively "normal" scores when compared to those of the standard developed by the instrument's authors. Interestingly enough, the group did, however, score highest on the compromising construct with their scores on the avoiding profile being the second highest score assessed.
- 2) Conflict resolution styles did differ significantly across age and gender boundaries. For example, when considering only the age of the subjects, non-traditional

age (older) students were less competitive than their traditional age (younger) counterparts.

- 3) Gender produced some significant differences in the results of the group studied. Specifically, females had significantly higher scores on the construct of collaboration than did the male subjects. This would indicate, for example, that in a team-project environment the female subjects would be more likely to see their views reflected in the final product than would perhaps their male counterparts.
- 4) The interaction of age and gender, however, produced the most significant differences among those studied. For example, traditional female students appear to differ greatly from their male and non-traditional female counterparts. Based on their mean scores, traditional females were:
- -Less likely to avoid conflict than male subjects
- -Less likely to be accommodating than both males and non-traditional female subjects
- -More likely to be collaborative in their conflict resolution approach than non-traditional females

#### 4.4 Analysis of Results

With regard to the trends revealed by the analysis of data, the variations found among and between groups give rise to questions regarding explanations for these differences. For example, one possible reason for the relatively high compromising score found among the group could be explained by the fact that younger students (a characteristic shared by the majority of the study participants) may tend to seek peer approval and would tend to compromise toward the group mean.

Differences found in conflict resolution behaviors between the traditional and non-traditional students could also be affected by generational differences or the maturity level of the subjects studied. Gender differences could also be attributed the effects of culture, or conditioning as well as other environmental factors.

Such possible explanations, while interesting, are offered as suggestions for areas of future research and are not intended to suggest that such cause and effect relationships exist based simply on the findings of this research.

Regardless of the possible explanations, however, the most significant implication for educators is reinforcement of the idea that certain conflict resolution behaviors may be consistent within the groups identified in this study, but that those behaviors may or may not fit preconceived patterns of behaviors often

associated with the groups.

#### 5. CONCLUSIONS AND RECOMMENDATIONS

From the results of the data presented, it is apparent that a wide variety of conflict resolutions skills are in use by the current generation of IS students. Further while the mean scores of the students studied are comparable with those norms established by the instrument's authors, it is apparent that those strategies can differ significantly based on the individual's age and gender.

Differences in conflict handling strategies based on gender have been established not only by researchers using the Thomas-Kilmann instrument, but by those in the behavioral sciences utilizing other measures as well (Haferkamp, 1992; Bell & Forde, 1999). In this regard the results here continue to support those found by other researchers. One of the most interesting items to note from the current study, though, is the differences that were found to exist when the factors of age and gender were examined in combination. Challenging the assumptions that might be held by both educators and employers, the group of traditional age females (ages 18-22) studied here were found to be highly collaborative, less accommodating, and less likely to avoid conflict than were there male or traditional age counterparts. While the sample size for this particular group was relatively small, these results do differ somewhat from those found elsewhere in the previously cited literature and would certainly warrant further future investigation.

The current research was designed as a first step in assessing this profile of one group of prospective IS professionals and therefore is largely descriptive in its nature. For those charged with educating IS students, the study was designed to provide possible insight into the makeup of the current generation of majors and to demonstrate the potential for use for such an assessment. For both educators and industry professionals as well, the study was designed to provide insight and possibly challenge some assumptions regarding prospective hires.

This study was also designed to provide an analysis of the current situation as it exists at one university. Prior to any recommendations being made regarding activities designed to improve or modify conflict resolution profiles, additional study is clearly indicated.

The authors believe that ensuing research, utilizing even a broader range of IS students, should focus on possible processes that might influence a change in conflict resolution profiles. Studies of an experimental nature, for example, could very well use the instrument utilized here as a pre-test and post-test measure of the subjects' movement along the conflict resolution continuum. In this manner, methods of effecting change in terms of one of more of the conflict resolution constructs could be identified, so that if need be, processes could be put in place in both education and industry settings to enhance students' or employees' abilities to deal with conflict appropriately and constructively.

Despite the research that is to and should follow, the authors of this study would hope that given the reliability and successful use over time, others would be encouraged to begin to utilize the Thomas-Kilmann instrument or other similar tools. Clearly such devices offer the potential to provide insight into the potential for conflict in those environments in which teamwork exists, whether that be in industry or educational settings. Surely, the more information we possess regarding either employees' or students' abilities to deal with conflict, the better educators or business managers can understand and manage the conflict that may ultimately arise.

#### 6. REFERENCES

- McShulskis, E. [1996], "Managing Employee Conflicts," HR Magazine, 41(9), pp. 16-18.
- Hirschman, C. [2001], "Order in the Hearing," HR Magazine, 46(7), pp. 58-63.
- McKenzie, C. [2002], "Developing a CCO (Conflict Competent Organisation)," Management, 49(2), pp. 34-36.
- Rahim, M. Afzalur [2001], Managing Conflict in Organizations, Third Edition, Quorum Books, Westport, CT.
- Thomas, Kenneth W. and Kilmann, Ralph H. [1974], Thomas-Kilmann Conflict Mode Instrument. Consulting Psychologists Press, Inc., Palo Alto, CA.
- Volkema, Roger J. and Bergmann, Thomas J. [1995], "Conflict Styles as indicators of behavioral patterns in interpersonal conflicts," Journal of Social Psychology, 135(1), pp. 5-15.
- Johnson, Alan K. [1997], "Conflict-Handling intentions and the MBTI: A construct validity study," Journal of Psychological Type, 43, pp. 29-39.
- Carter, Candice C. [1999], "Conflict mediation at school: The influence of student characteristics," Dissertation Abstracts International, 59(10-A), p. 3718
- Haferkamp, Claudia J. [1991], "Orientations to conflict: Gender, attributions, resolution strategies, and selfmonitoring," Current Psychology, 10(4), pp. 227-240.
- Blake, R. R., and Mouton, J. S. [1964], The managerial grid. Houston, TX: Gulf.

Bell, Marianne and Forde, David R. [1999], "A factorial survey of interpersonal conflict resolution," Journal of Social Psychology, 139(3), pp. 369-377.

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