Connecting information-processing styles and subordinate perceptions of transformational leadership and conflict-handling styles.

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I declare that this thesis is my own account of my research and contains as its main content work, which has not previously been submitted for a degree at any tertiary educational institution.

........................................

Christine Swee
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Abstract
Conflict is a double-edged sword producing either constructive or destructive outcomes. This study aimed to investigate the mechanisms behind how rational and experiential-constructive information-processing systems (thinking preferences), according to the Cognitive-Experiential Self-Theory (CEST), drive effective transformational leadership behaviors, which in turn, could promote constructive conflict management. This study sought to examine whether there is a mediating effect of leadership behaviors on the relationship between thinking preferences and five conflict-handling styles. Survey data for 58 leader-subordinate dyad pairs were analyzed. Leaders completed self-report measures of thinking styles, while subordinates completed other-report measures of leadership and conflict-handling styles. Transformational leadership was found to be significantly and positively related to both behavioural coping (a concept of constructive thinking), and also the integrating and compromising conflict-handling styles. Laissez-faire leadership showed a significant positive relationship with the avoiding conflict-handling style. However, findings failed to establish a connection between conflict handling styles and information processing styles and, thus, did not find compelling evidence for a mediating relationship. It is suggested that future research should investigate whether emotional intelligence is a latent variable that may connect thinking, leadership and conflict-handling styles.

Key words: constructive conflict management, conflict-handling styles, perceptions, leadership, information-processing, cognitive-experiential self-theory, CEST.
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Connecting information-processing styles, and subordinate perceptions of transformational leadership and conflict-handling styles.

As contemporary organizational processes have shifted toward growing complexity and innovation (Mumford, Zaccaro, Harding, Jacobs & Fleishman, 2000), the demands placed on a leader have become progressively more prominent (De Dreu & Weingart, 2005). Amongst many responsibilities, handling interpersonal conflicts has unceasingly proven to be one of the most challenging tasks that leaders encounter as it can occupy approximately 20% of a leaders’ time at work (Hignite, Margavio & Chin, 2002; Thomas & Schmidt, 1976). This challenge persists as individuals interact daily at work, leaving much opportunity for conflict (Jehn & Bendersky, 2003).

Therefore, conflict is both pervasive and inevitable in nature as it can occur at any level within (e.g. colleagues, teams) and between organisations (Deutsch, 1973).

Although conflict has multiple definitions, an influential theory recommended by Rahim (1992) defined conflict as dissonance or incompatibilities arising from an interactive process between social entities. Specifically, conflict emerges when there are perceived differences in beliefs, values, and goals amongst two or more social entities (Rahim, 1983). Traditionally, conflict has been viewed as counterproductive (Deutsch, 1973). However, modern theorists hypothesise that conflict can serve as platforms for innovation, novel solutions and productivity if it is constructively managed (De Dreu & Weingart, 2005). As such, constructive conflict management is a collaborative problem-solving process whereby disagreeing parties identify conflict as a common problem and openly exchange their disagreements and ideas to arrive at mutually beneficial solutions (Deutsch, 2000). If successful, collaborative problem-solving discussions have often been associated with stronger interpersonal relationships and organizational effectiveness (De Dreu & Weingart,
Consequently, superior constructive conflict management competencies have become essential for leaders to possess today (Thompson, Grahek, Philips & Fay, 2010).

Leadership effectiveness is primarily a function of leaders’ behavioural tendencies (Patterson, Greny, McMilan & Switzler, 2002), which is in turn influenced by leaders’ underlying thought mechanisms (Epstein, 1994). Therefore, it is possible to suggest that the extent to which leaders understand their thinking processes influences their behavioural tendencies when handling conflict. Studies have indicated that thinking processes, leadership and conflict-handling styles serve as tools to understanding the ways individuals promote constructive conflict management (e.g. Hendel, Fish & Galon, 2005; Cerni, Curtis & Colmar, 2012). However, no research has attempted to connect these concepts together. Therefore, this study aims to show that if leaders can better understand their own thinking processes, they may be better able to respond and generate effective solutions to manage and promote constructive conflict at work. This will be achieved by reviewing the relevant theories of thinking, leadership and conflict-handling styles with references to respective empirical evidences.

Thinking Processes

In 1973, Epstein introduced a personality theory of individual differences described as the Constructive-Experiential Self-Theory (CEST). He conceptualized the rational and intuitive-experiential system as two distinct yet interactive information-processing systems that direct behaviours (Epstein, 1994). The extent of dominance from each system ranges from minimal to complete dominance, which is modulated by various parameters such as individual differences, contexts, relevant experiences and the degree of emotional involvement (Epstein, 1998a). However,
these systems may occasionally conflict with each other to produce dissociative thoughts and feelings (Denes-Raj & Epstein, 1994).

The rational system controls processes that consider the long-term consequences of behavioural actions (Epstein, 2001). Therefore, most individuals are aware of its existence as it demands higher levels of cognition and is consciously active (Epstein, Denes-Raj, Pacini & Heier, 1996). The rational system operates mainly through language and intellect, and undergoes abstract, analytical and logical thinking in a slow and deliberate manner (Epstein, 1994). As such, it is too effortful to respond efficiently to daily events as compared to the experiential system (Denes-Raj & Epstein, 1994).

In contrast, the experiential system operates pre-consciously and individuals may therefore, be oblivious to its influence (Epstein, 1994). Experiential processing occurs in an associationistic manner and events are encoded in concrete representations (Epstein et al., 1996). It is an automatic, intuitive system that possesses the rapid ability to learn from emotionally significant experiences (Epstein, 1994). Hence, it is deemed an adaptive system associated intimately with affect (Epstein et al., 1996). Experiential processing occurs at both low and high levels of operations (Epstein, 1998b). At low levels, it is considered a crude system processing simple, complex information automatically, effortlessly and efficiently (Epstein, 1998a). However, CEST also assumes that the experiential system directly influences conscious thoughts (Denes-Raj & Epstein, 1994). Therefore, at high levels, the rational and experiential systems interact to develop creative insight and imaginative thoughts (Epstein, 1998a). Its fast-acting adaptive capabilities, enables the experiential system to be efficient at responding to daily life events, thereby predisposing it over the rational system for that purpose (Pacini & Epstein, 1999).
Interestingly, CEST explicitly considers if individuals are able to utilise their experiential (intuitive) system to engage in constructive thoughts (Epstein, 1998b). As such, constructive thinking refers to the extent at which individuals instinctively think of problem-solving methods at the minimum cost of stress (Epstein, 1998b). Constructive components include: global constructive thinking, emotional coping, and behavioural coping (Epstein 2001). Specifically, behavioural coping has shown to be the most notably component driving effective leadership and conflict-management behaviours at work (e.g. Atwater & Yammarino, 1993; Cerni, Curtis & Colmar, 2008; Dubinsky, Yammarino & Jolson, 1995; Humphreys & Zettel, 2002). It refers to the tendency to take initiative and approach problems positively and with great energy (Epstein, 2001). Epstein (1998a) recognized that individuals with greater behavioural coping propensities often display superior performance over their peers in organizational contexts. Fuelled by rational thinking processes, behavioural coping is arguably the main feature driving effective leadership (Cerni et al., 2008) and the ability to encourage constructive conflict management at work (Cerni et al., 2012).

Given its’ instinctive adeptness, the experiential system is sometimes more effective at problem-solving than the rational system (Epstein & Meier, 1989). However, it does possess destructive tendencies (see Denes-Raj & Epstein, 1994; Epstein & Pacini, 1999), which reflect components such as personal superstitious thinking, categorical thinking, complex thinking, and naïve optimism (Epstein, 2001). Nonetheless, this study focuses on constructive thinking aspects as it is suggested to be effective at promoting constructive conflict management (Cerni et al., 2012). As such, considering that experiential processing may occasionally be maladaptive, it is argued that allowing the experiential system to tap into conscious thinking processes (Epstein, 2001) can deeply enhance an individual’s awareness and understanding of
both CEST systems and how they interactively regulate each other (Berger, 2007). Individuals can bring awareness to the experiential systems’ processes through self-reflection (Cerni, Curtis & Colmar, 2010) as it encourages individuals to deliberate their own intuitive thoughts and feelings, thereby helping individuals better moderate their biases and act in more objective, realistic manners (Epstein, 2003). Subsequently, destructive elements can be modified as constructive alternatives are considered (Cerni et al., 2010). This is beneficial during problem-solving situations, as the success amongst today’s organizations are heavily dependent on creative rather than routine processes to deal with common unconventional issues at work (Mumford et al., 2000). Thus, problems cannot be solved through rigid applications of existing experiences and knowledge (Baughman & Mumford, 1995), but instead require flexible, analytical and logical thinking (Denes-Raj & Epstein, 1994). Therefore, the rational system aims to reconstruct relevant information derived from prior experiences to generate new, effective solutions (Denes-Raj & Epstein, 1994) to counter novel problems (Mumford et al., 2000).

Both systems are advantageous and neither are superior over the other (Epstein, 2003). Fundamentally, leaders can rely on the interaction of both CEST systems during problem-solving situations (Cerni et al., 2012). As conflict is always emotionally laden (George, 2000), the experiential system can help to accurately interpret emotions during conflict and also accelerate the growth of interpersonal relationships with its intimate relationship with affect (Epstein, 1994), which can be in turn used for functional confrontation purposes (Cerni et al., 2012). Concurrently, the rational system can stimulate the development of creative solutions (Epstein, 1998a), which can in turn mitigate conflict (Cerni et al., 2012). Therefore, effective leadership
behaviours have been argued to coincide with high functioning levels of both CEST systems (Cerni et al., 2008).

**Leadership behaviours**

Leadership has been proposed to be a quality acquired through the interaction of experience and capabilities (Lewis & Jacobs, 1992), as opposed to an innate quality to be born with (Mumford et al., 2000). Amongst numerous leadership frameworks, the influential Full-Range Leadership Theory (FRLT) denotes three typologies of leadership behaviour: transformational, transactional and non-transactional laissez-faire leadership (Bass & Avolio, 1997). Unlike transactional leadership that emphasizes an exchange relationship seeking gains and rewards, transformational leaders motivate their followers to achieve monumental goals (Bass & Steidlmeier, 1999). It is theorised that transformational leadership extends transactional leadership, but does not replace it (Bass, 1997; Yammarino, Spangler & Bass, 1993). Therefore, research has popularly conceptualized transformational leadership as an effective form of leadership behavior (Antonakis, Bass & Sivasubramaniam, 2003). Contrarily, laissez-faire leadership behaviours have often been criticized as ineffective forms of leadership as such leaders typically delay actions, and lack efforts in motivating followers and recognizing individual needs (Skogstad, Einarsen, Torsheim, Aasland & Hetland, 2007).

Over decades, transformational leadership has continuously been connected to numerous positive work outcomes such as increased job satisfaction (Judge & Piccolo, 2004) and even the promotion of positive emotions (Bono, Foldes, Winson & Muros, 2007). Therefore, similar to conflict, transformational leadership is argued to function on emotional processes, including the ability to regulate emotions in the self and others (George, 2000). As a result, effective leaders are said to be efficient at
managing both the conflict event itself, and the emotional responses to the event (Goleman, 1998). However, emotional responses can vary substantially across individuals in terms of severity, intensity and complexity (Bennet & Savanni, 2004) due to individual differences in perceptions and definitions of precipitating events (Ayoko & Callan, 2010). These differences in responses serve as antecedents determining both interactional dynamics and outcomes of the event (Jehn & Bendersky, 2003). As such, Ayoko and Callan (2010) contend that transformational leaders are effective at managing conflict as they are equipped with better emotional management skills and can subsequently impact the perspectives of followers and their views towards conflict. Transformational leaders are capable of directly influencing the attitudes, behaviours and social processes of their subordinates (Lord, Brown & Freiberg, 1999). They do so by increasing efforts through attributed charisma, idealized influence, individualized consideration, inspirational motivation and intellectual stimulation (Antonakis et al., 2003).

Conceptually, transformational leaders are argued to be more receptive and accurate at diagnosing the needs of their subordinates (Humphreys & Zettel, 2002). Consequently, they can better understand the dynamics of conflict and can appeal to individual needs by providing individualized support, encouragement and advice (Ashkanasy & Tse, 2000). This in turn, increases leadership appeal as followers place extreme trust (Howell & Avolio, 1992) and feel a greater sense of emotional attachment with their leaders (Avolio, Waldman & Yammarino, 1991). By extension, this forms the basis for stronger interpersonal relationships that could inherently smoothen the process of integrating ideas openly and constructively (Ayoko & Perkerti, 2008; Howell & Avolio, 1992). Transformational leaders also seek methods to transform attitudes and beliefs that their followers have about conflict (Ayoko &
Callan, 2010). They tend to be optimistic individuals who view conflict as a medium for advancement (Dubinsky et al., 1995). Such positive mindsets assist them in confidently expressing and modeling effective (Kotlyar & Karakowsky, 2007) conflict management behavior which may also provide a future view of the self for their subordinate (Hall & Lord, 1995). Additionally, setting high standards and intellectually stimulating followers to think creatively demonstrates a leaders’ belief in the capability of their followers (Shamir, House & Arthur, 1993). Hence, followers are likely to experience increased self-esteem (Shamir et al., 1993) and are therefore, more motivated (Judge & Piccolo, 2004) to emulate their behaviours (Cerni et al., 2010) and adopt similar approaches to handling conflict. Essentially, transformational leaders seek to coordinate efforts, and set appropriate values and norms for their followers (Jackson & Joshi, 2004). They possess the superior ability to instill a culture where challenging ideas are interpreted as constructive platforms to mediate conflict and propel success (Dionne, Yammarino, Atwater & Spangler, 2004).

Nonetheless, researchers suggest that an effective leader is able to be adaptable and can flexibly modify their transformational and transactional leadership abilities correspondingly, depending on situational differences (Bass & Steidlmeier, 1999). It is likely that transformational leaders are better equipped in promoting healthy forms of managing conflict at work and the key to this, lies in the fluidity and capacity to set the rules and interactive patterns that shape the perceptions of followers (Ayoko & Callan, 2010). In essence, a leaders’ behavior represents the communicative message to subordinates (Richmond, Wager & McCrowskey, 1983). Consequently, this message is likely to be ingrained in the dispositional conflict-handling styles leaders tend to adopt. In another words, conflict-handling styles are simply channels for behavioural tendencies to be expressed.
**Conflict-handling styles**

Conflict literature has devised many strategies to handling conflict. Combining theoretical aspects from Blake and Mouton (1964), and Thomas and Kilmann (1974), Rahim (1983) derived five conflict-handling strategies. These strategies were defined on the basis of two dimensions: concern for the self or others (Figure 1). The five conflict-handling styles include the *integrating* (high concern for self and others), *compromising* (moderate concern for self and others), *obliging* (low concern for self, high concern for others), *dominating* (high concern for self, low concern for others) and the *avoiding* (low concern for both self and others) conflict-handling styles (Rahim & Magner, 1995).

*Figure 1. Adapted from Thomas and Kilmann (1974)*

Individualspossessing a high concern for self, emphasise achieving personal goals, whilst those holding a high concern for others typically reflect on how decisions they make affect the goals of others (Gross & Guerreno, 2000). Concern for others also involves understanding the relational needs underlying conflict such as trust, and social support (Blake & Mouton, 1964), which promote positive interpersonal relationships that stimulate future interactions (Hocker & Wilmot, 1998). Table 1 outlines the individual characteristics of each conflict-handling style.
Table 1. Characteristics of Rahim’s conflict-handling strategies.

<table>
<thead>
<tr>
<th>Conflict-handling strategy</th>
<th>Characteristics</th>
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| Integrating               | • Directly tackles conflict by promoting collaboration.  
                             • Encourages open-minded dialogues aimed at exchanging information, examining differences and building constructive solutions.  
                             • Most ideal style as it focuses on self as much as others. |
| Compromising              | • Both parties give-and-take to achieve a middle ground where a mutually decent decision emerges.  
                             • Exercised when negotiating stagnates.   
                             • Generally a short-term solution.  
                             • Inappropriate when one party is more powerful than another. |
| Dominating                | • Characterized by a win-lose orientation or by forceful, competitive behaviours to get ahead.  
                             • Practiced when a decision by the other party may lead to harmful consequences. |
| Obliging                  | • Puts interest of others before their own.  
                             • Engage in accommodating behaviours, which involve downplaying or retracting own needs and interests, whilst emphasizing commonalities to satisfy the needs of others.  
                             • Issue involved matters more to one party than the other.  
                             • Appropriate when conflict cannot be resolved to satisfy both ends.  
                             • This one-sided style does not facilitate creative collaborations and fulfill personal goals. |
| Avoiding                  | • Minimizes response to conflict through withdrawal behaviours.  
                             • Adopted when confronting the other party outweighs the benefits of conflict resolution.  
                             • Does not satisfy the needs of both parties.  
                             • Suited for minor issues.  
                             • Generally an ineffective conflict-handling style. |

As observed from Table 1, each conflict strategy is best applied in certain situations. As it is assumed that leadership is based on the perceptions of others, a strategy may be seen as appropriate but a leader may still be perceived as ineffective (Gross & Guerrero, 2000). Research suggests that conflict encompasses attitudes, behaviours, cognitive (Bodtker & Jameson, 2001) and affective components (George, 2000). It is argued that unless the roots of conflicting issues are effectively configured and dealt with, conflict may re-occur (Bodtker & Jameson, 2001), as it does not fully address individual needs (Rahim, 2002). Therefore, if strategies applied do not satisfy the needs of both parties, leaders will be less likely perceived as effective (Gross & Guerrero, 2000) and hence, assume to exude less transformational tendencies.

Despite situational differences, the integrating and compromising styles are considered more proficient than the obliging, dominating, and avoiding styles (Rahim, 2002). Remembering that optimal problem-solving promotes collaborative negotiations, transformational leadership is likely to be associated with conflict-handling styles where the needs of both parties are likely to be satisfied while laissez-faire leadership is likely to be connected to conflict styles where the needs of both parties are unfulfilled. Effective leadership requires that leaders be aware of the differing cognitive and/or affective needs of conflicting parties and engage in consistent adaptation and formulation of solutions to suit varying contexts (Rahim, 2002). As such, borrowing evidence provided by CEST, the high functioning of both CEST systems, assists individuals to being aware of individual needs (Cerni et al., 2012). As this notion applies similarly to transformational leadership, it can implied that the constructive use of both CEST systems may better position transformational leaders in understanding their choice of conflict-handling styles and how to promote constructive conflict management. CEST systems could potentially guide
transformational leaders in adaptively coping with problem-solving situations and generating effective solutions that satisfy the needs of involved parties.

Across the concepts of CEST, FRLT and conflict-handling styles, it is possible that these concepts are inextricably linked through emotional processes. However, since no research has attempted to merge them together, there may be an indirect route through emotional processes connecting these variables. As such, it is befitting to briefly explain the concept of emotional intelligence.

Emotional intelligence (EI) is the ability to accurately perceive, generate, understand and regulate emotions adaptively in one self and others (Mayer & Salovey, 1997, p.10). Organizational researchers have established connections between EI to both transformational and conflict management competencies (Clarke, 2010; Schlaerth, Ensari & Christian, 2013). Studies dictate that leaders with higher EI possess better communication and interpersonal skills (Clarke, 2010), which instigate productive collaborations, involving understanding and regulating emotions, and leading to mutually innovative conclusions (Schlaerth et al, 2013). EI strengthens leader-follower relationships and aids conflict resolution by reducing barriers to information and increasing mutual understandings (Mayer & Salovey, 1997).

In addition, facilitating thought through emotion is a domain of EI that similarly applies to experiential processing (Mayer & Salovey, 1997). Therefore, the processing system underlying EI is likely to be largely dependent on the experiential system where affect is of core importance. Based purely by definition, EI helps leaders be more aware of and accurately display emotions. However, studies have yet to establish its significance in how leaders use it to effectively manage conflict (Shutte et al., 2008). Nevertheless, CEST encompasses the ability to not only interpret but also facilitate emotional management amongst individuals (Cerni et al., 2012).
The concept of EI is only suggested to have an indirect role in integrating these variables together for this study and is not implied to account for any major relationships. Hence, it is not explored in depth for the purpose of this study.

In light of the evidence discussed thus far, this study proposes two ideas. First, the three variables may possibly be linked through EI as an underlying factor. Alternatively, transformational leadership may mediate the relationship between thinking and conflict-handling styles (see Figure 2). If constructively using both CEST systems (rational and behavioural coping) could better direct transformational leadership behaviours, this could subsequently assist transformational leaders in adaptively coping with changing situational factors and encourage collaborative problem-solving methods.

Since potential relationships connecting the three concepts are currently put forth, I will examine the empirical evidence supporting these concepts.
Empirical evidence

**Information-processing and transformational leadership.** Early studies investigating CEST and transformational leadership found significant positive relationships between behavioural coping and transformational leadership (Atwater & Yammarino, 1993; Dubinsky et al., 1995; Humphreys & Zettel, 2002). Recently, Cerni and colleagues (2008) established that all constructive thinking elements were positively associated with transformational leadership amongst a sample of school principals. This was an extension of the unexpected weak, yet significant relationship they initially found between experiential thinking and transformational leadership. Taken together, it was inferred that transformational dispositions are more likely when the experiential system is used constructively rather than destructively (Epstein, 2001). Subsequently, results also yielded a significant positive relationship between rational thinking and transformational leadership. Such evidence favoured the view that a high functioning of both rational and constructive thinking (behavioural coping) was related to transformational leadership. However, further research interests spurred Cerni and colleagues to conduct an intervention study in 2010. They extended leadership research by causally linking CEST to transformational leadership. Their findings demonstrated that transformational tendencies of school principles significantly increased over a 10-week coaching period as participants reported being more self-aware of their own CEST systems and how they interacted (Cerni et al., 2010).

**Information-processing and conflict-handling styles.** More recently, Cerni and colleagues (2012) reported results that the rational system was strongly connected to the integrating, compromising and dominating styles. They argued that the rational system could either develop new solutions that satisfy the concerns of both social
entities by encouraging productive collaborations, or it could facilitate the gathering of information about others, which can be cleverly used as a source of power (Cerni et al., 2012). Subsequently, they reported that most constructive thinking components were linked to integrating and compromising. They contend that individuals who are optimistic and confident in their beliefs and values are flexible thinkers who are adaptive and action-orientated (Epstein, 2001). Their study also revealed three significant negative relationships between: the rational system and avoiding, and constructive thinking with both dominating and avoiding styles. Styles like avoiding involve the entire physical withdrawal and would likely demand less information processing (Cerni et al., 2012). In essence, constructive-experiential processes may enhance collaboration between conflicting parties as it is affiliated with affect (Epstein, 2001) and are inclined to be related to styles with high concerns for others (Cerni et al., 2012).

**Transformational leadership and conflict-handling styles.** A study on a group of head nurses in Israeli utilised Thomas and Kilmann (1974)’s conflict-handling styles, and found that transformational leadership significantly affected the conflict-handling strategy chosen (Hendel et al., 2005). Results showed that nurses perceiving themselves as transformational leaders were predisposed to selecting the integrating style as their ideal choice of conflict-handling. However, conflict research has frequently yielded inconsistent results (Hendel et al., 2005) and the impact of transformational leadership on conflict-management should be further investigated.

**Methodological concerns.** Despite such meaningful results, the methodological limitations of these studies provided the foundation for the present study. It is postulated that leadership is multidimensional and should be studied in different ways (Podsakoff, Mackenzie, Podsakoff & Lee, 2003). All the above studies
suffer from common method bias as data was collected from the same raters (Podsakoff et al., 2003). This can incur an issue of reduced to variance, which may artificially inflate differences and correlations and potentially hide the reality that these variables are not really connected (Podsakoff et al., 2003). This study therefore attempts to reduce this by reviewing subordinate perspectives (i.e. other-report) as it is said that people adopt different criteria to judge themselves and others (Canary & Spitzber, 1990). Furthermore, leadership effectiveness (inclusive of conflict management) is typically defined by their subordinates based on their behavioural tendencies (Hall & Lord, 1995). As such, a leader may possibly perceive his/her behaviours as effective in dealing with conflict but may be considered otherwise in the eyes of their subordinates.

The above studies also exhibit poor external validity as they were mostly tested in specific industries (e.g. education and healthcare) and/or samples (e.g. students, nurses). It may be the case that certain industries (e.g. Hendel et al., 2005) have more prominent factors such as cultural or industrial implications directing behavioural choices. After all, the rational system is known as an inferential system functioning by an individuals’ understanding of culturally transmitted rules of reasoning and knowledge (Epstein, 2001). Therefore, considering the above evidence, the gaps in the literature suggest that past research have independently established connections forming dual relationships and have commonly used self-report measures, thereby introducing common method bias. Additionally, restricted samples challenge the generalizability of results in real-life organizations. As such, this study aims to establish broad connections spanning across all three variables using a more representative, leadership sample. Henceforth, the present study operates on the premise that (1) rational and constructive-experiential thinking is associated with
analytical and emotional thinking respectively, (2) transformational leadership is an effective leadership form and (3) optimal conflict-handling occurs through collaborative discussions and leads to mutual satisfaction of individual needs. In addition, because leadership effectiveness depends on how their followers see them, this study stresses the importance of follower perceptions on conflict-handling and leadership styles. Furthermore, given the prominence of behavioural coping in past research, the following hypotheses are examined:

H1a: Transformational leadership will be positively related to integrating and compromising conflict-handling styles.

H1b: Laissez-faire leadership will be positively related to the avoiding conflict-handling style.

H2a: Rational and constructive-experiential thinking (specifically behavioural coping) are positively correlated to subordinate perceptions of transformational leadership and integrating and compromising conflict-handling styles.

H2b: Rational and constructive-experiential thinking styles (specifically behavioural coping) are negatively correlated to subordinate perceptions of laissez-faire leadership and the avoiding conflict-handling style.

H3: Subordinate perceptions of leadership styles (particularly transformational leadership and laissez-faire) will mediate the connection between rational and constructive-experiential thinking (behavioural coping), and subordinate perceptions of conflict-handling styles.
Methods

Design

The study examines the relationship between CEST information-processing systems, leadership and conflict-handling styles using a correlational design.

Participants

The study recruited 69 participant pairs. Each pair consisted of a ‘Leader’ (e.g. managers, team leaders) and their immediate ‘Subordinate’ (e.g. team-player, lower-ranked managers). All participants fulfilled the criteria of being employed in their current position for at least six or more consecutive months. However, 10 participant pairs were omitted from the analysis as the leaders in the pairs scored more than 1.5 standard deviations above the mean for defensiveness and/or 1.5 standard deviations below the mean for validity on the Constructive Thinking Inventory (CTI), leaving a resultant sample of 59 pairs. The final sample consisted of 51 males and 67 females ($M_{age} = 39.99, SD = 11.47$). There were 29 male and 30 female leaders ($M_{age male leaders} = 43.31, SD_{male leaders} = 9.95, M_{age female leaders} = 46.00, SD_{female leaders} = 9.18$), and 22 male and 37 female subordinates ($M_{age male subordinates} = 32.77, SD_{male subordinates} = 10.39, M_{age female subordinates} = 36.11, SD_{female subordinates} = 11.95$). The number of pairs of participants in specific industries are illustrated in Table 2.
Table 2. Pairs of participants in each industry (N = 59).

<table>
<thead>
<tr>
<th>Industry</th>
<th>N_pairs</th>
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<tbody>
<tr>
<td>Administration – office support, and IT</td>
<td>1</td>
</tr>
<tr>
<td>Business - retail, sales, marketing, banking, finance</td>
<td>9</td>
</tr>
<tr>
<td>Education</td>
<td>9</td>
</tr>
<tr>
<td>Engineering, mining and construction</td>
<td>8</td>
</tr>
<tr>
<td>General management</td>
<td>4</td>
</tr>
<tr>
<td>Healthcare</td>
<td>5</td>
</tr>
<tr>
<td>Hospitality and tourism</td>
<td>0</td>
</tr>
<tr>
<td>Sport and recreation</td>
<td>1</td>
</tr>
<tr>
<td>Others</td>
<td>22</td>
</tr>
</tbody>
</table>

Materials

As data collected was part of a larger project involving a number of measures, only measures of interest to this study were discussed. Additionally, although this study attempted to collect subordinate ratings, self-report measures were retained when measuring thinking preferences as underlying thought patterns are unlikely to be accurately rated by subordinates.

**Modified Rational Experiential Inventory (REIm).** The REIm (Norris & Epstein, 2011) contains 42 self-report items testing rational or experiential thinking preferences. It contains 12 rational ability questions, aiming to illustrate logical and analytical thinking (e.g. “I enjoy intellectual challenges”). The REIm also contains 30 questions in the experiential scale that are made up from three 10-item subscales (intuition, imagination and emotionality). Examples for each subscale are:
• Intuition: “I trust my initial feeling about people”.
• Imagination: “I enjoy imagining things”.
• Emotionality: “My anger is often very intense”.

Questions on the REIm were cast on a five-point Likert scale with descriptors 1 = definitely false, 2 = mostly false, 3 = undecided or equally true, 4 = mostly true and 5 = definitely true. The REIm has frequently demonstrated good construct and discriminant validity (Norris & Epstein, 2011). Additionally, both the rational and experiential scales show high internal consistency as $\alpha = .86$ and $\alpha = .84$ respectively (Norris & Epstein, 2011). The uncorrelated rational and experiential scores ($r = -.22, p = .11$) found in this study provided support for the assumption that there are two independent yet interrelated information-processing systems as assumed by CEST (Epstein et al., 1996).

**Constructive Thinking Inventory (CTI).** The CTI (Epstein, 2001) is a 108 self-report item measuring constructive thinking. Respondents rated questions on the same five-point Likert scale as the REIm (from 1 = definitely false to 5 = definitely true). The CTI contains one global constructive thinking (GCT) scale and six main scales: emotional coping, behavioural coping, personal superstitious thinking, categorical thinking, esoteric thinking and naïve optimism that have several further subscales. The GCT scale measures both constructive and destructive thinking as it is a broad bipolar scale containing items from all main scales except esoteric thinking (Epstein, 2001).

High CTI scores suggest more constructive thinking such as GCT, emotional coping, behavioural coping and their subscales (Epstein, 2001). Contrastingly, low scores suggest more destructive thinking such as personal superstitious thinking,
categorical thinking, esoteric thinking, naïve optimism and their subscales (Epstein, 2001). Examples from GCT and the six main scales are:

- Global constructive thinking: “I get so distressed when I notice that I am doing poorly in something that it makes me do worse”.
- Emotional coping: “I am sensitive to rejection”.
- Behavioural coping: “I try to make an all-out effort in most things I do”.
- Personal superstitious thinking: “If something good happens to me, I tend to assume it was luck”.
- Categorical thinking: “I believe once a criminal, always a criminal”.
- Esoteric thinking: “I believe in ghosts”.
- Naïve Optimism: “I think everyone should love their parents”.

The CTI also contains two built-in-lie scales: defensiveness and validity, which provided guidelines for determining the validity of final scores (Epstein, 2001). Scores within a minimum 1.5 standard deviations above the mean for defensiveness and a minimum 1.5 standard deviations below the mean for validity were excluded from the results. Epstein (2001) indicated that the CTI posses good reliability as $0.76 < \alpha < 0.92$ across its scales.

**Multifactorial Leadership Questionnaire Form 5x (MLQ 5x; other-rated).** The MLQ 5x (Bass & Avolio, 1997; other-rated) was used to measure subordinate perceptions’ of their respective leaders and their behaviours. The MLQ 5x (other-rated) replicates the MLQ 5x (self-rated). However, questions were reworded for respondents to rate their leaders instead of themselves. The MLQ 5x contains 45 self-report items, each discussing an aspect of an individual’s leadership behaviours (e.g. “My boss spends time teaching and coaching”). Thirty-six items measured the nine single-order leadership factors of the FRLT (Antonakis et al.,
Each leadership scale occupies four items on the questionnaire (Antonakis et. al., 2003). There are five transformational leadership factors, three transactional leadership factors and one laissez-faire leadership factor. The five transformational leadership factors include: attributed charisma, idealized influence, inspirational motivation, intellectual stimulation and individualized consideration while the three transactional factors include: contingent reward, management-by-exception-active and management-by-exception-passive (Antonakis et al., 2003). The questionnaire also assesses three leadership outcomes such as extra effort, effectiveness and satisfaction (Antonakis et al., 2003).

Rahim Organizational Conflict Inventory-II (other-rated). The ROCI-II (other-rated) measures subordinate’s perceptions of their leaders conflict-management styles. The original ROCI-II (Rahim, 1983) has three forms, A, B and C, each differing with reference to conflict with a boss, subordinate or peer respectively. Form A, which was selected for this study was correspondingly modified for subordinates to rate how their leaders handle conflict at work with them. It contains 35 self-report items, 7 items for each conflict-handling style. Respondents were required to rate items on a five-point Likert scale with descriptors 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree and 5 = strongly agree. Higher scores reflect a greater use of a specific conflict style (Rahim, 1983).

An example item for each conflicting-styles are:

- Integrating: “My boss exchanges accurate information with me to solve a problem together”.
- Compromising: “My boss usually allows concessions to me”.
- Dominating: “My boss uses his/her influence to get his/her ideas accepted”.
- Obliging: “My boss usually accommodates my wishes”.


• Avoiding: “My boss avoids an encounter with me”.

The ROCI-II was selected as its scales demonstrate good construct and external validity, and good test-retest and internal consistency reliability (Rahim, 1983). The ROCI-II (other-rated) is based on the ROCI-II. Therefore, since the ROCI-II has been meticulously tested on managerial and collegiate samples (Rahim, 1983), it can be sufficiently assumed that the ROCI-II (other-rated) carries similar psychometric properties.

Procedure

First, participants were recruited from Murdoch Executive Education and from a sample of convenience from a few student researchers.

Second, to generate complimentary pairs of participants (i.e. leaders and respective subordinate), an email was first sent to one of the known contacts, who would subsequently provide a corresponding email address. Upon identifying participant pairs, participants were emailed information concerning the survey. Leaders and subordinates were sent separate survey links, which connected them to either the leader or subordinate questionnaire. They were also allocated a unique code that was required during the survey. However, to accurately code participants, matching codes were assigned to each pair. For example, a leader would be coded ‘1001’ while their subordinate would be coded ‘2001’. Nevertheless, leaders were unaware of their subordinates code and vice versa.

Finally, upon accessing the survey link, participants entered their code, answered a demographic questionnaire, and completed their respective questionnaires. Leaders answered the REIm, and the CTI while subordinates answered the MLQ 5x (other-rated) and the ROCI-II (other-rated).
The survey took approximately 35 minutes per person to complete in one sitting. However, the completion of the survey was untimed and unsupervised. Participants’ responses and identities were kept confidential and anonymous. Upon completion, participants could opt for a chance to win a $50 gift voucher. Where email or Internet access was unavailable, hardcopy versions of respective surveys were sent out to the addresses of participants with addressed return envelopes. There were approximately .59% and 2.05% of missing values in the data set for the leaders and subordinate measures respectively.

Results

Data Screening

After removing outliers based on the CTI defensiveness and validity scale, no further outliers were identified using the criteria of 3.29 standard deviations above or below the mean. Normality assumptions were fulfilled with the exception of the laissez-faire leadership scale, which was positively skewed. A square root transformation was applied to normalize the scale, but the untransformed descriptive statistics are presented for ease of interpretation.

Additionally, the internal reliabilities for all scales (see Table 3) were satisfactory, except for the transactional total scale (α = .41), which was subsequently removed from the analysis. However, the subscales of the transactional leadership scale were reliable and were retained for analysis. Both transformational and transactional leadership subscales showed satisfactory reliabilities as Cronbach’s alphas were at least .65 or above.

Correlational Results

Before running correlational analysis, the descriptive statistics for the relevant main scales of the REIIm, CTI, MLQ 5x and ROCI-II were reviewed and are
displayed in Table 3. Correspondingly, respective descriptive statistics of the leadership subscales are illustrated in Table 4. Subsequently, although measures used in this study consist of several subscales, only the results for scales that were of interests were presented.

**Perceptions of leadership and conflict-handling styles.** First, to determine the relationship between the perceptions of both leadership and conflict-handling styles, Pearson’s correlations were computed between the MLQ 5x (other-rated) and the ROCI-II (other-rated; see Table 3). Results demonstrated significant positive relationships between transformational leadership with both the *integrating* and *compromising* conflict-handling styles. Subsequently, laissez-faire leadership showed a significant, positive correlation with the *avoiding* style. A significant negative relationship was also revealed between laissez-faire leadership and the integrating conflict-handling style.

To understand which particular leadership aspects correlated with respective conflict-handling styles, further correlational analyses were conducted between the subscales of transformational and transactional styles on the MLQ 5x (other-rated) and ROCI-II (other-rated; see Table 4). All transformational leadership subscales and *contingent reward* illustrated significant positive relationships with both integrating and compromising conflict-handling styles. In addition, results demonstrated that the avoiding style was significantly related to *management-by-exception (passive)*.
Table 3.
Scale means, standard deviations, reliabilities, and scale correlations.

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<td>1. Rational thinking</td>
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<td>2. Experiential thinking</td>
<td>3.34</td>
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<td>3. Global constructive thinking</td>
<td>3.51</td>
<td>.38</td>
<td>.17</td>
<td>-.12</td>
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<td>4. Emotional coping</td>
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<td>5. Behavioural coping</td>
<td>3.97</td>
<td>.40</td>
<td>.16</td>
<td>.04</td>
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<td>.42**</td>
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<td>6. Transformational leadership</td>
<td>2.91</td>
<td>.73</td>
<td>.11</td>
<td>.06</td>
<td>.25</td>
<td>.17</td>
<td>.42**</td>
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<tr>
<td>7. Laissez-faire leadership</td>
<td>.58</td>
<td>.61</td>
<td>-.17</td>
<td>-.05</td>
<td>-.03</td>
<td>-.05</td>
<td>-.61**</td>
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<td>8. Avoiding</td>
<td>2.55</td>
<td>.68</td>
<td>-.09</td>
<td>-.27*</td>
<td>-.12</td>
<td>-.11</td>
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<td>.39**</td>
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<tr>
<td>9. Dominating</td>
<td>3.03</td>
<td>.66</td>
<td>-.04</td>
<td>-.17</td>
<td>-.03</td>
<td>.02</td>
<td>-.06</td>
<td>-.31*</td>
<td>.21</td>
<td>.11</td>
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<td>10. Integrating</td>
<td>3.84</td>
<td>.52</td>
<td>-.04</td>
<td>.11</td>
<td>.11</td>
<td>.10</td>
<td>.19</td>
<td>.63**</td>
<td>-.33**</td>
<td>.04</td>
<td>-.05</td>
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<tr>
<td>11. Compromising</td>
<td>3.59</td>
<td>.57</td>
<td>.02</td>
<td>.26</td>
<td>.04</td>
<td>.00</td>
<td>.16</td>
<td>.47**</td>
<td>-.11</td>
<td>.21</td>
<td>-.17</td>
<td>.69**</td>
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<td>12. Obliging</td>
<td>3.49</td>
<td>.54</td>
<td>.02</td>
<td>.21</td>
<td>-.15</td>
<td>-.15</td>
<td>-.06</td>
<td>.20</td>
<td>.02</td>
<td>.23</td>
<td>-.13</td>
<td>.43**</td>
<td>.61**</td>
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</tbody>
</table>

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

N = 58 for thinking styles and constructive thinking
N = 59 for leadership and conflict-handling styles

Note: Cronbach’s alpha reliabilities are shown on the horizontal axis
Table 4.

Descriptives of leadership subscales, and correlations of leadership subscales and conflict-handling styles.

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>Avoiding</th>
<th>Dominating</th>
<th>Integrating</th>
<th>Compromising</th>
<th>Obliging</th>
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<td><strong>Transformational Scales</strong></td>
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<tr>
<td>Attributed Charisma</td>
<td>2.99</td>
<td>.81</td>
<td>-.23</td>
<td>-.25</td>
<td>.58**</td>
<td>.38**</td>
<td>.21</td>
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<tr>
<td>Idealised influence</td>
<td>2.86</td>
<td>.95</td>
<td>-.21</td>
<td>-.31*</td>
<td>.60**</td>
<td>.36**</td>
<td>.15</td>
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<tr>
<td>Individual consideration</td>
<td>2.87</td>
<td>.83</td>
<td>-.21</td>
<td>-.31**</td>
<td>.52**</td>
<td>.43**</td>
<td>.22</td>
</tr>
<tr>
<td>Inspirational motivation</td>
<td>3.10</td>
<td>.75</td>
<td>-.19</td>
<td>-.26**</td>
<td>.51**</td>
<td>.42**</td>
<td>.15</td>
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<tr>
<td>Intellectual stimulation</td>
<td>2.72</td>
<td>.84</td>
<td>-.19</td>
<td>-.24</td>
<td>.56**</td>
<td>.47**</td>
<td>.14</td>
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<tr>
<td><strong>Transactional scales</strong></td>
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<tr>
<td>Management-by-exception (passive)</td>
<td>.88</td>
<td>.75</td>
<td>.45**</td>
<td>.19</td>
<td>-.14</td>
<td>.17</td>
<td>.23</td>
</tr>
<tr>
<td>Management-by-exception (active)</td>
<td>2.06</td>
<td>.94</td>
<td>.02</td>
<td>.36**</td>
<td>.05</td>
<td>-.06</td>
<td>-.02</td>
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<tr>
<td>Contingent reward</td>
<td>2.97</td>
<td>.78</td>
<td>-.16</td>
<td>-.34**</td>
<td>.55**</td>
<td>.43**</td>
<td>.16</td>
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**p < .01, *p < .05 level.
Thinking styles and perceptions of leadership styles. Second, to examine the relationship between thinking styles and the perceptions of leadership styles, respective Pearson’s correlations between the REIm, CTI and the MLQ 5x (other-rated) were computed (see Table 3). Rational and experiential thinking demonstrated weak, non-significant, positive correlations with transformational leadership. Amongst all constructive thinking elements, behavioural coping was significantly related to transformational leadership, while global constructive thinking showed a weak, positive yet marginally significant correlation with transformational leadership as \( p = .056 \). Conversely, weak, non-significant negative relationships were found between laissez-faire leadership and rational thinking, experiential thinking, global constructive thinking and behavioural coping.

Further exploration of the correlations between REIm, CTI and respective leadership subscales of the MLQ 5x (other-rated) showed weak, non-significant, positive correlations between rational thinking and all transformational leadership subscales (see Table 4). Experiential thinking on the other hand, showed weak, non-significant, positive correlations across all transformational leadership subscales. Of the constructive thinking elements, behavioural coping was significantly related to all transformational leadership subscales and to contingent reward. Furthermore, global constructive thinking was significantly related to idealized influence \( (r = .30, \ p = .024) \) and intellectual stimulation \( (r = .29, \ p < .025) \).

Thinking styles and perceptions of conflict-handling styles. Finally, Pearson’s correlations computed between the respective scales of the REIm, CTI and ROCI-II (other-rated) determined the relationship between thinking styles and the perceptions of conflict-handling styles (see Table 3). The rational system demonstrated weak, non-significant, negative correlations with the avoiding, and most
unexpectedly, the integrating style. However, the rational system revealed a weak, non-significant, positive relationship with the compromising conflict-handling style. Subsequently, experiential thinking showed a significantly negative relationship with the avoiding conflict-handling style. Experiential thinking also had weak, non-significant positive relationships with the integrating, and compromising styles. No significant relationships were revealed between any constructive thinking subscales and conflict-handling styles. Nonetheless, a weak, non-significant, negative relationship was found between constructive thinking elements and the avoiding style. In contrast, both integrating and compromising styles showed weak, non-significant, positive relationships with the elements of constructive thinking.

**Regression analyses**

None of the scales were significantly correlated to rational thinking, and hence, it was not entered into any regression analyses. Similarly, constructive thinking elements were not significantly related to any conflict-handling styles and were assumed to poorly predict any conflict-handling styles. A series of regression analyses were conducted to understand the effect of the (1) perceptions of leadership styles in predicting the perceptions of conflict-handling styles, and (2) the mediating effect of the perceptions of leadership styles on the relationship between thinking styles and the perceived use of conflict-handling styles.

R squared figures demonstrate the variance each predictor explains. Thus, since transformational leadership, laissez-faire leadership and contingent reward showed significant relationships with the integrating style, they were entered into a regression analysis. This ensured that any overlapping variance between factors would be excluded in determining significant predictors. However, contingent reward was removed from the regression model after the initial analysis as it reflected a
strong, significant correlation with transformational leadership \( r = .82, p < .001 \) therefore, risking a breach of the multi-collinearity assumption of regression analysis. As such, together transformational leadership and laissez-faire leadership style explained a total of 41% of variance in the integrating style, but only transformational leadership was a significant predictor as \( \beta = .69, p < .001 \).

In contrast, laissez-faire leadership and management-by-exception (passive) were significantly correlated with the avoiding style. However, upon regressing these two factors, only laissez-faire was observed to be a significant predictor as \( \beta = -.35, p < .05 \). Both predictors together accounted for a total of 11% of variance in the avoiding style.

To test for a mediating relationship, conditions suggested by Baron and Kenny (1986) were analyzed. When examining the relationship between thinking and conflict-handling styles, only experiential thinking was significantly correlated with the avoiding style (see Table 3). However, as there was no significant relationship between experiential thinking and laissez-faire leadership, it was concluded that the conditions for a mediating model were unsatisfied.

**Discussion**

The objective of this study was to understand if rational and constructive-experiential thinking (specifically behavioural coping) facilitated transformational leaders in how they would interactively promote constructive conflict-management at work. Additionally, since no study had connected transformational leadership to Rahim’s conflict-handling styles, this study aimed to fill this void by predicting if transformational leaders could potentially fulfill the needs of conflicting parties during problem-solving situations (i.e. promote integrating or compromising conflict-handling styles). Moreover, it aimed to develop insight to understanding if ineffective
forms of leadership (e.g. laissez-faire leadership) would be connected to the avoiding conflict-handling style that is characterised by the physical withdrawal from the management of conflict. In light of these aims, some of these claims were unsupported. However, non-significant results were able to suggest some direction aligning with previous research, and provided some future directions.

**Leadership and conflict-handling styles**

The results of the present study supported H1a as significant positive correlations were found between the perceptions of transformational leadership and the perceived use of both integrating and compromising styles. Amongst these two correlations, transformational leadership was more strongly correlated with the integrating than the compromising style. Similarly, significant positive relationships were demonstrated across all transformational leadership subscales with both integrating and compromising conflict-handling styles. These findings, as a whole, suggest that the greater demonstration of transformational leadership behaviours, as perceived by subordinates, are likely to be linked with more productive negotiations that result in mutual satisfaction of individual needs. As such, these results were consistent with the self-rated evidence found in Hendel et al., (2005) where transformational leadership was related to the integrating style. Therefore, the present study extends conflict literature in suggesting that perceived transformational leadership is correlated with perceived forms of constructive conflict-management styles amongst a leadership sample in various industries. Furthermore, results were also congruent with the view that transformational leaders are sensitive to individuals who are more accurate at understanding and recognizing individual subordinates’ needs (Humphreys & Zettel, 2002) and thereby taking effective and timely actions.
Results also supported H1b as significant positive relationships were found between laissez-faire leadership and the avoiding style. In addition, regression analyses also indicated laissez-faire leadership as a significant main predictor of the avoiding conflict-handling style. These results may be explained as laissez-faire leaders typically postpone interventions, which fosters ambiguity and damages interpersonal relationships (Skogstad et al., 2007). As such, this discourages constructive dialogues and increases the likelihood of avoiding conflict altogether (Kelloway, Sivanathan, Francis & Barling, 2005). It is also possible that when conflict gets too intense, parties involved may abruptly cease communication, due to incapacities in dealing with interpersonal tension, resulting in increased negative affect (Ayoko & Perkerti, 2008), and the persistence of unfulfilled needs. This may demonstrate the lack of the ability to productively manage conflict amongst laissez-faire leaders.

Additionally, management-by-exception-passive was positively and significantly correlated with the avoiding style. This leadership behaviour is common amongst leaders who exhibit efforts only after non-compliance or when mistakes have already occurred (Bass & Avolio, 1997). Therefore, such behaviours may further contribute to the decreased leadership effectiveness as perceived by subordinates evident in the current findings. While research commonly identifies poor leadership as involving both elements of laissez-faire and management-by-exception-passive (Kelloway, et al., 2005), it is fair to infer that these leadership behaviours can be conjunctively defined as a lack of proactive intervention efforts by leaders. Such inefficient and/or untimely leadership interventions fail to sufficiently attend to individual needs, thereby decreasing the perceptions of the quality of interpersonal treatment by a leader (Kelloway et al., 2005). As such, this is consistent with the
significant findings found between laissez-faire and management-by-exception-passive with the avoiding style, which indicates that inadequate leadership interventions classified by withdrawal behaviours during problem-solving situations, are inefficient at fulfilling the needs of conflicting parties. Furthermore, researchers have argued that that avoiding as a form of conflict management can result in the passive acceptance of inappropriate behaviour (Brodsky, 1976). As such, if ineffective leaders continue to model behaviours characterised by inactive efforts, or intervene only when really necessary, subordinates may perceive such behaviours as acceptable, seemingly since leaders set appropriate norms and interactional patterns at work (Kotlyar & Karakowsky, 2007). This is further substantiated by the significant negative relationship found between laissez-faire leadership and the integrating style, demonstrating that laissez-faire leadership is unlikely to promote constructive collaborations between conflicting parties.

In essence, data obtained through subordinate ratings reflected more accurately the degree to which individual followers’ needs are fulfilled. Results also suggested the successful alignment of attitudes, and behaviours of subordinates with their respective leaders through transformational leadership. Given that transformational leaders have the ability to demonstrate exemplary behaviours, subordinates are likely to have accurately perceived, and mirrored such effective conflict-handling approaches. This stems from the proposition that integrative conflict-management methods result in the satisfaction of the needs of both parties (Rahim, 2002), which implies that followers could have possibly adopted similar strategies when engaging in conflict. This is also consistent with the idea that transformational leadership behaviours can directly influence the perceptions of subordinates (Ayoko & Callan, 2010). Findings also corroborate transformational
leadership as an effective leadership style as regression analyses showed that despite other significant relationships, transformational leadership accounts for most of the variance in and is a significant main predictor of the integrating style. Combined together with the aforementioned significant correlations, it may be assumed that transformational leadership plays a part in constructing an environment where conflicts are deemed healthy and positively challenging.

This study also attested the widely advocated notion that transformational leadership augments transactional leadership (Bass, 1997; Shamir et al., 1993; Yammarino et al., 1993). The current results revealed that both transformational leadership subscales and contingent reward together, showed positive significant correlations with the integrating and compromising conflict-handling styles. This is consistent with past research that frequently illustrates the common use of contingent reward in conjunction with transformational leadership behaviours (Humphreys & Zettel, 2002; Waldman, Bass & Yammarino, 1990). Hence, this study supports the idea that effective leaders can command both transformational and transactional behaviours (Bass & Steidlmeier, 1999). It is proposed that contingent reward sets the basis for transformational leadership tendencies to be built upon as it tackles the mundane aspects of a job (Waldman et al., 1990), keeping subordinates motivated to achieve monumental goals set by transformational leaders (Bass & Avolio, 1997). Therefore, this study presented definitive conclusions to suggest that transformational behaviours and contingent reward can form some grounds for promoting constructive conflict management at work.

**Thinking processes, leadership and conflict-handling styles**

The present study also partially supported H2a and H2b as it was hypothesised that rational and constructive-experiential thinking preferences
(specifically behavioural coping) were correlated to the perceptions of leadership styles (particularly transformational or laissez-faire leadership) and either integrative or avoiding methods of conflict-handling strategies.

**Thinking processes and leadership styles.** The weak correlations found between laissez-faire leadership and constructive thinking elements were non-significant, and were therefore unable to strongly support H2b as it contradicted the findings in Cerni et al., (2008). However, weak correlations still align with the view that laissez-faire leaders do not typically engage in constructive thinking processes (Cerni et al., 2008). On the other hand, results successfully replicated the significant positive relationship between behavioural coping and transformational leadership (Atwater & Yammarino, 1993; Cerni et al., 2008; Dubinsky et al., 1995) and all its’ subscales including contingent reward (Humphreys & Zettel, 2002), which was earlier established as a platform for transformational leadership behaviours. Additionally, although global constructive thinking was marginally significant with the main transformational leadership scale, it was found to be significantly related to the transformational leadership subscales of idealized influence and intellectual stimulation. This provided partial support for H2a as constructive thinking, especially behavioural coping and to some extent, global constructive thinking was related to transformational leadership. Findings therefore supported the notion that transformational leaders are constructive thinkers that are optimistic individuals who set high standards and exhibit behavioural flexibility in order to cope with the changing demands of a situation (Cerni et al., 2008, 2010).

However, despite showing similar correlations, results did not further support H2a and H2b as findings failed to replicate the strength and significance of the relationship between rational thinking with both transformational leadership.
(including all its subscales) and laissez-faire leadership (Cerni et al., 2008).

Additionally, despite successfully reproducing the weak positive relationship between experiential thinking and transformational leadership (Cerni et al., 2008), this relationship was found to be non-significant, thereby failing to provide support for H2a. Nonetheless, results provided some support for the contention that destructive thinking could explain some variance in the relationship between experiential thinking and transformational leadership (Cerni et al., 2008). As such, results as a whole may suggest that, based on subordinate ratings, a leaders’ constructive and affective processing may have a greater impact on subordinate perceptions than compared to relatively affect-free, rational patterns of thinking.

Thinking processes and conflict-handling styles. Subsequently, when exploring the relationship between CEST processing systems and conflict-handling styles, there were also a few unexpected results. Across all conflict-handling styles, none were significantly related to both rational and constructive thinking. Although most of them were in the predicted direction aligning with past research (Cerni et al., 2012), these relationships were weak and non-significant, hence failing to lend support to H2a and H2b. Most unexpectedly, results demonstrated a weak, negative, non-significant relationship between rational thinking and the perceived use of the integrating style, thereby contradicting the prediction in H2a. This was inconsistent with Cerni et al., (2012)’s findings, where the integrating style was positively, and significantly related to both rational and constructive thinking elements. On the contrary, the finding that both integrating and compromising styles were weakly related to experiential thinking was consistent with Cerni et al., (2012). Nonetheless, differing results again emphasise the impact of emotional over rational thinking processes in promoting constructive conflict management.
Correspondingly, results partially supported H2b as findings revealed a significant, negative relationship between experiential thinking and the avoiding style. This differed from Cerni et al., (2012) in both direction, and significance of the relationship. Current results suggest that the increased use of the avoiding style was associated with lower experiential processing levels. CEST concepts could provide conceptual support as the avoiding style is described as the physical withdrawal from conflict (Rahim, 2002) and therefore, may command minimal experiential processing, as leaders may not have to interpret or manage emotions (Cerni et al., 2012).

Furthermore, it was interesting to find a significant relationship between experiential thinking with the avoiding, but not the integrating style. This corresponds to the evidence that indicates that negative affect is always accentuated over positive affect (McColl-Kennedy & Anderson, 2002) as subordinates experience or interpret conflict as threatening, and may be further worsened if matters pertain to their self-identity or self-esteem (De Dreu, Dierendonck & Dijkstra, 2004). Therefore, the non-significance of the experiential-thinking-integrating-style relationship may be explained where positive affect is not amplified as much as negative affect is with the avoiding style. It is unlikely that subordinates will perceive their leaders as emotionally aware of their needs and may perceive them to be insincere and lacking in concern for their personal welfare when experiencing negative affect (Skogstad et al., 2007).

An alternative explanation. Initially, findings yielding support for leadership and conflict-handling styles proposed in H1a and H1b provided hope in suggesting a mediating effect of perceived leadership styles on the relationship between rational and constructive-experiential thinking processes and perceived conflict-handling styles (H3). However, the lack of significance and strengths in both
H2a and H2b failed to provide support for a mediating relationship and implied that a latent variable could be present in accounting for the unexpected, non-significant results. Therefore, an underlying factor such as EI could ideally merge the three concepts (CEST thinking preferences, and perceptions of leadership and conflict-handling styles) central to this study and account for the lack of significant results, as findings were leaning in the direction of emotional processes.

EI is emotion based as it encompasses the knowledge and ability to accurately appraise, express, and manage emotions, and utilize emotions to facilitate thoughts (Mayer & Salovey, 1997). EI departs from most cognitive abilities (Côté & Miners, 2006) as it refers to the adaptive functioning based on the interaction between cognitive and emotional process (Salovey & Grewal, 2005). A concept that could be extracted from EI literature is the proposed evidence that leaders with higher EI abilities could compensate for the lack of cognitive abilities such as analytical and logical reasoning (Côté & Miners, 2006). This could justify the lack of significance between rational thinking with both leadership and constructive conflict-handling styles. With an adept ability to understand and manage emotions, leaders with higher EI can still be perceived as effective leaders despite inadequate rational abilities (Côté & Miners, 2006). Therefore, EI may account for the reason to which why perceived transformational leadership was associated with perceived integrative forms of handling conflict, but neither leadership nor conflict-management competencies were associated with rational thinking.

Effective leaders with higher EI abilities have also been argued to be accurate at decoding non-verbal facial expressions (Hall & Bernieri, 2001) as such abilities can assist leaders in understanding when to intervene as they gain greater insight to individuals’ needs (Fulmer & Barry, 2004). This could possibly explain the
significant results found between perceived leadership effectiveness and the perceived use of integrative conflict-handling styles in this study. It could be the case that leaders with higher EI abilities could more accurately appeal to the needs of followers by providing individualised concern during problem-solving situations (Ashkanasy & Tse, 2000), thereby being perceived as effective at managing conflict. Conversely, leaders with lower EI are more inclined to misdiagnose individual needs (Schalerth et al., 2013), as they are less likely to be effective at decoding emotional expressions and hence, congruent with the relationship found between laissez-faire leadership and the avoiding style.

EI is currently theorised to function primarily on intuition and analytical processing similar to the systems proposed in CEST (Schutte et al., 2010). CEST processing systems reflect thinking dispositions while EI represents thinking abilities conceptualised around emotion (Salovey & Grewal, 2005). However, despite the similarities, the non-significance of the relationships between CEST systems with both perceived leadership and conflict-handling styles suggests evidence in favour of EI as an underlying factor. This study does not imply that past research (i.e. that connecting CEST with transformational leadership and conflict-handling styles) are invalid, but rather sheds light on the fact that EI may play a role in merging these three concepts together. In addition, the non-significant results that have been attributed to EI thus far can also be derived from Shutte and colleagues (2010), where EI fully mediated the relationships found between CEST processing systems and subjective well-being (e.g. life satisfaction, positive affect). This possibly suggests that EI could mediate the relationships found in past research (i.e. mediate relationships between thinking and conflict-handling styles, and between thinking and leadership styles), which were the initial foundations of this study. As such, with such
possible implications, EI may provide some grounds to propose an opportunity for bridging all the concepts examined in this study. Nonetheless, this should be investigated more specifically in future.

The lack of significant results could also be attributed to the fact that although CEST processes may undermine EI, most researchers have found that cognitive measures such as the CTI with various EI measures have revealed moderate, if not poor inter-correlations (Cox & Nelson, 2008). Subsequently, EI has been theorised to be a latent multidimensional construct, which further explains the absence of the mediating relationship evident in this study (Wong and Law, 2002). As Epstein (2001) postulated global constructive thinking as the key to EI, it is probable that EI and CEST systems are linked. However, EI capabilities are not reflected in the present study’s results because measures administered do not directly measure the aspects of EI impacting both leadership and conflict-handling styles, therefore possibly accounting for the lack of significant results in this study.

Limitations and future directions

Despite non-significant results, the present study was still valuable in shedding light on certain aspects of thinking preferences, and perceived leadership and conflict-handling styles. However, as the merging of such concepts has never been previously attempted, this study entails certain limitations that may serve as platforms for future research.

First, although this study provided some insight using other-rated measures, the present results were limited in providing strong, concrete generalisations and the ability to make definitive statements. As such, the understanding of overlapping concepts between CEST, leadership and conflict-handling styles could first be established using self-rated measures and forming more concrete grounds and
evidence before altering for methodological limitations such as common method bias. This suggestion stems from the notion that although self-reported measures have been criticized for leniency in ratings (Podsakoff et al., 2003), other-rated measures tend to provide complex and/or mixed results (Atkins & Wood, 2002). Therefore, self-rated measures could possibly serve as a stepping-stone for more in depth exploration for future research.

Second, issues of common method variance were still present, as measures of leadership and conflict-handling styles were both subordinate-rated (Podsakoff et al., 2003). Additionally, given the possible closeness between leader-follower dyads, subordinate ratings may be upwardly biased. Subsequently, these ratings may be based on personal experiences and attributions (Hall & Lord, 1995), which may potentially contribute to the lack of significance across results. Caution should therefore be exercised when interpreting results as it may be possible that subordinates ratings were based on limited information and opportunities (Côté & Miners, 2006). Furthermore, effective leaders may adapt their behaviours to different subordinates (Hall & Lord, 1995) and therefore, this study is only representative of leaders and followers with close interpersonal relationships given (1) the significance of transformational leadership with constructive conflict-handling styles and (2) also because leaders requested their subordinates to participate in this study (and vice versa), which can be assumed to be done as a ‘favour’ to each other as participation in the study had no direct benefits to each party. Thus, this study is limited to understanding the frequency of one conflict-handling strategy toward specific subordinates and may impede the generalisability of results.

Third, it is often theorised that leadership effectiveness, which includes conflict-management in this case, is dictated by cognitive and affective components
of subordinates (Hall & Lord, 1995). Therefore, future research could investigate the underlying thinking mechanisms of subordinates to better understand the way subordinates define their environment, which include their interpersonal relationships, goals and ways in which they handle conflict. This would help deepen the understanding of the extent to which transformational leadership impacts the reactions, perceptions and affective states of subordinates in problem-solving situations.

Forth, benchmarking against past research (Cerni et al., 2008, 2012) sample sizes were a minimum of 183 respondents, indicating that the sample size of the present study \( N = 58 \) pairs was less than ideal. Hence, this reduced the present study’s power and may account for a lack of significance across some results. Furthermore, the number of leader-follower dyads from each industry were fairly limited, and most respondents indicated ‘other’ industry, making it difficult to define the context in which they evaluated their leader or infer any possible environmental factors influencing their perceptions that may contribute to the weak, non-significant relationships found in this study.

Finally, it is proposed that the discrepancy between leader-follower perceptions can be rather broad (Richmond et al., 1983). Therefore, this study was limited in the capacity to compare and understand the degree of similar perceptions between dyad-pairs with the lack of self-report measures. Therefore, researchers may want to retain both self and other-rated measures in future to aid better comparisons. To achieve a more holistic picture of the perceptions of leadership effectiveness and its impact on conflict-management in future, collecting other-rated data could be diversified by administering measures to both upper-level managers and subordinates (e.g. Sosik & Megerian, 1999).
Conclusion. This study provides convergent evidence to suggest that effective leaders possess greater capacities to promote healthy open-minded dialogues worthy for effective workplace functioning. It also contributes to the expanding literature corroborating the importance of emotional processes as a central aspect to connecting thinking preferences (Shutte et al., 2010), and the effectiveness of leadership and its impact on conflict management at work (Bodtker & Jameson, 2001; George, 2000). This study also lends support for the debate that researchers may need to revise and extend both knowledge and resources into understanding emotional mechanisms driving constructive conflict management. Nonetheless, these results should be viewed as preliminary and to be confirmed through in depth exploration of the mediating effects of EI on these concepts.
References


considerations. _Journal of personality and social psychology_, 51(6), 1173-1182.


Appendix A

Procedure for contacting participants (recruitment emails).

Contacting Manager First

1. For managers/supervisors not yet asked to participate.

Dear [INSERT NAME],

I’m currently studying Honours at Murdoch University and I am conducting some research into the connections between the ways people think and leadership styles. I was hoping you’d be able to assist me with this research by completing a survey that will take about 40 minutes and asking one of your staff to complete a survey also. Both of you would have the chance to enter a prize draw and general results of the survey can be provided to you at the end of the study (not your individual results because your data will be made anonymous). If you are able to participate in this research please let me know. Participation is voluntary and if you have any questions please feel free to ask.

With thanks,

[INSERT YOUR NAME]

2. For managers/supervisors already asked to participate.

Dear [INSERT NAME],

Thanks for being willing to participate in my research on connections between the ways people think and leadership styles. First, could you please provide me with an email address for one of your staff members so that we can send them their survey? For you to complete the survey you may either do this on-line or we can send you a hardcopy. If you would like to complete the survey on-line please click on the following link and when you get to the survey please enter the code number XXXX when you are asked for a code number: http://scored.murdoch.edu.au/survey/TakeSurvey.aspx?SurveyID=p222718. If you would prefer to complete the survey in hardcopy I can send it to you and supply you with a reply-paid envelope, please reply to this email and let me know your mailing address.

With thanks,

[INSERT YOUR NAME]
3. Email to worker/staff whose manager/supervisor has provided their email address.

Dear [INSERT NAME],

Your manager/supervisor [INSERT NAME] has provided me with your email address. I’m a student currently studying Honours at Murdoch University and I am conducting some research into the connections between the ways people think and leadership styles. We would like to ask you to complete a short survey that takes about 30 minutes. In completing the survey you have a chance to enter a prize draw. For you to complete the survey you may either do this on-line or we can send you a hardcopy. If you would like to complete the survey on-line please click on the following link and when you get to the survey please enter the code number XXXX when you are asked for a code number: http://scored.murdoch.edu.au/survey/TakeSurvey.aspx?SurveyID=p2229l8. If you would prefer to complete the survey in hardcopy I can send it to you and supply you with a reply-paid envelope, please reply to this email and let me know your mailing address. Participation is voluntary and if you have any questions please let me know.

With thanks,

[INSERT YOUR NAME]

Contacting Subordinate First

4. For workers/staff not yet asked to participate.

Dear [INSERT NAME],

I’m currently studying Honours at Murdoch University and I am conducting some research into the connections between the ways people think and leadership styles. I was hoping you’d be able to assist me with this research by completing a survey that will take about 30 minutes and asking your manager/supervisor to complete a survey also. Both of you would have the chance to enter a prize draw and general results of the survey can be provided to you at the end of the study (not your individual results because your data will be made anonymous). If you are able to participate in this research please let me know. Participation is voluntary and if you have any questions please feel free to ask.

With thanks,

[INSERT YOUR NAME]
5. **For workers/staff already asked to participate.**

Dear [INSERT NAME],

Thanks for being willing to participate in my research on connections between the ways people think and leadership styles. First, could you please provide me with an email address for your supervisor/manager so that we can send them their survey? For you to complete the survey you may either do this on-line or we can send you a hardcopy. If you would like to complete the survey on-line please click on the following link and when you get to the survey please enter the code number XXXX when you are asked for a code number: [http://scored.murdoch.edu.au/survey/TakeSurvey.aspx?SurveyID=p2229l8](http://scored.murdoch.edu.au/survey/TakeSurvey.aspx?SurveyID=p2229l8). If you would prefer to complete the survey in hardcopy I can send it to you and supply you with a reply-paid envelope, please reply to this email and let me know your mailing address.

With thanks,

[INSERT YOUR NAME]

6. **Email to manager/supervisor whose worker/staff has provided their email address.**

Dear [INSERT NAME],

Your staff member [INSERT NAME] has provided me with your email address. I’m a student currently studying Honors in Psychology at Murdoch University and I am conducting some research into the connections between the ways people think and leadership styles. We would like to ask you to complete a short survey that takes about 40 minutes. In completing the survey you have a chance to enter a prize draw and general results of the survey can be provided to you at the end of the study (not your individual results because your data will be made anonymous). For you to complete the survey you may either do this on-line or we can send you a hardcopy. If you would like to complete the survey on-line please click on the following link and when you get to the survey please enter the code number XXXX when you are asked for a code number: [http://scored.murdoch.edu.au/survey/TakeSurvey.aspx?SurveyID=p2227l8](http://scored.murdoch.edu.au/survey/TakeSurvey.aspx?SurveyID=p2227l8). If you would prefer to complete the survey in hardcopy I can send it to you and supply you with a reply-paid envelope, please reply to this email and let me know your mailing address. Participation is voluntary and if you have any questions please let me know.

With thanks,

[INSERT YOUR NAME]
Information and consent – Managers/Supervisor

My name is Guy Curtis and I am a psychology academic from Murdoch University. As someone in a managerial or supervisory position, your input into this research as a participant would be greatly appreciated.

This project examines the connections between the ways in which people in leadership and management positions think and their leadership styles. We are asking people in supervisory and management positions to answer questions about the ways in which they think and the ways in which they lead others. At the same time, we are asking for one of your subordinates to evaluate you on aspects of your leadership style. We will be analysing connections between your ratings of your own thinking styles with your subordinate’s ratings of your approaches to leadership.

The survey is intended to be completed by managers along with a separate survey to be completed by one of their subordinates. If you know of anyone else who may be eligible to participate in the study please let the researchers know so that we can contact them.

The survey questions will take approximately 30 to 45 minutes to complete.

If, after reading the information above, you agree to continue with the survey please either begin the survey using the link below or complete the hard-copy survey if you have been given one.

**Please note:** If you are completing this on-line you have been given a code number in your e-mail invitation and it is important to enter this code number. If you have a paper survey a number will be written on the survey.

In order to help us match supervisors and subordinates, and to send reminders to people who have not completed surveys, the researchers will maintain a confidential list of names and code numbers until after data collection is complete (approximately December, 2013). If you would like to have your data withdrawn from the study you may do so up until the end of the data collection period, after this time the list of names and phone numbers will be destroyed and individual responses will not be able to be identified in any way.

**Please note:** Your privacy is very important and we believe it is important for supervisors and subordinates to be able to answer these questions honestly. Because of this, we would ask you not to share your responses with your
subordinate, and we note that your subordinate's code number and survey are not the same as yours.

If you want more information before you decide whether or not to participate, email Guy Curtis at g.curtis@murdoch.edu.au.

If you do not agree to proceed with the survey simply close your web browser at this point or do not continue with the hard copy questionnaire.

As an incentive to participants, you may enter your email address at the end of the survey for a chance to win one of six $50 gift vouchers (there will be approximately 400 participants in this research). Please note that e-mail addresses are stored separately from your responses to the survey.

If you are completing this study on-line, the on-line survey will note when the questions are complete and your responses will be saved. If you are completing this survey in hard-copy, please seal it in the envelope provided on completion and mail back to the researcher.

This study has been approved by the Murdoch University Human Research Ethics Committee (Approval xxxx/xxx). If you have any reservation or complaint about the ethical conduct of this research, and wish to talk with an independent person, you may contact Murdoch University’s Research Ethics Office (Tel. 08 9360 6677 or email ethics@murdoch.edu.au). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
My name is Guy Curtis and I am a psychology academic from Murdoch University. As someone working (whether paid or voluntary), your input into this research as a participant would be greatly appreciated.

We are asking people to evaluate aspects of the leadership style of their supervisors or managers. At the same time, we are asking your supervisor or manager to complete a questionnaire evaluating the ways in which they think. This project examines the connections between the ways in which people in leadership and management positions think and their leadership styles. We will be analysing connections between your ratings of your manager's approaches to leadership and their evaluation of their own thinking styles.

The survey is intended to be completed by working people along with a separate survey to be completed by their manager or supervisor. If you know of anyone else who may be eligible to participate in the study please let the researchers know so that we can contact them.

The survey questions will take approximately 30 minutes to complete.

If, after reading the information above, you agree to continue with the survey please either begin the survey using the link below or complete the hard-copy survey if you have been given one.

**Please note:** If you are completing this on-line you have been given a code number in your e-mail invitation and it is important to enter this code number. If you have a paper survey that a number will be written on the survey.

In order to help us match supervisors and subordinates, and to send reminders to people who have not completed surveys, the researchers will maintain a confidential list of names and code numbers until after data collection is complete (approximately December, 2013). If you would like to withdraw from the study you may do so up until the end of the data collection period, after this time the list of names and phone numbers will be destroyed and individual responses will not be able to be identified in any way.

**Please note:** Your privacy is very important and we believe it is important for supervisors and subordinates to be able to answer these questions honestly. Because of this, we would ask you not to share your responses with your supervisor, and we note that your supervisor’s code number and survey are not the same as yours.
If you want more information before you decide whether or not to participate, email Guy Curtis at g.curtis@murdoch.edu.au.

If you do not agree to proceed with the survey simply close your web browser at this point or do not continue with the hard copy questionnaire.

As an incentive to participants, you may enter your email address at the end of the survey for a chance to win one of six $50 gift vouchers (there will be approximately 400 participants in this research). Please note that e-mail addresses are stored separately from your responses to the survey.

If you are completing this study on-line, the on-line survey will note when the questions are complete and your responses will be saved. If you are completing this survey in hard-copy, please seal it in the envelope provided on completion and mail back to the researcher.

This study has been approved by the Murdoch University Human Research Ethics Committee (Approval xxxx/xxx). If you have any reservation or complaint about the ethical conduct of this research, and wish to talk with an independent person, you may contact Murdoch University’s Research Ethics Office (Tel. 08 9360 6677 or email ethics@murdoch.edu.au). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Appendix C: Additional statistical output (Table A, B & C)

**Table A**: Descriptives, reliabilities and inter-correlations between rational, experiential, constructive, destructive thinking, leadership styles and conflict-handling styles

<table>
<thead>
<tr>
<th>Thinking Styles</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Rational thinking</td>
<td>3.92</td>
<td>.45</td>
<td>(.85)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Experiential thinking</td>
<td>3.34</td>
<td>.38</td>
<td>-.21</td>
<td>(.66)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Constructive Thinking**

| 3. Global constructive thinking | 3.51  | .38  | .17  | -.12 | (.83) |     |     |     |     |     |     |     |     |     |     |     |
| 4. Emotional coping | 3.45  | .48  | .09  | -.25  | .90**  | (.89) |     |     |     |     |     |     |     |     |     |     |
| 5. Behavioural coping | 3.97  | .40  | .16  | .04  | .69**  | .42**  | (.75) |     |     |     |     |     |     |     |     |     |

**Destructive Thinking**

| 6. Esoteric thinking | 2.10  | .77  | -.26 | .27*  | -.24  | -.26  | .00  | (.89) |     |     |     |     |     |     |     |     |
| 7. Naïve optimism | 3.15  | .44  | -.28* | .26  | -.12  | -.12  | .06  | .64**  | (.70) |     |     |     |     |     |     |     |

**Leadership Styles**

| 8. Transformational leadership | 2.91  | .73  | .11  | .06  | .25  | .17  | .42**  | .10  | .01  | (.90) |     |     |     |     |     |     |
| 9. Laissez-faire leadership | .58   | .61  | -.17 | -.05  | -.03  | -.05  | -.15  | .03  | -.61**  | (.64) |     |     |     |     |     |     |

**Conflict-handling styles**

| 10. Avoiding | 2.55  | .68  | -.09  | -.27*  | -.12  | -.11  | -.06  | -.05  | -.24  | .39**  | (.74) |     |     |     |     |     |
| 11. Dominating | 3.03  | .66  | -.04  | -.17  | -.03  | .02  | -.06  | -.10  | .04  | -.31*  | .21  | .11  | (.74) |     |     |     |
| 12. Integrating | 3.84  | .52  | -.04  | .11  | .11  | .10  | .19  | .11  | .16  | .63**  | -.33*  | .04  | -.05  | (.78) |     |     |     |
| 13. Compromising | 3.59  | .57  | .02  | .26  | .04  | .00  | .16  | .12  | .01  | .47**  | -.11  | .21  | -.17  | .69**  | (.80) |     |     |
| 14. Obliging | 3.49  | .54  | .02  | .21  | -.15  | -.15  | -.06  | .04  | .13  | .20  | .02  | .23  | -.13  | .43**  | .61**  | (.66) |     |     |

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

Cronbach’s alpha are shown in the horizontal axis
### Table B: Regression analysis: Experiential thinking and laissez-faire leadership predicting avoiding conflict-handling style

<table>
<thead>
<tr>
<th>Predictor</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiential Thinking</td>
<td>-.50</td>
<td>.23</td>
<td>-.28</td>
<td>.076 *</td>
</tr>
<tr>
<td>Laissez-faire</td>
<td>.58</td>
<td>.18</td>
<td>.39</td>
<td>.16**</td>
</tr>
</tbody>
</table>

Note. Predictors were entered in separate regression analysis, Dependent variable - Avoiding conflict-handling style

** \( p < .01 \), * \( p < .05 \)

### Table C: Correlations between thinking and conflict-handling styles, with leadership subscales.

<table>
<thead>
<tr>
<th></th>
<th>Intellectual stimulation</th>
<th>Idealized influence</th>
<th>Inspirational motivation</th>
<th>Attributed charisma</th>
<th>Individualized consideration</th>
<th>Contingent reward</th>
<th>Management-by-exception (passive)</th>
<th>Management-by-exception (active)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Constructive Thinking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global constructive thinking</td>
<td>.29*</td>
<td>0.30*</td>
<td>.22</td>
<td>.16</td>
<td>.13</td>
<td>.09</td>
<td>-.03</td>
<td>-.19</td>
</tr>
<tr>
<td>Emotional coping</td>
<td>.18</td>
<td>.19</td>
<td>.19</td>
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** \( p < .01 \), * \( p < .05 \)
Appendix D

Author guidelines from The Journal of Occupational and Organizational Psychology

Author Guidelines

The Journal of Occupational and Organizational Psychology publishes empirical and conceptual papers which aim to increase understanding of people and organizations at work. Its domain is broad, covering industrial, organizational, engineering, vocational and personnel psychology, as well as behavioural and cognitive aspects of industrial relations, ergonomics, human factors and industrial sociology. Innovative or interdisciplinary approaches with a psychological emphasis are particularly welcome. So are papers which develop the links between occupational/organizational psychology and other areas of the discipline, such as social and cognitive psychology.

We welcome the following varieties of paper:

• empirical research papers, containing new quantitative or qualitative data which address significant theoretical and/or practical concerns;

• papers which offer new theory and conceptualisation, perhaps accompanied by a critique of existing approaches;

• narrative and/or quantitative reviews of existing research which lead to new conclusions or insights into a field of research and/or practice;

• prescriptive articles advocating changes in research paradigms, methods, or data analytic techniques;

• analyses of practice in occupational and organizational psychology, where such analyses are driven by theory and/or sound data.

1. Circulation

The circulation of the Journal is worldwide. Papers are invited and encouraged from authors throughout the world.

2. Length

The word limit for papers submitted for consideration to JOOP is 8000 words and any papers that are over this word limit will be returned to the authors. The word limit does not include abstract, references, figures, and tables. Appendices however are included in the word limit. The Editor retains discretion to publish papers beyond this length in cases where the clear and concise expression of the scientific content requires greater length (e.g., a new theory or a new method). The authors should contact the Editor first in such a case.

3. Submission and reviewing

All manuscripts must be submitted via Editorial Manager. You may like to use the Submission Checklist to help you prepare your manuscript. The Journal operates a policy of anonymous peer review. Before submitting, please read the terms and conditions of submission and the declaration of competing interests.
4. Manuscript requirements

• Contributions must be typed in double spacing with wide margins. All sheets must be numbered.

• Manuscripts should be preceded by a title page which includes a full list of authors and their affiliations, as well as the corresponding author’s contact details. A template can be downloaded from here.

• Tables should be typed in double spacing, each on a separate page with a self-explanatory title. Tables should be comprehensible without reference to the text. They should be placed at the end of the manuscript with their approximate locations indicated in the text.

• Figures can be included at the end of the document or attached as separate files, carefully labelled in initial capital/lower case lettering with symbols in a form consistent with text use. Unnecessary background patterns, lines and shading should be avoided. Captions should be listed on a separate sheet. The resolution of digital images must be at least 300 dpi.

• All articles should be preceded by an Abstract of between 100 and 200 words, giving a concise statement of the intention, results or conclusions of the article.

• All articles must include Practitioner Points – these are 2-4 bullet points, following the abstract, with the heading ‘Practitioner Points’. These should briefly and clearly outline the relevance of your research to professional practice. (Please include the 'Practitioner Points' in your main document but do not submit them to Editorial Manager with your abstract.)

• All articles should contain a clear statement of where and when any data were collected.

• For reference citations, please use APA style. Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full and provide doi numbers where possible for journal articles.

• SI units must be used for all measurements, rounded off to practical values if appropriate, with the imperial equivalent in parentheses.

• In normal circumstances, effect size should be incorporated.

• Authors are requested to avoid the use of sexist language.

• Authors are responsible for acquiring written permission to publish lengthy quotations, illustrations, etc. for which they do not own copyright.

For guidelines on editorial style, please consult the APA Publication Manual published by the American Psychological Association.

5. Short research notes

In order to supplement innovative research produced in full paper format, the journal provides access to a wider range of investigation through the publication of research in Short Research Note format. Papers submitted as Short Research Notes will be subject to the normal double-blind review process. Short Research Notes should be largely empirical studies. Typically, they will do one of the following:

• replicate existing findings in a new context;

• develop new measures and report on their reliability and validity;
• report contradictory findings that sharpen the interpretation of existing research;

• present new applications of an existing measure;

• report descriptive findings or case studies that will significantly develop professional practice;

• offer an informed and focused challenge to key elements of an existing study, theory or measure.

Papers submitted as Short Research Notes should not exceed 2000 words, including the abstract but not including references or tables. It is normally expected that any tables will take up no more than two printed pages, and there should be no more than about 15 references. With the exception of the items of a new or substantially revised measure, appendices are discouraged.

A paper submitted as a Short Research Note will not necessarily receive positive reviews simply because it falls into one of the categories listed above. Papers need to be located in a conceptual/theoretical context, with rigorous method and appropriate reporting. The issues they raise and/or the findings they report must be deemed to be contributing significantly to the knowledge and understanding of academics and/or practitioners in occupational and organizational psychology. Short Research Notes are not a facility for publishing on the basis of weak data and/or weak conceptual underpinning. In the majority of cases, authors will have submitted the paper in the Short Research Note format. In some instances, however, the Editors may feel that a full paper is best reviewed in a Short Research Note format, or the referees may only recommend publication under this format. All articles in this format will be officially designated and published with the preface ‘Short Research Note.’ These are placed towards the back of the journal. Acceptance for publication on this basis will be indicated in writing to the authors by the Editor or Associate Editor if the original submission was in full paper format.

6. Cross-sectional self-report data

Studies conducted using only cross-sectional self-report data will be considered only in exceptional circumstances. For example; if the sample is exceptionally large, representative or multiple. In all other cases, cross-sectional self-report data should form part of a wider selection of data, including other measures such as longitudinal or experimental elements, corroborating or comparison data, third party records or psycho-physiological data.

For more details on the use of cross-sectional self-report data please see the December 2011 Editorial.

7. Non-working Populations

Papers based entirely on non-working populations (e.g. student samples) will only be considered in rather unusual circumstances. The Editor retains discretion to publish this kind of data, for instance where it is clearly demonstrated that the data obtained can be generalised to working populations.

8. Supporting Information

Supporting Information can be a useful way for an author to include important but ancillary information with the online version of an article. Examples of Supporting Information include appendices, additional tables, data sets, figures, movie files, audio clips, and other related nonessential multimedia files. Supporting Information should be cited within the
article text, and a descriptive legend should be included. Please indicate clearly on submission which material is for online only publication. It is published as supplied by the author, and a proof is not made available prior to publication; for these reasons, authors should provide any Supporting Information in the desired final format.

For further information on recommended file types and requirements for submission, please visit the Supporting Information page in Author Services.

9. OnlineOpen

OnlineOpen is available to authors of primary research articles who wish to make their article available to non-subscribers on publication, or whose funding agency requires grantees to archive the final version of their article. With OnlineOpen, the author, the author's funding agency, or the author's institution pays a fee to ensure that the article is made available to non-subscribers upon publication via Wiley Online Library, as well as deposited in the funding agency's preferred archive. A full list of terms and conditions is available in Wiley Online Library.

Any authors wishing to send their paper OnlineOpen will be required to complete the payment form.

Prior to acceptance there is no requirement to inform an Editorial Office that you intend to publish your paper OnlineOpen if you do not wish to. All OnlineOpen articles are treated in the same way as any other article. They go through the journal's standard peer-review process and will be accepted or rejected based on their own merit.

10. Author Services

Author Services enables authors to track their article – once it has been accepted – through the production process to publication online and in print. Authors can check the status of their articles online and choose to receive automated e-mails at key stages of production. The author will receive an e-mail with a unique link that enables them to register and have their article automatically added to the system. Please ensure that a complete e-mail address is provided when submitting the manuscript. Visit Author Services for more details on online production tracking and for a wealth of resources including FAQs and tips on article preparation, submission and more.

11. Copyright and licences

If your paper is accepted, the author identified as the formal corresponding author for the paper will receive an email prompting them to login into Author Services, where via the Wiley Author Licencing Service (WALS) they will be able to complete the licence agreement on behalf of all authors on the paper.

For authors signing the copyright transfer agreement

If the OnlineOpen option is not selected the corresponding author will be presented with the copyright transfer agreement (CTA) to sign. The terms and conditions of the CTA can be previewed in the samples associated with the Copyright FAQs.

For authors choosing OnlineOpen

If the OnlineOpen option is selected the corresponding author will have a choice of the following Creative Commons Licence Open Access Agreements (OAA):
- Creative Commons Attribution Non-Commercial Licence (CC-BY-NC)
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To preview the terms and conditions of these open access agreements please visit the Copyright FAQs and you may also like to visit the Wiley Open Access Copyright and Licence page.

If you select the OnlineOpen option and your research is funded by The Wellcome Trust and members of the Research Councils UK (RCUK) you will be given the opportunity to publish your article under a CC-BY licence supporting you in complying with Wellcome Trust and Research Councils UK requirements. For more information on this policy and the Journal’s compliant self-archiving policy please visit our Funder Policy page.

12. Colour illustrations

Colour illustrations can be accepted for publication online. These would be reproduced in greyscale in the print version. If authors would like these figures to be reproduced in colour in print at their expense they should request this by completing a Colour Work Agreement form upon acceptance of the paper.

13. Pre-submission English-language editing

Authors for whom English is a second language may choose to have their manuscript professionally edited before submission to improve the English. A list of independent suppliers of editing services can be found in Author Services. All services are paid for and arranged by the author, and use of one of these services does not guarantee acceptance or preference for publication.

14. Early View

The Journal of Occupational and Organizational Psychology is covered by the Early View service on Wiley Online Library. Early View articles are complete full-text articles published online in advance of their publication in a printed issue. Articles are therefore available as soon as they are ready, rather than having to wait for the next scheduled print issue. Early View articles are complete and final. They have been fully reviewed, revised and edited for publication, and the authors’ final corrections have been incorporated. Because they are in final form, no changes can be made after online publication. The nature of Early View articles means that they do not yet have volume, issue or page numbers, so they cannot be cited in the traditional way. They are cited using their Digital Object Identifier (DOI) with no volume and issue or pagination information. Eg Jones, A.B. (2010). Human rights Issues. Journal of Human Rights. Advance online publication. doi:10.1111/j.1467-9299.2010.00300.x

Further information about the process of peer review and production can be found in this document. What happens to my paper?
Friday, 15 March 2013

Dr Guy Curtis
School of Psychology
Murdoch University

Dear Guy,

Project No. 2013/031
Project Title Examining the connection between information processing and leadership

AMENDMENT: Inclusion of student researchers - Sammy Parker, Rhia Saggers, Rowan Parekh, James White, Tuy Dong, Tove Asplund, Christine Swee, Eammon Leaver, Nick Kerr, Arabella Haddon-Casey, Daphne Simoens and Antonella Alvaro

Your application for an amendment to the above project, received on 12 March 2013 was reviewed by the Murdoch University Research Ethics Office and was;

APPROVED

Approval is granted on the understanding that research will be conducted according the standards of the National Statement on Ethical Conduct in Human Research (2007), the Australian Code for the Responsible Conduct of Research (2007) and Murdoch University policies at all times. You must also abide by the Human Research Ethics Committee’s standard conditions of approval (see attached). All reporting forms are available on the Research Ethics web-site.

I wish you every success for your research.

Please quote your ethics permit number in all correspondence.

Kind Regards,

[Signature]

Dr. Erich von Dietze
Manager of Research Ethics

cc: Sammy Parker, Rhia Saggers, Rowan Parekh, James White, Tuy Dong, Tove Asplund, Christine Swee, Eammon Leaver, Nick Kerr, Arabella Haddon-Casey, Daphne Simoens and Antonella Alvaro
Human Research Ethics Committee: Standard Conditions of Approval

a) The project must be conducted in accordance with the approved application, including any conditions and amendments that have been approved. You must comply with all of the conditions imposed by the HREC, and any subsequent conditions that the HREC may require.

b) You must report immediately anything which might affect ethical acceptance of your project, including:

- *Adverse effects on participants*
- *Significant unforeseen events*
- *Other matters that might affect continued ethical acceptability of the project.*

c) Where approval has been given pending copies of documents such as letters of support / consent from other organisations or approvals from third parties, these must be provided to the Research Ethics Office before the research may commence at each relevant location.

d) Proposed changes or amendments to the research must be applied for, using an Amendment Application form, and approved by the HREC before they may be implemented.

e) An annual Report must be provided by the due date specified each year (usually the anniversary of approval) for the project to have continuing approval.

f) A Closure Report must be provided at the conclusion of the project.

g) If, for any reason, the project does not proceed or is discontinued, you must advise the committee in writing, using a Closure Report form.

h) If an extension is required beyond the approved end date of the project, an extension application should be made allowing sufficient time for its consideration by the committee. Extensions cannot be granted retrospectively.

i) You must advise the HREC immediately, in writing, if any complaint is made about the conduct of the project.

j) Any equipment used must meet current safety standards. Purpose built equipment must be tested and certified by independent experts for compliance with safety standards.

k) Higher degree students must have both Candidacy and Program of Study approved prior to commencing data collection.

l) You must notify the Research Ethics Office of any changes in contact details including address, phone number and email address.

m) The HREC may conduct random audits and / or require additional reports concerning the research project.

**Failure to comply with the National Statement on Ethical Conduct in Human Research (2007) and with the conditions of approval may result in the suspension or withdrawal of approval for the project.**

The HREC seeks to support researchers in achieving strong results and positive outcomes.

The HREC promotes a research culture in which ethics is considered and discussed at all stages of the research.

If you have any issues you wish to raise, please contact the Research Ethics Office in the first instance.