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Cognitive-experiential self theory and conflict-handling styles: Rational and experiential systems are related to the integrating and compromising conflict-handling styles

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Abstract

Purpose – The purpose of this paper was to examine how the rational and experiential systems according to the cognitive-experiential self theory (CEST) are related to conflict-handling styles.

Design/methodology/approach – Using a correlational design, data was collected using an on-line survey system examining CEST information-processing systems and five conflict-handling styles. A total of 426 undergraduate students, with paid jobs, complete the on-line survey.

Findings – Results showed that the rational system, experiential system and constructive thinking had significant positive relationships with both the integrating and compromising conflict-handling styles. Additionally, the rational system had a positive relationship with the dominating conflict-handling style and the experiential system and constructive thinking had a positive relationship with the obliging conflict-handling style. The rational system and constructive thinking had a negative relationship with the avoiding conflict-handling style.

Research limitations/implications – The study established a positive connection between CEST information-processing systems and conflict-handling styles among undergraduate students, however the results of the study may not be as directly comparable with real and established leaders.

Originality/value –Being the first study to examine the connection between the CEST information-processing systems and the five conflict-handling styles, the paper offers interesting insights about how the choice of information-processing systems can influence the choice of conflict-handling styles across a wide range of situations.

The drive to establish a peaceful workplace by minimizing conflict sits well with the traditional view that conflict is negative and the best way to resolve it is through problem-solving (De Dreu and Weingart, 2005). Once considered to signal the failure of an organization, conflict is increasingly being shown as a normal and legitimate aspect of the human social system, a system that is interdependent and constantly undergoing change. Conflict in organizations is not only inevitable but, contrary to earlier views, can serve a useful role in stimulating creative solutions to problems (Owens and Valesky, 2007).

In this study conflict is defined as an “interactive process manifested in incompatibility, disagreement, or dissonance within or between social entities” (Rahim, 1992, p. 16). In most organizations people are likely to experience some form of conflict and, depending on their circumstances and values, it may be positive or negative (Brown, 1983; Owens and Valesky, 2007).

Interpersonal conflict in organizations can occur when the individual perceives that they are being prevented from attaining their goals. Not being able to satisfy one’s goals or interests can become a challenge when the parties involved in the conflict want opposing goals or interests satisfied (Antonioni, 1998). Researchers have identified five different styles to handling interpersonal conflict (Blake and Mouton, 1964; Rahim, 1983; Thomas and Kilmann, 1974). Rahim (1983) differentiated the five conflict-handling styles along two basic dimensions: concern for self and concern for others (see Figure 1). Combining the two dimensions resulted in five styles of handling interpersonal conflict: *integrating* (seen as the “ideal” conflict-handling style, it involves having a high concern for self as well as the other party); *compromising* (involves having a moderate concern for self as well

as the other party); *dominating* (involves having a high concern for self and low concern for the other party); *obliging* (involves having a low concern for self and high concern for the other party), and *avoiding* (involves having a low concern for self as well as the other party) (Rahim and Magner, 1995).

Emerging from Blake and Mouton's (1964) Managerial Grid, dual concern theory, several self-report five-style conflict resolution instruments were developed to examine conflict in organizations (Holt and DeVore, 2005). The instrument selected for this study was Rahim's Organizational Conflict Inventory II, (ROCI-II) (Rahim, 1983).

Figure 1 approximately here

In today's fast-paced and evolving organizations, leaders and managers are required to effectively manage both conflict and change in order to survive (Lord and Emrich, 2001). Researchers in thinking and reasoning have suggested that there are two distinctive cognitive information-processing systems, that is, the rational and experiential systems that underlie thinking (Epstein, 1994; Epstein, 1998c). The challenge for researchers has been to develop models that explain how the two information-processing systems interact and how the competition between the two systems might be resolved in the control for behaviour (Evans, 2003). In cognitive and social psychology, there is a family of dual-process theories that make a distinction between cognitive processes that are fast, automatic, and unconscious (System 1) and those that are slow, deliberate, and conscious (System 2) (Evans, 2008). Although the details and technical properties of the two different modes of

processing, System 1 and System 2, do not always match exactly, there are clear family resemblances (Stanovich and West, 2000).

Consistent with dual-processing models research arising from social cognitive neuroscience has hypothesized distinct neurocognitive systems that support the existence of automatic and controlled processes. Referred to as the “X”- system and “C”- system, the “X”- system corresponds roughly to an automatic social cognition whereas the “C”- system corresponds roughly to a controlled social system (Lieberman, Gaunt, Gilbert, and Trope, 2002). The identified neural systems associated with the “X”- system include the amygdala, basal ganglia, and dorsal anterior cingulate cortex. The neural regions associated with the “C”- system include the lateral parietal cortex, and rostral anterior cingulate cortex (Lieberman (2007). The features of X- and C- systems appear to resemble qualities of the experiential system and rational system respectively.

Originally introduced in 1973 by Epstein as a “global theory of personality”, the cognitive-experiential self theory or CEST (Epstein, 1994; Epstein, 1998b) proposes two cognitive systems – the experiential (intuitive) and the rational (analytical) – that share many common features with the generic two-system theory of reasoning (Evans, 2008). CEST is presented as a theory of individual differences (i.e. individual styles), and suggests that “people process information by two parallel, interactive systems” (Epstein, Pacini, Denes-Raj, and Heier, 1996, p. 391). Usually the experiential and rational systems interact harmoniously but operate in different ways with each other, which is why people are normally not aware of their simultaneous operation in everyday decisions. However, tensions between the rational and experiential systems can occur depending on the context, person, and emotional involvement (Denes-Raj and Epstein, 1994; Handley, Newstead, and

Wright, 2000). Furthermore, tensions between the two systems occur because emotions and intellect are thought to be controlled by the experiential and rational systems (Epstein, 1998b; 1998a).

Like System 1, the experiential system operates both at the conscious and preconscious level and is holistic, whereas the rational system, like System 2, falls within the realms of conscious control, is analytical, and rule based. It is hypothesized that the overlapping region between the two systems is an expandable region of creativity and intuitive wisdom (Bucci, 1985; Epstein 1994). In the CEST model the experiential system acts as a default, unless the rational processing system is consciously activated (Sadler-Smith, Hodgkinson, and Sinclair, 2008).

Both the rational and experiential systems can assist individuals to better manage conflict in the workplace. The rational system can assist the person find logical solutions and solve abstract problems (Epstein, 1998c). The experiential system, on the other hand, with its intimate association with affect, that is, mood and emotions, and rapid processing, can be both constructive and destructive when it comes to managing conflict (Epstein and Meier, 1989).

Considered to be a theoretical component of the experiential system (Epstein et al., 1996), constructive thinking is defined “as the degree to which a person’s automatic thinking, that is, the thinking that occurs without deliberate intention – facilitates solving problems in everyday life at a minimum cost in stress” (Epstein, 1998c, p. 26). For example, constructive thinkers tend to interpret new situations as challenges rather than as threats, and view issues positively but not to an unrealistic degree (Epstein, 2001). The constructive components of the experiential system are: global constructive thinking, emotional coping and behavioural coping, and their

respective subscales. The destructive components are: personal superstitious thinking, categorical thinking, esoteric thinking, and naïve optimism (Epstein, 2001).

Although the experiential system consists of both constructive and destructive thinking styles, it has been the constructive components of emotional and behavioural coping that have received the most attention (Atwater and Yammarino, 1993; Dubinsky, Yammarino and Jolson, 1995; Humphreys and Zettel, 2002). Emotional coping refers to the ability to avoid taking things personally, not to be sensitive to disapproval from others, and not to worry excessively about failure or disapproval. People who rate themselves highly on emotional coping are not overly sensitive, do not overreact when problems arise, nor do they overly concern themselves with things which they have no control. Behavioural coping ability refers to the predisposition people have to think in ways that promote effective behaviour or maintain an optimistic approach to life. People who rate themselves high on behavioural coping tend to be action-oriented and approach problems with great energy (Atwater, 1992; Epstein and Meier, 1989).

Since CEST assumes the experiential system mostly directs everyday perception, behaviour, and determines the individual's place along the constructive thinking continuum (Atwater, 1992; Epstein and Meier, 1989), it was the constructive aspects of the experiential system, that is, global constructive thinking, emotional and behavioural coping and their respective subscales, that were selected to examine the relationship with conflict-handling styles. If people are better able to understand their own rational and experiential systems, and how the two systems regulate each other for them to respond adaptively to conflict situations (Berger, 2007), then they may be better placed to generate effective solutions.

The literature on conflict appears to have bypassed the role of emotions even though the two are inextricably linked (De Dreu and Weigart, 2005; Owens and Valesky). For example, an individual may not be aware that they are in conflict unless they recognize that they are emotional about something (Nair, 2008). Negotiators strategically use key words or phrases to trigger others' emotions to either signal the presence of a problem or exert their power (Schroth, Bain-Chekal and Caldwell, 2005).

Operating on the premise that the experiential system interprets events and manages emotions (Epstein, 1998c), it is appropriate to comment briefly on the concept of emotional intelligence. Emotional intelligence (EI) refers to the ability or tendency to perceive, regulate, and harness emotions adaptively in the self and others (Meyer and Salovey, 1997; Salovey and Mayer, 1990). Although higher emotional intelligence has been found to be associated with better interpersonal relations, it remains to be established if increasing people's emotional intelligence can heighten their empathy, self-monitoring and cooperation (Schutte et al., 2001). Being a dual-processing theory, CEST differs from emotional intelligence in that it not only interprets events but also attempts to assist people manage their emotions.

Therefore, the purpose of this study is to determine if CEST information-processing systems predict peoples' conflict-handling styles as outlined in Figure 1, and to examine the relationship between the constructive aspects of the experiential system with the five conflict-handling styles.

Information-Processing and Conflict-Handling Styles

The integrating style is considered the most desirable conflict-handling style. People who display high scores on this scale display a tendency or a willingness to work with others to find an optimal solution to problems. People obtaining high

scores on the compromising style tend to choose the middle ground between two competing positions, while high scores on the dominating style indicates a tendency to override others' feelings and opinions. High scores on the obliging style indicates a tendency to acquiesce to the wishes of others, and the avoiding style is associated with avoiding conflict or the potential for conflict (Antonioni, 1998).

Although Rahim and his colleagues (1995) conducted extensive research on the five styles of handling interpersonal conflict, no research has examined the connection between the CEST information-processing systems and the five conflict-handling styles. The next three sections outline the predicted connections between the CEST information-processing systems and the five conflict-handling styles.

Rational System and the Five Conflict-Handling Styles

The rational system with its focus on logic and analytical reasoning appears to complement the integrating style by generating new solutions aimed at satisfying the concerns of both parties by enhancing collaboration. As with the integrating style, the rational system is likely to overlap with the compromising style since it is attuned to generating new solutions that satisfy the concerns of both parties. Examining the relationship between the rational system and compromising style poses a challenge as this style consists of a blend between mutual problem solving and yielding (Antonioni, 1998).

Given that the rational system is intentional and analytical, it appears to complement the dominating style by enabling the individual to focus on the outcome, and, through analysis, gather information about the other party. In the dominating style the individual desires to get their own way regardless of the outcome for the other person (Hammock, Richardson, Pilkington, and Utley, 1990). Contrary to the integrating style, where information about needs and interest is shared openly, in the

dominating style information is collected, and at times, used as a source of power. If the dominating party knows more information about the other party's need and interests then it may place the other party at a disadvantage (Antionioni, 1998).

The rational system is not predicted to overlap with the obliging style. In the obliging style the individual displays a low concern for the self and has a tendency to give in to the demands and wishes of the other party (Hammock et al., 1990). Displaying a low concern for the self during a conflict may expose the individual to experiencing anxiety and stress (Antionioni, 1998). It appears that the individual operating with high scores on the rational system is less likely to experience these emotions given that the rational system has been found to be associated with low levels of anxiety, stress, and depression (Epstein, 1998c, 1998b).

Given that the avoiding style is associated with having a low concern for the self, the other party, and withdrawing from the conflict situation (Hammock et al., 1990), this style is not predicted to overlap with the rational system. In withdrawing from the conflict situation there appears to be little need to use logic and analysis (rational system). The following hypotheses were examined:

Hypothesis 1: The rational system will be positively correlated with the integrating, compromising, and dominating conflict-handling style.

Hypothesis 2: The rational system will be negatively correlated with the obliging and avoiding conflict-handling style.

Experiential System and the Five Conflict-Handling Styles

At times the experiential system has been found to be more efficient in solving problems than the rational system (Epstein, Denes-Raj, and Pacini, 1995). Furthermore, the experiential system has an important role in generating creativity, humour, empathy, emotionality, and interpersonal relationships (Norris and Epstein,

2006). The qualities of the experiential system appear to complement the integrating style by enhancing the collaboration process between parties.

The experiential system has been found to be associated with developing secure interpersonal relationships (Epstein et al., 1996) and, as such, it is likely to be associated with any style where concern for others is emphasised. Therefore, the experiential system is likely to be associated with the integrating, compromising and obliging conflict-handling style, but not the domination and avoiding conflict-handling style. The following hypotheses were examined:

Hypothesis 3: The experiential system will be positively correlated with the integrating, compromising, and obliging conflict-handling style.

Hypothesis 4: The experiential system will be negatively correlated with the dominating and avoiding conflict-handling style.

Constructive Thinking and the Five Conflict-Handling Styles

Since conflict could threaten one's self-esteem, several cognitive resources are needed to cope with the situation (De Dreu and Weingart, 2005). Constructive thinkers will have at their disposal a number of coping strategies to deal with conflict. These strategies include the use of emotional and behavioural coping, and their respective subscales. According to Epstein (2001) constructive thinkers are self-accepting and accepting of others. They tend to focus on establishing mutually rewarding relationships by elevating the other person's self-esteem rather than treating them with disrespect or embarrassing them in front of others. It is for these reasons that constructive thinking appears to complement the integrating style of conflict management.

It is predicted that people who score highly on global constructive thinking, emotional coping, and behavioural coping are likely to use the compromising

handling style. The compromising style may be reflective of people who are flexible thinkers who can adjust their behaviour to meet the requirements of different situations (global constructive thinking), have a high level of self-acceptance (emotional coping) and remain confident in order to reach a mutually acceptable resolution (behavioural coping) (Epstein, 1998c).

People who elect to use the dominating style are unlikely to be constructive thinkers. Since constructive thinkers tend to be accepting of others and are biased toward interpreting events positively (Epstein and Meier, 1989), it is unlikely they will use the dominating style to find a solution to the conflict. Similarly, people who use the avoiding style to resolve conflict are unlikely to be good constructive thinkers.

The obliging style is expected to overlap with constructive thinking as the individual needs to be a flexible thinker in order to take into consideration the needs of the other party involved in the conflict, which is, when the individual is also accepting of others (behavioural coping) (Epstein, 1998b). The following hypotheses were examined:

Hypothesis 5: Constructive thinking will be positively correlated with the integrating, compromising, and obliging conflict-handling style.

Hypothesis 6: Constructive thinking will be negatively correlated with the dominating and avoiding conflict-handling style.

Method

Design

Using a correlational design, data was collected via an on-line survey system examining CEST information-processing systems and the five conflict-handling styles.

Sample and Procedure

The survey consisted of a short demographic questionnaire, the Rational-Experiential Inventory-Long Form (REI-L; Pacini and Epstein, 1999), Constructive Thinking Inventory (CTI; Epstein, 2001) and Rahim Organizational Conflict Inventory (ROCI-II; Rahim, 1983). The on-line survey was set up so that participants could only complete the survey once, and it did not allow participants to miss items; thus no data was missing. Based on demographic information, students with paid jobs were invited to complete the on-line study.

The CTI has two built-in lie scales: defensiveness and validity. These scales are used as cut-off points for determining the validity of CTI scores (Epstein, 2001). As recommended by the test manual (Epstein) scores of 1.5 standard deviations or more below the mean on the validity scale or 1.5 standard deviations or more above the mean on the defensiveness scale were considered to be invalid and removed from further analysis. Of the five hundred and eleven surveys, eighty-five were removed from further analysis because their scores fell outside the CTI lie scale range.

A total of five hundred and eleven surveys were administered to undergraduate psychology students. At the completion of the survey participants received partial course credit for their participation. Four hundred and twenty six participants had valid CTI scores, twenty one percent were males and seventy-nine

percent were female. Their mean age was 21.8 years (men $M = 23.3$ years, and women $M = 21.4$ years) with an age range from seventeen years to fifty seven years, and with the majority aged eighteen or nineteen years (49%). Sixty-five percent had a casual job, twenty-nine percent had part-time work, and six percent had full-time work.

Measures

Rational-Experiential Inventory-Long Form (REI-L; Pacini and Epstein, 1999) is a 40-item questionnaire consisting of four 10-item subscales: rational ability, rational engagement, experiential ability, and experiential engagement. Rational ability, for example, indicates an ability to think logically and analytically (“I have no problem thinking things through carefully”). Although Pacini and Epstein (1999) found the reliabilities of the REI-L (Rationality scale, $\alpha = .90$; Experientiality scale $\alpha = .87$) were comparable, they also found that the ability and engagement subscales were moderately related. In a recent analysis of the REI, Hodgkinson, Sadler-Smith, Sinclair and Ashkanasy (2009) found support for only two orthogonal constructs of information-processing and failed to identify any ability-engagement distinction (c.f. Pacini and Epstein, 1999). It is for this reason that only the rationality and experientiality constructs were used in this study. The REI’s test-retest correlations are high, ranging from .60 to .80 (Handley et al., 2000; Pacini and Epstein). The Cronbach Alpha reliabilities for the rational and experiential processing and their respective subscales ranged from .83 to .90 (Cerni, Curtis, and Colmar, 2008). Results have shown that the total rational and experiential scores have been found to be uncorrelated, providing evidence for the independence of the

two information-processing systems (Cerni et al., 2008; Epstein et al., 1996; Hodgkinson et al., 2009; Pacini, Muir and Epstein, 1998).

The Constructive Thinking Inventory (CTI; Epstein, 2001) is a 108-item self-report measure used to assess constructive and destructive thinking. People respond to the CTI by indicating the degree to which they tend to think in certain ways that are categorized as either constructive or destructive (Epstein, 1998b). High scores are desirable for global constructive thinking (GCT), emotional coping (EC), behavioral coping (BC), and their subscales. The subscales for emotional coping include: self acceptance (SA), absence of negative overgeneralization (ANO), non-sensitivity (NS) and absence of dwelling (AOD). The subscales of behavioural coping include: positive thinking (PT), action orientation (AO) and conscientiousness (CN). The reliability coefficients for the 108-item version of the CTI were considered to be satisfactory, with Cronbach's Alphas ranging from .76 to .92 (Epstein, 2001).

Rahim Organizational Conflict Inventory II (ROCI-II; Rahim, 1983) is a 28-item questionnaire used to measure the five conflict-handling styles. The internal consistency reliabilities coefficients for each subscale, as measured by Cronbach's Alpha, ranged from .72 to .76 and from .65 to .80 for managerial and collegiate samples (Rahim and Magner, 1995). With reference to the ROCI-II measure it was concluded that, "the scales can be used in basic research, teaching, and in the diagnosis of styles of handling interpersonal conflict among members of an organization" (Rahim, 1983, p.375). Results of previous confirmatory factor analysis provide evidence of both confirmatory and discriminant validities for the ROCI-II subscales that measure the five styles of handling interpersonal conflict, and general support for the invariance of their five-factor model across referent roles (i.e., superiors, subordinates, and peers, Rahim and Magner, 1995).

Results

Descriptive Statistics for the REI-L, CTI and ROCI-II

Means and Cronbach's Alpha reliabilities, highlighted in bold, for the REI-L, CTI and ROCI-II scales are presented in Table 1. Total rational and experiential scores were uncorrelated ($r = .02, p = .83$), providing good evidence for the independence of the rational and experiential systems.

 Table 1 approximately here

A 2(sex) X 5(conflict-handling styles) mixed ANOVA was used to test differences between gender and conflict-handling styles. There was a significant interaction ($F(1,424) = 17.77, p < .001$) with results indicating significant gender differences for dominating and avoiding conflict-handling styles. Males scored higher on the dominating style (male $M = 3.48, SD = .60$, female $M = 3.17, SD = .70$), and females scored higher on the avoiding style (female $M = 3.36, SD = .74$, male $M = 3.12, SD = .77$).

Correlations between Information-Processing and Conflict-Handling Styles

To determine the relationship between information-processing systems and conflict-handling styles, Pearson's correlations were computed between the REI-L and the ROCI-II. The results indicated that the rational system had the strongest positive correlation with the integrating conflict-handling style (see Table 1). The total rational score had a significant positive correlation with the integrating, compromising, and dominating styles. The rational system also had a strong negative relationship with the avoiding style. There were no relationships found between the rational system and the obliging handling style. The correlation with the rational total was significantly stronger for the integrating conflict-handling style than for the

compromising conflict-handling style ($Z = 2.47, p < .001$) and for the dominating conflict-handling style ($Z = 3.05, p < .001$). No significant correlations were found between the total experiential score and the five conflict-handling styles.

Correlations between Constructive Thinking and Conflict-Handling Styles

To examine the relationship between constructive thinking and conflict-handling styles, Pearson's correlations were computed between the CTI and the ROCI-II. There were several significant positive correlations between the CTI and the ROCI-II (see Table 1). Global constructive thinking had a significant positive relationship with the integrating and compromising conflict-handling style and a significant negative relationship with the obliging and avoiding conflict-handling style. Emotional coping had a significant positive relationship with the integrating conflict-handling style and a negative relationship with the obliging and avoiding conflict-handling style. Behavioural coping had a significant positive relationship with both the integrating and compromising conflict-handling styles, and a significant negative relationship with the avoiding conflict-handling style.

Significant correlations were also found between the CTI main constructive subscales and the ROCI-II. Under emotional coping, self acceptance and absence of negative overgeneralization had significant positive relationships with the integrating conflict-handling style. Absence of dwelling had a significant negative relationship with the dominating conflict-handling style. Absence of negative overgeneralization, non-sensitivity and absence of dwelling all had significant negative relationships with the obliging and avoiding conflict-handling styles (see Table 2).

The subscales of behavioural coping: positive thinking, action orientation and conscientiousness had significant positive relationships with the integrating conflict-handling style. Positive thinking and conscientiousness also had significant positive

relationships with the compromising conflict-handling style. The obliging handling style had a significant positive relationship with positive thinking and a significant negative relationship with action orientation. Action orientation was also found to have a significant negative relationship with the avoiding conflict-handling style (see Table 2).

Table 2 approximately here

Regression Analysis

A series of regression analyses were conducted to explore the ability of the rational system and constructive thinking in predicting the integrating conflict handling style. As rational thinking and constructive thinking are theorized to be independent, but show some inter-correlation, rational thinking was entered together with CTI scales in separate regressions. Examining the results of the regressions, rational thinking and global constructive thinking together explained 10.3% of the variance in integrating conflict handling style. Better prediction was achieved by combining rational thinking and behavioral coping, which together explained 15.4% of the variance in integrating conflict handling style. However, the best prediction was achieved by combining rational thinking scores with the CTI scales of positive thinking and conscientiousness. Together these variables predict 22.9% of the variance in integrating conflict handling style, and each predictor makes a significant contribution (see Table 3).

Table 3 approximately here

As with the integrating conflict-handling style, a series of regression analyses were conducted to explore the ability of the rational system and constructive thinking in predicting the compromising conflict-handling-style. Combining rational thinking scores with the CTI scales of positive thinking and conscientiousness accounted for 8.3% of the variance in compromising conflict-handling-style. However, in this analysis only positive thinking ($\beta = .25, p < .001$) was a significant predictor. For the avoiding conflict-handling style, combining rational thinking scores with the CTI scales of non-sensitivity and action-orientation accounted for 7.7% of the variance. In this analysis rational ($\beta = -.17, p < .003$) and non-sensitivity ($\beta = -.17, p < .001$) scores, but not action orientation ($\beta = -.02, p = .74$) were significant predictors. Note that for avoiding, the CEST scales had a negative relationship with this style whereas they had a positive relationship with integrating and compromising styles. Regressions were not calculated for the obliging and dominating styles as these only had one significant correlation each with a CEST factor ($r_s < .20$).

Discussion

Rational System and Conflict-Handling Styles

Hypothesis 1 was supported since the rational system was found to have a strong positive relationship with the integrating, compromising and dominating conflict-handling styles. The integrating conflict-handling style was found to have the strongest relationship with the rational system followed by compromising and dominant conflict-handling styles. Hypothesis 2 was partially supported since the rational system was found to have a significant negative relationship with the avoiding conflict-handling style; however, no relationship was found with the obliging conflict-handling style.

The rational system was found to have a positive relationship with the integrating and compromising conflict-handling styles. Given that the rational system is an inferential system that operates by a person's understanding of culturally transmitted rules of reasoning and knowledge (Epstein, 2001), it may serve to assist the collaboration between people by allowing them to seek out solutions that satisfy the concerns of both parties (integrating style). The rational system also operates according to a person's intellectual understanding, by taking into account long-term consequences of actions and behaviours (Epstein, 2001). This point may also explain why the rational system was found to have a positive relationship with the compromising conflict-handling style, where there is a moderate concern for the self and the other party during conflict.

There was a positive relationship between the rational system and the dominating conflict-handling style. This result suggests that the rational system could assist the individual to satisfy their own needs (dominating style) by making use of their intellectual and analytical ability to gather important information about the other party (Hammock et al., 1990). People who rate themselves high on the rational system have the potential to gather important information about the other party through the clever use of language, making logical connections and analysing the pattern of conflict to satisfy their needs (Epstein 1998c).

There was also a significant negative relationship found between the rational system and the avoiding conflict-handling style. Given that the avoiding conflict-handling style is about having a low concern for the self, the other party, and withdrawing from the conflict situation (Hammock et al., 1990) it seems that little use would be made of the rational system, a system that is associated with thinking logically and analytically (Epstein, 1998b), to resolve the conflict.

No relationship was found between the rational system and the obliging conflict-handling style. The reason why no connection was found could be because the rational system and the obliging conflict-handling style are operating in opposite directions. Specifically, the rational system has been found to be associated with low anxiety, and stress (Epstein, 1998b, 1998c), whereas the obliging conflict-handling style has been associated with increased levels of anxiety and stress (Antionioni, 1998).

Experiential System and Conflict-Handling Styles

No support was found for Hypothesis 3 since no significant relationships were found between the experiential system and the integrating, compromising, and obliging conflict-handling style. Hypothesis 4 was also rejected since no significant relationships were found between the experiential system and the dominating and avoiding conflict-handling styles. As with the unexpectedly weak results found in earlier research by Cerni et al. (1998) between the experiential system and transformational leadership, it is likely that the extent to which people use their experiential system constructively or destructively may be an important predictor of conflict-handling styles.

Constructive Thinking and Conflict-Handling Styles

Hypothesis 5 was partly supported since constructive thinking had a positive relationship with the integrating and compromising conflict-handling styles, and a mixed relationship with the obliging conflict-handling style. Hypothesis 6 was supported since constructive thinking had a negative relationship with the dominating and avoiding conflict-handling styles.

Rather than being inveterate positive thinkers, global constructive thinkers are flexible thinkers who can adapt their thinking to the situation at hand (Epstein, 1998). People who are high on global constructive thinking appears to complement the integrating and compromising conflict-handling styles by enabling the individual to think in flexible, positive ways and adjust their behaviour accordingly (Epstein, 2001; Epstein and Meier, 1989) in order to find an optimal solution to the conflict. People high on behavioural coping seek ways to overcome obstacles that may have been created through conflict instead of allowing them to become blockages to their own success (Dubinsky et al., 1995).

Behavioural coping, and its subscales of positive thinking, action orientation and conscientiousness, had a positive relationship with the integrating conflict-handling style. These results suggest that people who tend to promote the positive sides of a situation (positive thinking), take effective action when faced with a problem (action orientation), and engage in planning and careful thought (conscientiousness) (Epstein, 2001), are more likely to find an optimal solution that is acceptable to both parties (integrating conflict-handling style). Given that conscientiousness, a subscale of behavioural coping, was found to be connected with the integrating conflict-handling style, this finding confirms earlier research that linked conscientiousness, one of the Big Five Personality factors, with the integrating conflict-handling style (Antonioni, 1998).

Emotional coping had a positive relationship with the integrating conflict-handling style. This is not surprising given that people high on emotional coping believe in themselves; and their opinions, beliefs, and abilities; tend to view potentially stressful situations as challenges rather than as threats; and tend not to take things personally or worry excessively about failure (Dubinsky et al., 1995;

Epstein, 2001; Epstein and Meier, 1989) and, as a result, they may be more likely to seek out an optimal solution to the problem. Self-acceptance and the absence of negative overgeneralization, subscales of emotional coping, also had positive relationships with the integrating conflict-handling style. This finding suggests that people have a favourable view of themselves, and they do not overestimate the generality of unfavourable experiences (Epstein, 2001), and may be more willing to work with others to find an optimal solution. Research examining the role of emotions in group members' preferences to achieve an internal dispute resolution found a direct link between positive emotional experiences and the choice of integrating and compromising styles (Desivilya and Yagil, 2005).

Positive thinking and conscientiousness, subscales of behavioural coping, were also found to have a significant positive relationship with the compromising conflict-handling-style. By emphasizing the positive sides of a situation and engaging in planning and careful thought (Epstein, 2001) individuals are more likely to find the middle ground between competing parties that addresses some of the needs of both.

Although emotional coping and the three associated subscales had a strong negative relationship with the obliging conflict-handling style they also had both a positive and negative relationship with behavioural coping. Specifically, positive thinking had a significant positive relationship with the obliging conflict-handling style, and action orientation was found to have a negative relationship. This suggests that people who select the obliging conflict-handling style may benefit from promoting the positive sides of a situation but avoid planning too carefully or worrying excessively about others' expectations.

Emotional coping and its subscales of absence of negative overgeneralizations, non-sensitivity and absence of dwelling had a negative relationship with the avoiding conflict-handling style. These findings suggest that people are likely to avoid dealing with the conflict if they think unrealistically about negative experiences, are sensitive to uncertainty and obsess over negative events (Epstein, 2001). Absence of dwelling, a subscale of emotional coping, also had a negative relationship with the dominating, avoiding and obliging conflict-handling styles. It appears that people who resort to using these conflict-handling styles appear to obsess over negative events. Although this preoccupation may assist people to learn from unfavourable outcomes, once all learning possibilities have been exhausted, there is little else to be gained from further rehearsal (Epstein, 2001).

Behavioural coping and its subscale of action orientation also had negative relationship with the avoiding conflict-handling style. This result suggests that by not taking effective action and worrying excessively (Epstein, 2001), the individual is likely to use the avoiding conflict-handling style to bypass conflict or the potential for conflict. Results of this study provide initial support for the development of two models that link CEST information-processing systems and conflict-handling styles on a two-dimensional scale (see Figures 2 and 3).

Figure 2 approximately here

The results of this study suggest that both the rational and constructive factors of the experiential systems are adaptive systems when it comes to selecting the most effective conflict-handling styles. In order to select the ideal conflict-handling style, that is, the integrating-conflict handling style, it appears that people need to be high

on both rational processing and constructive elements of the experiential system (see Figure 3). Being high on both rational and experiential processing appears to support the idea that the ideal state of development, according to CEST, involves high level of functioning in both systems (Epstein and Pacini, 1999). Enabling the rational system to be in touch with the experiential system could assist people weigh the relative advantages of each system when making decisions and dealing with conflict. Given that constructive thinking was also found to be connected with the integrating conflict-handling style, it suggests that people are using the constructive elements of the experiential system.

 Figure 3 approximately here

Figure 3 suggests that people who use of the dominating conflict-handling style appear to be engaged in high levels of rational processing and assertiveness, whereas people who select the obliging conflict-handling style appear to be operating with high levels of experiential processing and cooperativeness. People who operate with moderate levels of rational and experiential processing appear to be consistent with the compromising conflict-handling style, which is concerned with having a moderate concern for self as well as the other party (Rahim and Magner, 1995). The avoiding conflict-handling style appears to be associated with low levels of rational and experiential processing. This suggests that by avoiding conflict, or the potential for conflict, people are likely to make minimal use of the rational system, global constructive thinking, emotional coping or behavioural coping.

Limitations

A large sample of undergraduates was tested providing sufficient participant numbers for appropriate statistical analysis within a reasonable amount of time. It is understandable that the undergraduate students may have presented themselves in a favourable light (social desirability responding) because of the incentive to obtain partial course credits. Since one of the major causes of common method variance is obtaining measures from the same rater, this could be controlled by collecting data from different sources (Podsakoff, MacKenzie, Lee, and Podsakoff, 2003) such as peer, or supervisor ratings (Spector, 2006).

Another limitation is that the sample in this study may not be as directly comparable with real and established leaders, particularly as 49% were young (18-19 years old), and research on brain systems indicates that higher order executive functioning, self-regulation, and the co-ordination of affect and cognition does not mature until late adolescence or even early adulthood. Hickie (2010) has suggested that the frontal lobes of the brain undergo their final critical phase of development throughout adolescence and the early adult period, with distinct individual differences. However, this neurological development appears to continue well into the late 20s (age 22-25 years), particularly in young men. Future research with experienced leaders using a multi-method approach is needed to establish the generalizability of these results. Finding positive connections between the CEST information-processing systems and the five conflict-handling styles among experienced leaders may have important implications for the way conflict could be effectively managed in the workplace.

Conclusion

Given that this study examined the relationship between CEST information-processing systems and conflict-handling styles a picture is beginning to emerge

from social cognitive neuroscience that when it comes to managing conflict the dorsal anterior cingulate cortex of the brain (dACC) could either be engaged in active controlled processing or is responding to goal related conflict automatically (Bargh, 1989). Either option is likely to produce dACC activity during tasks that require controlled processes in response to conflict (Leiberman, 2007).

The results of this study, together with emerging evidence from social cognitive neuroscience, suggest that different aspects of CEST information-processing may be more relevant to certain work settings where conflict may arise. For example, in sales, the rational system that appears to resemble the “C”- system and positive thinking, a subscale of behavioural coping, may be an asset where the salesperson is required to manage numerous rejections and potential conflict to make the necessary sale. A salesperson who lacks both emotional coping and the positive thinking that optimism produces may be discouraged before they experience any level of success (Epstein, 1998).

Establishing a positive connection between CEST information-processing systems and conflict-handling styles has the potential to inform people how their choice of information-processing can influence the choice of conflict-handling styles across a wide range of situations including arbitration, mediation, and high-stakes negotiations.

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Table 1

Scale means, standard deviations, reliabilities, and scale correlations.

Scale	Mean (SD)	Reliabilities and inter-correlations									
		1	2	3	4	5	6	7	8	9	10
1. Integrating	3.98 (.47)	.80	.61**	.08	.27**	-.02	.31**	.08	.23**	.10*	.37**
2. Compromising	3.83 (.54)		.69	.05	.32**	.15**	.15**	.09	.11*	.01	.17**
3. Dominating	3.23 (.69)			.78	-.01	-.15**	.10*	.06	-.05	-.03	-.01
4. Obliging	3.44 (.53)				.77	.41**	-.05	.08	-.11*	-.16**	-.02
5. Avoiding	3.31 (.75)					.82	-.24**	.07	-.19*	-.19**	-.13**
6. Rational Total	69.93 (9.68)						.85	.02	.44**	.35**	.50**
7. Experiential Total	68.56 (9.70)							.87	.14**	.05	.19**
8. Global Constructive Thinking	91.98 (15.18)								.89	.91**	.74**
9. Emotional Coping	74.82 (16.25)									.91	.51**
10. Behavioural Coping	49.02 (7.76)										.82

$N = 426$. * $p < .05$. ** $p < .01$ (2-tailed).

Table 2

Scale correlations between constructive thinking subscales and conflict-handling styles

	1	2	3	4	5
Emotional Coping					
Self Acceptance	.12*	.06	.00	-.07	-.09
Absence of Negative Overgeneralization	.10*	.05	-.01	-.15**	-.15**
Non-sensitivity Absence of Dwelling	.05	-.03	.01	-.16**	-.23**
	.08	-.01	-.12*	-.17**	-.14**
Behavioural Coping					
Positive Thinking	.41**	.29**	.02	.12*	-.01
Action Orientation	.23**	.06	-.01	-.12*	-.19**
Conscientiousness	.36**	.18**	-.02	-.05	-.04

$N = 426$. * $p < .05$. ** $p < .01$ (2-tailed).

Note. 1 = Integrating, 2 = Compromising, 3 = Dominating, 4 = Obliging, 5 = Avoiding.

Table 3

Summary of regression analysis for variables predicting the integrating conflict-handling style.

Variable	β	p
Rational System	.168	<.001
Positive Thinking	.289	<.001
Conscientiousness	.178	<.001

Note. $N = 426$. Men, $n = 89$; Women, $n = 337$.