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Leadership and perceiver cognition:

Examining the role of self-identity in implicit leadership theories

By

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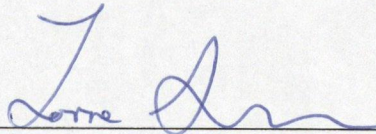
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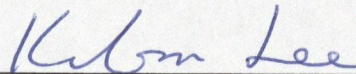
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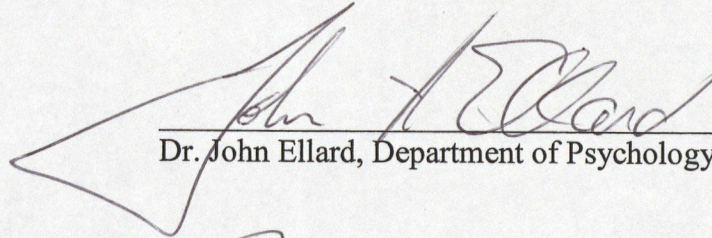
The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Leadership and perceiver cognition: Examining the role of self-identity in implicit leadership theories" submitted by Heather A. MacDonald in partial fulfillment of the requirements for the degree of Master of Science.



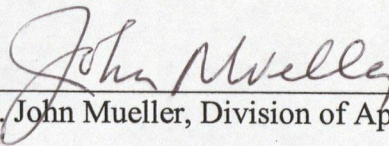
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Abstract

There remains a paucity of empirical studies investigating the underlying mechanisms that influence follower perceptions of leaders. I investigated the relationship between individuals' self-identity and implicit leadership theories. Specifically, individuals' a priori self-identity, and the priming of self-identity, were used to individually and jointly predict implicit leadership theories measured via a paper-and-pencil and computerized leadership tasks. Order effects were found for both the free recall and reaction time dependent measures and were controlled through separate analyses. Results suggest that the priming manipulation (particularly the we-prime) influenced both the free recall task and prototype rating task. Further, certain a priori self-identity groups were found to differ in terms of free recall items and mean prototype ratings. Hypotheses pertaining to the reaction time data were not supported. Findings also suggest that self-identity influenced how participants reacted to the priming manipulation for free recall data. Overall, the results provide some limited support for the idea that self-identity can be primed to influence leadership perceptions. The implications of the findings are discussed, and avenues for future research are explicated.

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Introduction

“If leadership resides, at least in part, in the minds of followers, then it is imperative to discover what followers are thinking.” (Lord & Emerich, 2000, p. 551)

The assessment of easily observable leadership qualities (e.g., behaviors or traits) and their direct impact on organizational outcomes (e.g., subordinate performance or satisfaction) has been a central element underlying formal leadership assessment, as well as scientific research in leadership (Brown & Lord, 2001; Lord & Brown, 2001; Lord & Maher, 1991). Although this approach has expanded the descriptive scope of leadership behavior, it does not advance our understanding of the underlying processes that actually produce leadership perceptions (Brown & Lord, 2001; Lord, Brown, & Freiberg, 1999). Specifically, Brown and Lord noted that leadership “...involves the behaviors, traits, and characteristics of leaders as they are interpreted by observers” and “the scientific study of leadership requires sensitivity to followers’ cognitions and not simply to overt behaviors of leaders” (p. 182). A number of leadership researchers have commented on the potential importance of intervening cognitive mechanisms, nevertheless, there remains a paucity of empirical studies investigating follower perceptions (Hall & Lord, 1995; Lord, Brown, Harvey, & Hall, 2001; Meindl, 1995).

One way to gain a greater understanding of followers’ leadership processes is to consider the more cognitive, affective, and socially based implications of the self literature (Lord et al., 1999). For example, self-identity has been shown to play a major role in cognition, emotion, motivation, and behavior and, as a result, may affect follower perceptions of leadership (Hanges, Lord, & Dickson, 2000). Although there appears to be good reasons to suspect that self-identities serve as a basis for subordinate perceptions of leadership, researchers have devoted little effort to formally evaluating this relationship.

The purpose of the current study is to further examine this avenue of thought by looking at the associations between individuals' self-identities and implicit leadership theories. Specifically, I evaluate the relationship between self-identity and the personal characteristics that individuals attribute to effective leadership. It is hoped that a greater understanding of the relations between subordinate self-structures and leadership schemas will add to our knowledge of the interactions between subordinates and leaders. First, I describe leadership categorization theory and discuss the empirical findings relating to leadership prototypes. Then, I provide a review of self-identity and its proposed associations with subordinate leadership schemas. Finally, the study hypotheses are provided, the research methods are outlined, and the study results are presented and discussed.

Leadership Prototypes

Subordinate categorization of leaders represents a core mechanism that can be used to understand leadership perceptions (Brown & Lord, 2001; Cronshaw & Lord, 1987; Foti, Fraser, & Lord, 1982; Fraser & Lord, 1984; Lord, Foti, & De Vader, 1984; Lord et al., 2001; Lord & Smith, 1999; Murphy & Cleveland, 1995; Phillips, 1984; Phillips & Lord, 1982). Firmly grounded in social cognition, leadership categorization theory states that people develop mental representations (variously called prototypes, implicit theories, schemas, exemplars, etc.) of leaders that contain attributes and behaviors believed to be typical of leaders (Cronshaw & Lord, 1987; Hanges et al., 2000; Lord et al., 2001; Lord et al., 1984). According to this theory, leadership perception is the internal process of matching a stimulus leader's characteristics and behavior to the perceiver's best example of the category (i.e., leadership prototype) (Cronshaw & Lord, 1987; Lord & Maher, 1991; Offermann, Kennedy, & Wirtz, 1994; Smith & Foti, 1998).

These leadership prototypes do not simply appear, fully developed out of nowhere. Rather, leadership prototypes are generated and refined over time as a result of people's direct experiences with leaders and descriptions of leaders (Klein, Loftus, Trafton, & Fuhrman, 1992; Lord & Maher, 1993; Offermann et al., 1994).

Studies have examined both the content and structure of implicit leadership theories. For example, Lord et al. (1984) reported that prototypical leaders were decisive, intelligent and industrious. Similarly, a meta-analysis by Lord, De Vader, and Alliger (1986) demonstrated that traits such as intelligence, dominance, and masculine orientations were prototypical of leadership. Engle and Lord (1997) found that the implicit leadership theories traits shared among a group of supervisors and subordinates were: intelligent, cooperative, enthusiastic, decisive, sincere, goal-oriented, persuasive, wise, dedicated, and motivated.

Further, Smith and Foti (1998) examined leadership prototype matching processes and found that people's prototypes involved patterns of traits that went beyond specific elements. In an experimental study of newly formed groups, they found that leadership schemas consisted of a pattern of high dominance, high general self-efficacy, and high intelligence.

Brown and Lord (2001) proposed that leadership prototypes enable perceivers to transform the surface features of the social environment into deeper meaning structures in an efficient manner. For example, Stein and Heller (1979) demonstrated that leadership is ascribed to individuals with higher verbal participation rates (Stein & Heller, 1979), individuals who are visually salient (Phillips & Lord, 1981) and individuals who sit at the head of a jury table (Bray, Struckman-Johnson, Osborne, McFarlane, & Scott, 1978). Although these factors do not appear to have much in common, they may be all seen as

representing dominance, a key dimension of the underlying structure of perceivers' leadership prototypes (Lord et al., 1984).

Some evidence suggests that leadership prototypes are broad, multidimensional structures shared among subordinates (Offermann, Kennedy, & Wirtz, 1994). For example, Offermann et al. identified 41 traits and eight broad dimensions that were prototypical of leadership including sensitivity, dedication, tyranny, charisma, attractiveness, masculinity, intelligence, and strength. The dimensions were not found to vary across gender or across stimulus conditions (i.e., "leader," "effective leader," or "supervisor") (Offermann et al.). Although the results support the idea that leadership is a single, multidimensional knowledge structure, it is noted that this study pertained to a single context – business.

In contrast, there is evidence that leadership prototypes vary extensively across perceivers. Offermann et al. (1994) proposed that there are important differences in peoples' implicit leadership theories given that they have different experiences with leaders.

In addition, an individual's values or personality may influence the type of experiences one selects, the type of behavior one elicits from leaders, or the type of experiences that are stored in memory (Lord & Emrich, 2000). Support for individual variability in leadership prototypes has been shown in studies evaluating responses to leadership behavioral questionnaires (Avolio & Yammarino, 1990; Yammarino & Dubinsky, 1994).

As an example, Yammarino and Dubinsky (1994) examined the degree to which responses on the MLQ reflect individual, dyadic, or group level effects. Little support was found for dyadic or group level effects, however, strong evidence was found for

individual level effects. The researchers concluded that responses to these questionnaires were highly influenced by individual rater's information processing and stated that transformational leadership, as assessed by the MLQ, may exist, "in the eye of the beholder" (p.805).

Lord et al. (2001) proposed that leadership prototypes vary across perceivers, and within individual perceivers. That is, leadership prototypes are dynamic structures that change over time and across context (Lord et al., 2001). This perspective makes sense given that an individual's life is complex, involving exposure to many leaders in multiple domains such as work, school and through political and religious affiliations. Some leadership researchers have begun to develop and test more dynamic models in which perceivers regenerate prototypes each time they are used, rather than storing and retrieving them from long-term memory (Hanges et al., 2000). This spontaneous regeneration of schemas allows them to be sensitive to different social situations, while still exhibiting stability when appropriate (Hanges et al., 2000; Lord et al., 1999).

A number of organizational factors have been found to account for variability in implicit leadership theories across individuals. These organizational factors include context (e.g., business vs. military) and hierarchical level (e.g. upper vs. lower level management) (Lord et al., 1984), as well as task type and respondent sex (Hall, Workman, & Marchioro, 1998; Karakowsky & Siegel, 1999). Arguably, some of the most powerful constraints on implicit leadership theories are societal and organizational culture (Den Hartog, House, Hanges, & Ruiz-Quintanilla, 1999; Gerstner & Day, 1994; O'Connell, Lord, & O'Connell, 1990). Cultural meanings are well established and they can serve as a frame that partially activates (or inhibits) specific traits associated with

leadership, making them more (or less) likely to be used in perceptions of leadership (Hanges et al., 2000).

For example, in a comprehensive study involving 15,022 middle managers from 61 different societies and cultures, Den Hartog et al. (1999) examined whether 112 leadership items were perceived as prototypical of leadership. The findings suggested that certain charismatic leadership qualities are prototypical in all cultures (i.e., charismatic/value based, team-oriented, and participative); however, many items (35) were found to vary significantly across culture. These included several items associated with charismatic/transformational leadership, such as enthusiastic, compassionate, sensitive, unique, and risk taking.

Cultural differences in leadership prototypes have been reported in other studies. Gerstner and Day (1994) compared the leadership prototypes of American and international students studying in the United States. They found significant differences in the leadership prototypes of students from different countries and reported that the differences were strongly related to cultural values.

Overall, previous research on leadership prototypes suggests that both within and between group differences can be expected in terms of leadership prototypes. One way to gain a greater understanding of differences in leadership perceptions is through an examination of subordinate cognitive mechanisms. In the next section, I discuss self-identity and the ways in which it may help explain both group and individual differences in perceptions of effective leadership.

Self-Identity

Following social identity theory and self-categorization theory, self-identity refers to subsets of the self-concept that involve self-identification¹ (Hogg & Abrams, 1988; Turner, 1985; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987; Turner & Oakes, 1989). Gardner and Avolio (1998) define self-identification as the process of showing the self to be a particular type of person or, more formally as "...fixing and expressing one's own identity privately through reflection about oneself and publicly through self-disclosures, self-presentations and other activities..." (p. 33). Self-identity is proposed to regulate a number of psychological processes including cognition, emotion, and motivation (Markus & Kitayama, 1991; Triandis, 1989).

Broadly speaking, the literature distinguishes between two types of self-identity: *independent* (variously called personal, individual, egocentric, separate, autonomous, idiocentric, self-contained and private) and *interdependent* (variously referred to as collective, social, sociocentric, holistic, allocentric, ensembled, constitutive, contextualist, connected, and relational) (Banaji & Prentice, 1994; Markus & Kitayama, 1991; Tajfel, 1981; Turner, 1985; Turner et al., 1987; Turner & Oakes, 1989). These different views of self refer to a shift in focus from "I" to "we" as the locus of self-definition (Taylor & Dube, 1986; Turner, Oakes, Haslam, & McGarty, 1994). Overall, self-identity is based on the relationship between the self and others and, especially, the extent to which individuals see themselves as separate from others or as connected to others (Banaji & Prentice, 1994; Markus & Kitayama, 1991).

¹ Self-concept and self-identity are often used interchangeably in the literature; however the current paper will differentiate the two constructs.

At the independent level, self-identity is based on an individual's sense of uniqueness, autonomy or independence from others (Brewer & Gardner, 1996; Markus & Kitayama, 1991; Oishi, Schmmack, Diener, & Suh, 1998; Turner et al., 1987). An independent self-identity requires that an individual's behavior be organized and made meaningful by reference to one's own internal thoughts, feelings, and actions rather than by reference to the thoughts, feelings and actions of others (Markus & Kitayama, 1991; Singelis, 1994). Social interactions are viewed in terms of an individual's self-interest, there is an absence of attachment with others, and self-worth is based on how the self compares to others (Brewer & Gardner, 1996).

Alternatively, interdependent self-identity occurs when an individual defines himself or herself in terms of relations to others or in terms of membership in social groups (Banaji & Prentice, 1994; Singelis, 1994). This view of the self features the person not as separate from the social context but as more connected and less differentiated from others (Markus & Kitayama, 1991; Singelis, 1994). Turner et al. (1987) explain that collective identity entails a depersonalized sense of self or "...a shift towards the perception of self as an interchangeable exemplar of some social category and away from the perception of self as a unique person".² (p. 42).

Cultural norms, values, and beliefs are found to be important in shaping the development of self-identity (Markus & Kitayama, 1991; Triandis, 1989). A number of researchers have argued that one level of self-identity may be relatively stable and

² Brewer and Gardner (1996) assert that interdependent self-identity can be further divided into two dimensions, labeled the relational and collective. At the relational level, individuals define themselves in terms of their attachment with specific others, or in terms of dyadic relationships (e.g., supervisor-subordinate, parent-child, friendships) The literature suggests that relational concerns and interpersonal identities may be important initially, however identities move toward either individual or collective levels later on in the socialization process (Lord et al., 1999). Only two levels of self-identity (personal and social) will be considered here.

dominant over others as a function of powerful cultural values and belief systems (Markus & Kitayama, 1991; Trafimow, Triandis, & Goto, 1991; Triandis, 1989). A number of studies have reported differences in self-identity among different cultural groups (e.g., Berry, 1979; Hofstede, 1980; Kluckhohn & Strodtbeck, 1961; Markus & Kitayama, 1991; Miller, 1984; Miller & Bersoff, 1994; Schweder & Bourne, 1984; Triandis, Bontempo, Villareal, Asai, & Lucca, 1988; Triandis, 1989).

For instance, independent self-identity is most clearly exemplified in North American culture, as well as in many Western European cultures (Markus & Kitayama, 1991). The Western view emphasizes attending to the self, the appreciation of one's differences from others, and the importance of asserting the self (Markus & Kitayama, 1991). In contrast, an interdependent view is exemplified in Japanese culture as well as in other Asian cultures, but it is also characteristic of African, Latin American, and many southern European cultures (Markus & Kitayama, 1991). In collectivist cultures, there is an emphasis on attending to and fitting in with others and the importance of harmonious interdependence with them (Markus & Kitayama, 1991).

According to Markus and Kitayama (1991), the distinctions made between independent and interdependent self-identity are to be regarded as general tendencies that emerge when the members of a culture or some other social group are considered as a whole. For example, it can be expected that, on average, relatively more people in Western cultures will hold an independent view of self than will individuals in non-Western cultures. In addition, shared self-identities have been reported among groups according to religion, political affiliation, vocation and personal relationships (Deaux, 1996; Reid, Mizrahi, & Ethier, 1995).

At the individual level of analysis, the picture that emerges may be quite different. Although a general group-level identity may exist, variability in self-identity can be expected among group members. Within a given culture, individuals will vary in the extent to which they are culturally representative and may interpret the self accordingly (Markus & Kitayama, 1991). For example, the prototypical Western view of the self may prove to be most characteristic of White, middle-class males and may be somewhat less descriptive of females in general, or of people from other ethnic groups or social classes (Markus & Kitayama, 1991).

Further complicating the distinction between independent and interdependent self-identity, findings from previous studies have suggested that different self-identities can coexist within the same individual (Deaux, 1996; Singelis; 1994). Deaux proposed that multiple self-identities are developed through a person's interaction with numerous social groups. In her study, she found that individuals had a more individualistic self-identity in relation to their occupation, and a more collectivist self-identity when their identities were defined in terms of religion, ethnicity, and political membership.

Evidence for the existence of two well-developed self-identities in individuals comes from others studies (Bhawuk & Brislin, 1992; Cross & Markus, 1991; Singelis, 1994; Trafimow et al., 1991; Yamaguchi, Kuhlman, & Sugimori, 1992). Based on such findings, Singelis concluded that it is more appropriate to view interdependence-independence in terms of tendencies of varying strength, rather than as a single bipolar dimension.

The above findings also suggest that as the situational context changes, the contents of self-identity may change (Hall & Lord, 1998). This is consistent with the ideas of Turner et al. (1994), who proposed that self-identity is inherently variable and

highly dependent on contextual shifts in frames of reference. Support for the changing nature of self-identity also comes from laboratory studies that have successfully primed self-identity. These studies demonstrated that self-identity can be manipulated by using individually focused communication cues (I/me) or collectively focused cues (us/we) in instructions to an experimental task (e.g., Baker, 1998; Brewer & Gardner, 1996; Trafimow et al., 1991). Overall, there appears to be a dynamic nature to self-identity and that it may more accurately represent a state rather than a trait.

Lord et al. (1999) proposed that when multiple self-identities coexist within an individual, it is likely that only one self-identity will be activated at any given time. They explained that inhibitory relations exist among different self-identities in that the activation of one self-identity makes it unlikely that alternative identities will be accessed simultaneously.

The inhibitory relations among self-identities are supported by research on perceptual schemas. Malt, Ross, and Murphy (1995) found that participants could only hold a single cognitive schema in mind when making judgments regarding ambiguous stimuli. They reported that participants could not simultaneously encode information about a house from the perspective of both a burglar and a homebuyer, even though participants were cognizant of these alternative schemas. If self-identities work in a similar manner, it may not be possible to view oneself in terms of a group prototype (interdependent) and at the same time view the self in terms of personal qualities that differentiate self from others (independent) (Lord et al., 1999).

Research indicates that when either an independent or interdependent self-identity is salient, each has unique influences on various aspects of cognition, emotion, and motivation (Brewer & Gardner, 1996; Hogg & Abrams, 1988; Markus & Kitayama,

1991). Based on a comprehensive review of empirical work on self-identity, Markus and Kitayama concluded that independent versus interdependent self-identity affects the type of information that is salient and remembered, the type of emotions exhibited, as well as the type of motivational processes that occur. For example, when an interdependent self-identity predominates, people are more sensitive to, and remember more information about, the behavior of others (Markus & Kitayama, 1991). In addition, they are more likely to be motivated to fulfill such needs as the need for affiliation and nurturance (Markus & Kitayama, 1991).

Finally, a number of individual difference variables are found to predict self-identity (e.g., Kurman & Sriram, 2002; Oishi, Schmmack, Diener, & Suh, 1998; Triandis, 1989). For example, Oishi et al. found that an independent self-identity was positively related to the values of power, stimulation, and self-direction, and negatively related to valuing tradition, conformity, and security. In contrast, an interdependent self-identity was positively related to the values of benevolence, tradition, conformity, and security, and was negatively related to power, stimulation, and self-direction.

Similarly, Triandis (1989) noted that cross-cultural research has also demonstrated distinct patterns of values associated with individualistic and collectivistic nations. Triandis noted that values of self-direction, achievement, and personal enjoyment tend to be associated with individualistic cultures, whereas the values for prosocial behavior and conformity are associated with a collectivist orientation.

Although the above findings suggest that individual differences may be predictive of self-identity, the purpose of the current study was not to examine the potential correlates of self-identity. Rather, I was interested in whether and the extent to which an

individual's self-identity (however determined) might affect leadership perceptions, and whether it might interact with situational factors in predicting these perceptions as well.

Self-Identity and Leadership Prototypes

Recently, Lord et al. (2001) suggested that self-identity may act as a powerful constraint on leadership processes, affecting followers' perceptions and reactions to leaders. Despite the potentially important association between self-identity and subordinate leadership perceptions, there remains a paucity of empirical studies examining this relationship.

Self-identity and implicit leadership theories may interact in important ways to create leadership perceptions. Research has indicated that subordinates rely on implicit theories to process social information and make social judgments about leaders. Further, Lord et al. (2001) proposed that self-identities create strong constraints on leadership prototype generation. For example, raters' self-identity has been shown to affect social perceptions (Dunning & Hayes, 1996) and leadership ratings (Brown et al., 2000; Smith, Brown, Lord, & Engle, 1998).

Lord et al. (2001) suggested that the leadership prototype that is activated and used in a given situation is partially determined by an individual's salient self-identity (i.e., independent versus interdependent). For example, they suggested that an individual with a salient independent self-identity is likely to have more participative leadership expectations, whereas for the interdependent individual, more directive leadership characteristics may be expected and preferred. Thus, the nature of the leadership prototype could vary in a consistent manner across individuals who have either a salient independent or interdependent self-identity, in turn, affecting leadership expectations.

Lord et al. (1999) also asserted that many social processes change depending on a subordinate's salient self-identity and that leadership qualities must be matched to this level to be effective (as cited in Hanges et al., 2000). For example, Hanges et al. proposed that transactional and transformational qualities map onto self-identity in important ways and ultimately, may affect leadership effectiveness. Specifically, the main focus of transactional leadership is on setting goals, clarifying the link between performance and rewards, and providing constructive feedback to keep followers on task (Bass, 1985). Hanges et al. (2000) suggested that independent self-identity is more consistent with leadership stressing transactional qualities; therefore, when an independent self-identity is salient, transactional leadership will be more effective.

Transformational leadership involves closer relationships between leaders and followers based more on trust and commitment than on contractual agreements. Transformational leaders help followers see the importance of transcending their own self-interest for the vision of the group (Jung & Avolio, 1999). Hanges et al. (2000) proposed that interdependent self-identity is more consistent with leadership stressing transformational qualities; therefore, they predicted that this leadership style is more effective for subordinates having a salient interdependent self-identity.

This idea was experimentally tested by Jung and Avolio (1999). They posited that Asian students would tend to have interdependent self-identities whereas Caucasian students would have more independent self-identities. They had both Caucasians and Asian students work in experimental groups that were exposed to a leader exhibiting either transactional or transformational leadership. The results of the study showed that the Caucasians working with the transactional leader produced more than when they were working with the transformational leader. In contrast, Asians produced more when they

were working with the transformational leader. Lord et al. (1999) concluded that these findings provide evidence that subordinates have an increased sensitivity to leadership behaviors consistent with their self-identities.

In addition, Shamir, House and Arthur (1993) outlined a theory linking leader behavior and follower effects through follower self-identity. They argued that leadership behavior activates self-identity of the followers which in turn affect further motivational mechanisms. Further, they proposed that leaders do not instill totally new identities in followers, rather they raise their salience. The theory implied that followers actively choose a leader and decide to follow him or her, based on the extent to which the leader is perceived to represent their self-identities.

Based on the idea that self-identity can be affected by contextual factors (e.g., Baker, 1998; Brewer & Gardner, 1996; Trafimow et al., 1991), study participants received either independent, interdependent, or control priming. Moreover, prior to the priming manipulation, participants were assessed to determine a priori the nature of their self-identity. This stems from the idea that individual differences in participant's self-identities may exist before priming. The following hypotheses follow directly from the research reviewed above. Note, however, that the interactive hypotheses below are exploratory, insofar as prior research has not examined the joint multiplicative contributions of a priori self-identity and priming:

H_{1a}: Implicit leadership theories are likely to contain more transformational leadership characteristics than other priming groups when an interdependent self-identity is primed.

H_{1b}: Implicit leadership theories are more likely to contain transformational leadership characteristics when a priori self-identity is high on interdependence and low on independence.

H_{1c}: Implicit leadership theories are more likely to contain transformational leadership characteristics than other participants, when an interdependent self-identity is primed and when a priori self-identity is high on interdependence and low on independence.

H_{2a}: Implicit leadership theories are likely to contain more transactional leadership characteristics than other priming groups when an independent self-identity is primed.

H_{2b}: Implicit leadership theories are more likely to contain transactional leadership characteristics when a priori self-identity is high on independence and low on interdependence.

H_{2c}: Implicit leadership theories are more likely to contain transactional leadership characteristics than other participants, when an independent self-identity is primed and a priori self-identity is high on independence and low on interdependence.

From a cognitive processing efficiency perspective, it seems reasonable that prototypical attributes are more accessible in memory and will be recalled more quickly than less prototypical attributes (Lord et al., 1984). Based on this perspective, a number of previous studies have employed reaction time methodologies to examine leadership prototypicality (e.g., Cohen, 1983; Lord et al., 1984).

For example, Lord et al. (1984) administered a questionnaire to participants containing leader behaviors varying in prototypicality, and then measured their reaction

time to rate the behavior as prototypical of a leader. They found that leadership prototypicality was negatively correlated with reaction time to behavioral items both across participants and across items. Specifically, more prototypical items received higher prototypicality ratings and resulted in shorter reaction times. Conversely, the four items for which negative correlations were not found were those that received very low prototypicality ratings. The current study employs similar procedures as those of Lord et al. to examine the transformational and transactional leadership preferences among participants.

In this study, participants were presented with both transformational and transactional items (i.e., behaviors or traits) and were asked to rate how well each item fit their image of an effective leader. Similar to the findings of Lord et al. (1984), it was expected that leadership prototypicality ratings would be negatively correlated with reaction time to the leadership items. Specifically, it was expected that participants who are primed with an independent self-identity would assign higher ratings and would react more quickly to items consistent with a transactional leadership prototype. Conversely, I expected participants primed with an interdependent self-identity to assign higher ratings and react more quickly to items consistent with a transformational leadership prototype. Similar to above, exploratory interactive hypotheses are included to examine the possibility of a multiplicative model, such that self-identity and priming work in a multiplicative fashion to influence prototypicality ratings and reaction times.

H_{3a}: Higher prototypicality ratings for transformational items will be obtained when an interdependent self-identity is primed.

H_{3b}: Higher prototypicality ratings for transformational items will be obtained when a priori self-identity is high on interdependence and low on independence.

H_{3c}: Higher prototypicality ratings for transformational items will be obtained when an interdependent self-identity is primed and when a priori self-identity is high on interdependence and low on independence.

H_{4a}: Higher prototypicality ratings for transactional items will be obtained when an independent self-identity is primed.

H_{4b}: Higher prototypicality ratings for transactional items will be obtained when a priori self-identity is high on independence and low on interdependence.

H_{4c}: Higher prototypicality ratings for transactional items will be obtained when an independent self-identity is primed and when a priori self-identity is high on independence and low on interdependence.

H_{5a}: For individuals who are primed to adopt an interdependent self-identity, reaction time will be quicker than other priming groups for items consistent with a transformational leadership prototype.

H_{5b}: When a priori self-identity is high on interdependence and low in independence, reaction time will be quicker than other participants for items consistent with a transformational leadership prototype.

H_{5c}: For individuals who are primed to adopt an interdependent self-identity and when a priori self-identity is also high on interdependence and low in independence, reaction time will be quicker for items consistent with a transformational leadership prototype.

H_{6a}: For individuals who are primed to adopt an independent self-identity, reaction times will be quicker than other participants for items consistent with a transactional leadership prototype.

H_{6b}: When a priori self-identity is high on independence and low in interdependence, reaction times will be quicker for items consistent with a transactional leadership prototype.

H_{6c}: For individuals who are primed to adopt an independent self-identity and when a priori self-identity is also high on independence and low in interdependence, reaction times will be quicker for items consistent with a transactional leadership prototype.

Method

Participants

The sample consisted of 80 undergraduate and 10 graduate students from a medium-sized Western Canadian university. Undergraduate students received bonus credit for participating in the study, whereas a lottery for a gift certificate was held for graduate student participation. Seventy-two percent of the participants were female and 28% were male. Participants ranged in age from 18 to 53 years old with a mean age of 24. The ethnic identity of the sample was quite diverse with 57% of the participants identifying themselves as Caucasian. Twenty two percent identified themselves as Chinese. Other ethnic identities included Japanese (2%); Korean (3%); Latin American (1%); South Asian (3%); and South East Asian (6%). The remaining participants (6%) identified with more than one ethnic group.

Priming self-identity. To ensure that either an interdependent or independent self-identity was salient for each of the experimental condition participants, priming was conducted. A standard priming task, adopted from Brewer and Gardner (1996), was used to activate either interdependent (“we”) or independent (“they”) self-identities. The experimental design consisted of 3 different priming conditions. In one condition, we-us

pronouns were activated, and in the contrasting condition they-them pronouns were activated, and these were both compared with a control condition where a neutral pronoun was activated. All participants received one of the three primes and there were an equal number of participants in each priming condition.

In the priming task, participants read a descriptive paragraph (a story about a trip to the city) with instructions to circle all the pronouns that appeared in the text, as part of a proofreading and word search task. In the three pronoun priming conditions the paragraph contained 19 pronouns, but the text was varied so that the same materials were presented with almost all of the pronouns referring to *we* or *us*, or to *they* or *them*, or to *it* (Appendix A). In sum, it was expected that activating the we-us pronouns would prime an interdependent self-identity, whereas the they-them pronouns would prime an independent self-identity.

Measures

Self-identity. Prior to the priming task, participants completed a measure of self-identity to assess potential individual differences in self-identity, prior to the priming manipulation. Self-identity was assessed by the 24-item Self-Construal Scale (SCS) developed by Singelis (1994). Items were rated on a seven-point Likert-type scale (1=*strongly disagree*, 7=*strongly agree*). This scale was designed to measure the constellation of thoughts, feelings and actions that comprise independent and interdependent self-identity as separate dimensions. The independent and interdependent subscales each consist of 12 items (Appendix B). The SCS has been shown to possess adequate internal reliability, as well as construct validity and predictive validity (Singelis, 1994). Cronbach alpha reliabilities for the two dimensions have been shown to be in the .69 to .74 range (Singelis, 1994; Singelis, Triandis, Bhawuk, & Gelfand, 1995). For this

sample, alpha reliability is equal to .67 (interdependent items) and .69 (independent items). All items were randomly ordered as a single scale and the relevant items were averaged to give participants an independent and interdependent score, with higher scores indicating a stronger self-identity in that domain.

Following the procedures of Hardin, Leong, and Osipow (2001), a median split was used to dichotomize SCS scores on each factor (interdependent and independent) for the total sample. Interdependent participants (i.e., high-low) were those with SCS interdependence scores in the upper half of the total sample (> 4.92 , $M = 4.80$), and independence scores in the lower half of the total sample (< 4.83 , $M = 4.89$). Similarly, independent participants (low-high) were those with SCS independence scores in the upper half of the total sample, and interdependence scores in the lower half of the total sample. Participants who scored either above or below the median on both factors (i.e., low-low or high-high) were deemed to lack a coherent self-identity, or to otherwise hold an ambiguous sense of self according to their responses on the SCS.

Although categorizing the measure potentially lowers statistical power, the categorization makes conceptual sense. That is, a continuous score on one subscale (e.g., independence) is not readily interpretable unless the other subscale score is also considered. Thus, for example, a high score on independence combined with a high score on Interdependence would be indicative of an undifferentiated self-identity. In sum, categorization is important insofar as the goal is to maximize the construct validity of the overall measure.

Measuring leadership prototypes. Participants' leadership prototypes were measured using a slightly modified version of the reaction-time procedures of Lord, Foti, and De Vader (1984). Items adapted from the Leadership Assessment Inventory (LAI;

Burke, 1991; Sashkin & Burke, 1990; Van Eron & Burke, 1992) were used to measure transformational and transactional leadership prototypes. The 30 items consisted of a series of leader attributes defining either transformational or transactional leadership. Word length and word frequency were controlled to avoid the potential for the confounding influence of these factors (Appendix C).

The leadership attributes were presented as graphic displays via a computer interface with a timer. Participant responses were collected and stored for subsequent analysis.

Participants were seated in front of a 17-inch computer monitor and were given both verbal and typed instructions that explained the leadership prototypicality rating task. They were asked to rate each item quickly yet carefully. The adapted leadership items were presented individually on the computer screen and prototypicality was measured by having participants respond to the question “how well does each item fit your image of an effective leader” by pressing one of five keys on the keyboard. Keys were labeled “not at all well” (1), “somewhat well” (2), “moderately well” (3), “very well” (4), and “extremely well” (5). After the task had been described, participants were presented with five practice trials with the experimenter present to answer questions. Then, the participants were left alone to make their prototypicality ratings for each of the items.

In addition, I examined the prototypical leadership qualities spontaneously generated by participants using procedures developed by Offermann et al. (1994). In this free recall task, participants were provided a sheet of paper with 25 blank lines, and were asked to list up to 25 traits or characteristics of an “effective leader”. No definition of “effective leader” was provided in the instructions; participants were instructed to use

whatever definition was meaningful to them (Appendix D). Two independent raters blind to each participant's experimental condition rated each participant's responses together, and any discrepancies across the two raters on the ratings for individual participants were resolved through discussion – until a final agreed upon rating was derived. Each rater had access to a sheet listing exemplars of the two focal leadership styles. The exemplars were based upon items from the Multifactor Leadership Questionnaire (Bass & Avolio, 1995, 1997), and the LAI (Burke, 1991; Sashkin & Burke, 1990; Van Eron & Burke, 1992). Both raters studied the content of the sheets to help ensure they were operating from a common frame-of-reference prior to the coding task. In the end, each participant received two scores: A transactional score, and a transformational score (with higher scores indicating greater degrees of endorsement for the relevant leadership prototype). To assess inter-rater agreement, the responses of five different random participants were set aside and coded independently by the two raters at the conclusion of the coding task. Mean agreement among the raters was 23 out of 25 traits for the five participants, resulting in an overall inter-rater agreement of 92%.

Procedure

Participants were administered the SCS to assess a priori self-identity. Next participants were randomly assigned to one of three groups: (a) independent self-identity (*they-them* pronouns); (b) interdependent self-identity (*we-us* pronouns); and (c) control condition (*it* pronoun), and given the priming task. This was followed by the free recall task and the computerized task used to measure leadership prototypes. Because of the potential for order effects, the two leadership prototype measures were counterbalanced with half of the sample receiving the free recall task first and the other half receiving the computerized task first. This counterbalancing afforded an opportunity to empirically

examine the possible existence of order effects. Last, all participants completed a demographics measure and then received a complete debriefing.

Results

Preliminary Analyses

Pilot phase. The first 20 study participants were probed for knowledge about the intended effect of the prime on subsequent experimental tasks using debriefing questions adopted from Chartrand and Bargh (1996) (Appendix E). Further, the participants were asked to discuss the clarity and ease of the different experimental measures. The debriefing was conducted by the experimenter and occurred following the completion of the final experimental task. Results suggested that none of the participants were cognizant of the relation between the prime and the subsequent leadership tasks, nor did they appear to have difficulty with any of the experimental tasks. The 20 participants involved in the pilot study were included in the study sample.

Frequencies of each priming condition by self-identity group are shown in Table 1 and demonstrate that although there were an equal number of participants in each prime group ($n = 30$), there was some minor variation in group size according to a priori self-identity.

Order effects. To test for the possibility of order effects involving the free recall and computerized leadership task, a series of two-way (prime X order, and a priori identity X order) analysis of variance tests (ANOVA) were conducted for all dependent measures. I conducted these ANOVA tests to determine whether there were any main effects for order, or whether order interacted with either the priming manipulation, or with a priori self-identity.

Table 1

Frequency of Self-Identity by Prime Group

Self-Identity ^a	Prime Group	<i>n</i>
High-high	We prime	7
	They prime	11
	Control	6
Total		24
Low-low	We prime	6
	They prime	3
	Control	7
Total		16
High-low	We prime	8
	They prime	8
	Control	8
Total		24
Low-high	We prime	9
	They prime	8
	Control	9
Total		26

^a 'High-high' and 'Low-low' refers to participants who were either above or below the median on both interdependent and independent factors of the SCS, respectively. 'High-low' refers to participants who were above the median on interdependent items and below the median on independent items. 'Low-high' refers to participants who were below the median on interdependent items and above the median on independent items for the SCS. The same terminology is used in subsequent tables.

First, I examined for possible order effects involving the free recall task dependent measures. Focusing first on the priming manipulation, results of the 3 (prime) X 2 (order) ANOVA indicated both a statistically significant main effect of order, $F(1, 84) = 8.05, p < .01, \eta^2 = .08$ and a significant interaction between order and prime, $F(2, 84) = 3.32, p < .05, \eta^2 = .07$ for the free recall transactional items. Accordingly, for the free recall task dependent measures, I analyzed the hypotheses involving the priming manipulation separately for each ordering. Even though there were no statistically significant order effects for the transformational items, it made some sense to analyze both items types separately by order – given that order effects had some effect on the recall task.

Next, I conducted a 4 (a-priori self-identity) X 2 (order) ANOVA. Similar to the above, the main effect of order was statistically significant, only for free recall transactional items, $F(1, 82) = 8.10, p < .01$. Thus, using the same logic as per above, hypotheses involving a priori identity were analyzed separately by order for the free recall task dependent measures.

The same ANOVA tests described above were replicated with the mean prototype rating dependent measures (from the computer task). No statistically significant order effects were found. This was the case for both transformational and transactional items. Thus, all analyses involving the mean prototype rating dependent measures proceeded with the full sample.

Last, the 2 ANOVA tests described above were conducted with the reaction time dependent measures. For the priming manipulation, the 3 X 2 ANOVA results indicated a main effect of order for both transformational items, $F(1, 84) = 4.35, p < .05, \eta^2 = .05$ and for transactional items, $F(1, 84) = 9.55, p < .01, \eta^2 = .10$. Similarly, the 4 X 2

ANOVA yielded, a priori a main effect of order for both transformational and transactional items, $F(1, 82) = 3.89, p = .05, \eta^2 = .04$ and $F(1, 82) = 7.99, p < .01, \eta^2 = .08$, respectively.

Due to the existence of order effects, all tests involving the reaction time dependent measures were analyzed separately by order.

It should be noted that prior to conducting the ANOVA order tests for the reaction time data, the reaction time data were transformed. I employed the transformed reaction time data for all the formal hypothesis tests concerning reaction time as well.

Specifically, the distribution of response latencies or reaction times was positively skewed - which is typical in research using this criterion measure (Bargh & Chartrand, 2002). As a result, following the suggestions of Bargh and Chartrand, a log transformation was carried out to normalize the distribution of response latencies (prior to analyzing order effects using reaction time as the criterion). Response latencies that were over three standard deviations were considered extreme and were trimmed from the data. The deleted reaction times were equally distributed across priming conditions and a priori self-identity groups.

Tests of Hypotheses

Free recall task. Tables 2a, 2b, 3a and 3c contain the means and standard deviations for the free recall dependent measures. The correlation between the two recall

Table 2a

Means and Standard Deviations for Free Recall Dependent Measures

Predictor		FR transform ^a	FR transact ^b
Prime Group			
We prime	M	6.50	3.07
	SD	2.36	2.08
They prime	M	6.53	2.67
	SD	2.50	2.07
Control	M	6.0	3.0
	SD	2.02	1.50
Self-Identity			
High-high	M	6.92	2.50
	SD	2.30	1.77
Low-low	M	7.0	4.06
	SD	2.03	1.98
High-low	M	5.79	3.42
	SD	2.45	1.86
Low-high	M	5.92	2.12
	SD	2.17	1.59

^a Free recall transformational items. ^b Free recall transactional items

Table 2b

Means and Standard Deviations of Free Recall Dependent Measures for Order Groups

Predictor		FR transform ^a order = 1 ^b	FR transact ^c order = 1	FR transact order = 2 ^d	FR transfor order = 2
Prime					
We prime	M	6.82	4.12	6.08	1.69
	SD	2.48	1.97	2.22	1.32
They prime	M	6.6	3.00	6.47	2.33
	SD	3.04	2.48	1.92	1.59
Control	M	6.4	3.07	5.60	2.93
	SD	1.45	1.39	2.44	1.67
Self-Identity					
High-High	M	7.31	2.92	6.45	2.00
	SD	2.63	2.02	1.86	1.34
Low-Low	M	6.70	4.80	7.50	2.83
	SD	1.57	1.93	2.74	1.47
High-Low	M	6.08	3.83	5.50	3.00
	SD	2.68	1.70	2.28	2.00
Low-High	M	6.33	2.42	5.57	1.86
	SD	2.43	1.83	1.95	1.29

^a Mean number of transformational items recalled on free recall task. ^b Order = 1 means that the computerized task was given before the free recall task. ^c Mean number of transactional items recalled on free recall task. ^d Order = 2 means that the computerized task was given after the free recall task.

Table 3a

*Means and Standard Deviations for Free Recall Dependent Measures:
Self-Identity by Prime Condition*

Self-Identity	Prime		FR transform ^a	FR transact ^b
High-high	We prime	M	6.57	3.86
		SD	2.15	1.95
	They prime	M	7.3636	2.18
		SD	2.803	1.47
	Control	M	6.5	1.5
		SD	1.52	1.23
Low-low	We prime	M	7.5	4.0
		SD	2.07	2.28
	They prime	M	8.67	4.0
		SD	1.53	3.61
	Control	M	5.86	4.14
		SD	1.68	1.07
High-low	We prime	M	6.13	2.63
		SD	2.64	1.85
	They prime	M	5.25	4.25
		SD	2.19	1.91
	Control	M	6.0	3.38
		SD	2.73	1.69
Low-high	We prime	M	6.11	2.22
		SD	2.62	2.12
	They prime	M	5.88	1.25
		SD	1.96	1.04
	Control	M	5.78	2.78
		SD	2.11	.972

^a Free recall transformational items. ^b Free recall transactional items

Table 3b

Means and Standard Deviations of Free Recall Dependent Measures: Self-Identity by Prime Condition for Order Groups

Self-Identity	Prime		FR transform ^a order = 1 ^b	FR transact ^c order = 1	FR transform order = 2 ^d	FR transact order = 2
High-high	We prime	M	7.00	4.20	5.50	3.00
		SD	2.45	2.17	.707	1.41
	They prime	M	7.80	2.60	7.00	1.83
		SD	3.79	1.52	2.09	1.47
	Control	M	7.00	1.33	6.00	1.67
		SD	1.00	1.53	2.00	1.16
Low-low	We prime	M	7.00	6.50	7.75	2.75
		SD	1.41	2.12	2.50	.96
	They prime	M	8.00	5.50	10.00	1.00
		SD	1.41	3.54	*	*
	Control	M	6.17	4.00	4.00	5.00
		SD	1.60	1.09	*	*
High-low	We prime	M	6.50	4.25	5.75	1.00
		SD	3.42	.96	2.06	.00
	They prime	M	4.75	4.25	5.75	4.25
		SD	2.99	2.75	1.26	.96
	Control	M	7.00	3.00	5.00	3.75
		SD	1.41	.82	3.56	2.36
Low-high	We prime	M	6.83	3.17	4.67	.33
		SD	2.71	1.94	2.08	.58
	They prime	M	6.25	1.00	5.50	1.50
		SD	2.63	1.41	1.29	.58
	Control	M	5.00	3.00	6.00	2.71
		SD	1.41	.000	2.31	1.11

*n=1

^a Mean number of transformational items on the free recall task. ^b Order = 1 means that the computerized task was given before the free recall task. ^c Mean number of transactional items on the free recall task. ^d Order = 2 means that the computerized task was given after the free recall task.

indices is small and not statistically significant ($r = .06, p > .05$). The first two hypotheses were tested using planned comparisons. To protect the familywise error rate, a Bonferroni correction was employed, and each test was conducted (one-tailed) with an alpha = .016. Hypothesis 1a predicted that implicit leadership theories were more likely to contain transformational leadership traits when an interdependent self-identity was primed. The planned comparisons compared the we-prime group with three other groups (they-prime, control-prime, they- and control-prime groups together) on free recall transformational items. As noted above, due to significant order effects found in the preliminary analyses, the contrasts were tested separately for participants who completed the computerized task before the free recall task, and for those completing the computer task subsequent to the free recall task.

For those receiving the computerized task first ($n = 47$), results suggested that there were no significant differences between the we-prime group and any of the other three groups on transformational items ($p > .016$). Similarly, for those receiving the computerized task second ($n = 43$), there were no significant contrasts between the groups for transformational items ($p > .016$).

Hypothesis 2a stated that implicit leadership theories were more likely to contain transactional leadership characteristics when an independent self-identity was primed. Planned comparisons tested whether the they-prime group was different from other groups of interest (we-prime, control-prime, we- and control-prime groups together) on free recall transactional items. For those receiving the computerized task first, results suggested that there were no statistically significant contrasts between the different priming groups on transactional items ($p > .016$).

When the computerized task was administered following the free recall task, there was a significant difference between the we-prime ($M = 1.69$) and the control-prime groups ($M = 2.93$) with the control group reporting more transactional leadership traits on average, $t(25.80) = -2.20, p = .01$. This finding indicates that the we-prime may have attenuated reporting of transactional items on the free recall leadership task.

Overall, these findings suggest that neither Hypothesis 1a or Hypothesis 2a were supported. Although the statistically significant contrast reported above was employed as part of the test of Hypothesis 2a, the result does provide some indirect (albeit weak) support for Hypothesis 1a. That is, the reporting of transactional items was attenuated for we-primed participants, suggesting that the we-prime had some effect in reducing the number of transactional qualities reported by these participants.

I also tested Hypotheses 1b and 2b using a planned comparison approach, however, only one contrast was predicted for each hypothesis - and a nominal alpha of .05 (one-tailed) was maintained. Hypothesis 1b was tested by comparing those with an interdependent a priori self-identity (interdependent scores above the median, independent score below the median) with the remaining participants on free recall transformational items. Regardless of whether participants received the computerized task first or second, there were no statistically significant differences between the interdependent group and the remaining participants ($p > .05$). Thus, Hypothesis 1b was not supported.

For Hypothesis 2b, participants with an independent self-identity (independent scores above the median, interdependent scores below the median) were compared to the remaining participants on the free recall transactional items. Results suggested that when

the computerized task was given first, there was a significant difference between the independent group and the remaining participants with independent participants scoring lower on transactional items ($M = 2.42$) than other combined group ($M = 3.85$), $t(43) = -2.30, p < .05$. The difference between the independent self-identity group and remaining participants was non-significant ($p > .05$) when the computerized task was administered following the free recall task. Although significance was found, the finding does not provide support for Hypothesis 2b.

Hypothesis 1c predicted that implicit leadership theories were more likely to contain transformational leadership characteristics when an interdependent self-identity was primed and the nature of a priori self-identity was interdependent. Similarly, Hypothesis 2c stated that implicit leadership theories were more likely to contain transactional leadership characteristics when an independent self-identity was primed and the nature of a priori self-identity was independent.

Hypothesis 1c was tested separately for each experimental order via 3 (priming) X 4 (a priori self-identity) ANOVA tests, with the critical test being the interaction between a priori self-identity and the priming manipulation. Hypothesis 1c was not supported; with the results suggesting that neither the main effects nor interactions were significant for the free recall transformational task, regardless of whether the computerized task was given first or second ($p > .05$).

The tests of Hypothesis 2c (i.e., for the transactional items) proceeded identically compared to the test for Hypothesis 1c. For participants receiving the computerized task first, the interaction between the two predictors for free recall transactional items was non-significant ($p > .05$), although both the main effects of a priori self-identity and prime were both statistically significant, $F(3, 35) = 5.06, p < .01, \eta^2 = .25$ and $F(2, 35) = 3.37,$

$p < .05$, $\eta^2 = .11$, respectively. Follow up Tukey HSD tests for the main effect of identity revealed that those participants low in both independent and interdependent a priori self-identity group reported significantly more transactional items ($M = 4.80$) than those with a strong independent self-identity ($M = 2.42$) when the computerized task was given before the free recall task ($p < .05$). Follow up Tukey HSD tests for the main effect of priming were not significant.

For participants receiving the computerized task following the free recall task, the interaction between a priori self-identity and prime was statistically significant, $F(6, 31) = 3.29$, $p = .01$, $\eta^2 = .28$. The interaction is graphically displayed in Figure 1. Inspection of the means graphically displayed in the figure reveals that priming appeared to be most effective (at either inducing or attenuating self-reports of transactional leadership qualities) when the prime induced a self-identity at odds with the participants' a priori reported self-identities. Moreover, priming appeared to be least successful for those participants with an undifferentiated a priori self-identity.

To follow-up the statistically significant interaction, simple one-way ANOVA tests were conducted using a Bonferroni correction, resulting in an alpha of .0125. Each ANOVA tested whether there were significant differences among the different prime conditions, separately for each of the four self-identity groups. Findings indicated that there were no significant differences between the different prime conditions in each of the self-identity groups ($p > .0125$).

Leadership Prototypicality Ratings. Table 4 and 5 contain the means and standard deviations for the prototype rating dependent measures. Hypothesis 3a predicted that higher prototype ratings for transformational items would be obtained when an interdependent self-identity was primed. Similarly, Hypothesis 4a predicted that higher

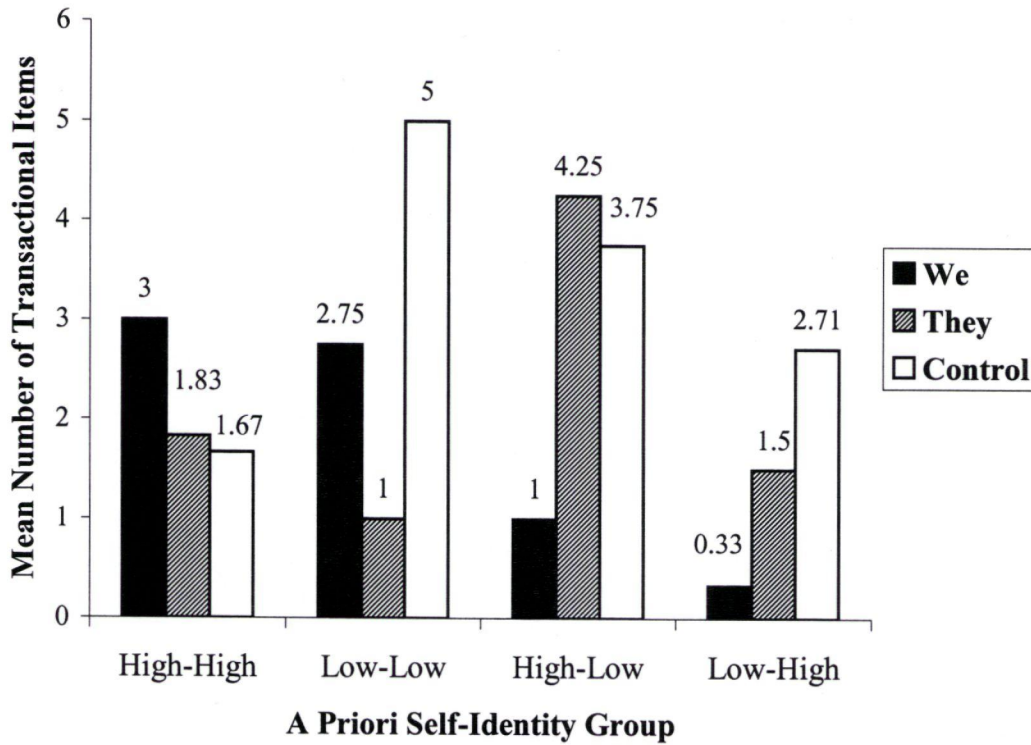


Figure 1. A priori self-identity by prime condition for mean free recall transactional items for participants given the computerized task after the free recall task

Table 4

*Means and Standard Deviations for Prototype Rating**Dependent Measures*

Predictor		PR transform ^a	PR transact ^b
Prime			
We prime	M	4.19	3.85
	SD	.57	.65
They prime	M	4.08	3.80
	SD	.52	.46
Control	M	3.86	3.54
	SD	.53	.54
Self Identity			
High-high	M	4.20	3.81
	SD	.41	.64
Low-low	M	4.08	3.58
	SD	.45	.60
High-low	M	3.78	3.68
	SD	.62	.41
Low-high	M	4.04	3.80
	SD	.55	.59

^a Mean prototype rating for transformational items from computerized task. ^b Mean prototype rating for transactional items from computerized task.

Table 5

Means and Standard Deviations for Prototype Rating Dependent Measures: Self-Identity by Prime Condition

Self-Identity	Prime		PR transform ^a	PR transact ^b
High-High	We prime	M	4.52	4.15
		SD	.46	.67
	They prime	M	3.14	3.90
		SD	.33	.59
	Control	M	3.9	3.26
		SD	.16	.33
Low-Low	We prime	M	4.01	3.62
		SD	.55	.85
	They prime	M	4.42	3.8
		SD	.214	.267
	Control	M	4.0	3.44
		SD	.41	.49
High-Low	We prime	M	3.78	3.74
		SD	.80	.48
	They prime	M	3.78	3.73
		SD	.80	.34
	Control	M	3.77	3.58
		SD	.45	.45
Low-High	We prime	M	4.42	3.87
		SD	.33	.64
	They prime	M	4.17	3.75
		SD	.36	.46
	Control	M	3.79	3.77
		SD	.82	.70

^a Mean prototype rating on transformational items from computerized task. ^b Mean prototype ratings on transactional items from computerized task.

prototype ratings for transactional items would be obtained when an independent self-identity was primed. These hypotheses were tested using planned comparisons with the focal prime group being compared to other prime conditions. To control for the family wise error rate, a Bonferroni correction was employed, and each test (one-tailed) was conducted with $\alpha = .016$. As noted earlier, preliminary analyses indicated no significant order effects when prototype ratings were used as the dependent measure. Thus, the total sample was employed when testing these hypotheses.

For Hypothesis 3a, the we-prime group was compared to three other groups (they-prime, control-prime, they- and control-prime groups together) on mean prototype ratings for transformational items. The results of the planned comparisons indicated that there was a statistically significant difference between the we-prime and control group on transformational items with the we-prime group reporting higher prototype ratings for transformational items ($M = 4.19$) than the control group ($M = 3.86$), $t(87) = 2.42, p < .01$, providing partial support for Hypothesis 3a.

For Hypothesis 4a, the they-prime condition was also contrasted with three other prime groups (we-prime, control-prime, and we-and control-prime groups together) on mean prototype ratings for transactional items. Results indicated that there was a significant difference between the they-prime and the control prime with the they-prime reporting higher prototype ratings on transactional items ($M = 3.80$) than the control prime ($M = 3.53$), $t(87) = 2.21, p < .05$. Thus, partial support was obtained for Hypothesis 4a.

Planned comparisons were also used to test Hypothesis 3b and 4b, however, only one contrast was predicted for each hypothesis and a nominal alpha of .05 (one-tailed) was maintained. Hypothesis 3b stated that higher prototype ratings for transformational

items would be obtained when the nature of a priori self-identity was interdependent.

Hypothesis 3b was tested by comparing those with an interdependent a priori self-identity (i.e., interdependent scores above the median, independent score below the median) with the remaining participants on free recall transformational items. Findings demonstrated that there was a statistically significant difference between the interdependent group ($M = 3.78$) and the remaining participants ($M = 4.13$) on prototype ratings for transformational items from the computerized task, $t(86) = -2.77, p < .01$. The pattern of means, however, does not support Hypothesis 3b.

Hypothesis 4b stated that higher prototype ratings for transactional items would be obtained when the nature of a priori self-identity was independent. Hypothesis 4b was tested by comparing those with an independent a priori self-identity (i.e., independent scores above the median, interdependent score below the median) with the remaining participants on prototype ratings for transactional items. No significant differences were found between these groups ($p > .05$), therefore; Hypothesis 4b was not supported.

Hypothesis 3c predicted that higher prototype ratings for transformational items would be obtained when an interdependent self-identity was primed and the nature of a priori self-identity was interdependent. Similarly, Hypothesis 4c stated that higher prototype ratings for transactional items would be obtained when an independent self-identity was primed and the nature of a priori self-identity was independent. Both hypotheses were analyzed using 3 (priming) X 4 (a priori self-identity) ANOVA tests, with the focal hypothesis test being the interaction between a priori self-identity and priming.

For Hypothesis 3c, results of the ANOVA demonstrated that there was a non-significant interaction between prime and self-identity ($p > .05$), however, the main effects of prime and self-identity were both statistically significant for prototype ratings on transformational items, $F(2, 78) = 3.10, p = .05, \eta^2 = .06$ and $F(3, 78) = 3.05, p < .05, \eta^2 = .09$, respectively. The significant main effects were followed up using Tukey HSD tests.

Results of the Tukey HSD tests for self-identity indicated that there was a statistically significant difference between participants with an ambiguous self-identity (i.e., high scores for both interdependent and independent domains) ($M = 4.19$) and those with an interdependent self-identity ($M = 3.78$), ($p < .05$).

The Tukey HSD tests for the priming manipulation indicated that the we-primed participants ($M = 4.19$) and the control group ($M = 3.86$) were significantly different on mean prototype transformational items ($p < .05$).

For Hypothesis 4c, results suggested that the interaction between self-identity and prime was non significant (for the transactional prototype ratings), however, the main effect of prime was statistically significant, $F(2, 78) = 3.03, p = .05$. Follow-up Tukey HSD tests indicated that there were no statistically significant differences between the groups ($p > .05$).

Response Latencies. Tables 6a, 6b, 7a, and 7b contain the means and standard deviations for the reaction time dependent measures. Participants reacted significantly more quickly ($p < .05$), the higher the respective prototype ratings ($r = -.29$ for transformational ratings; $r = -.33$ for transactional ratings). However, participants' reaction times to the two types of prototype ratings is also significantly correlated ($r = .93$,

Table 6a

*Means and Standard Deviations for Reaction Time**Dependent Measures*

Predictor		RT transform ^a	RT transact ^b
Prime			
We prime	M	7.69	7.74
	SD	.34	.34
They prime	M	7.79	7.82
	SD	.40	.36
Control	M	7.88	7.93
	SD	.34	.352
Self-Identity			
High-High	M	7.73	7.79
	SD	.43	.44
Low-Low	M	7.83	7.89
	SD	.41	.40
High-Low	M	7.90	7.92
	SD	.29	.31
Low-High	M	7.71	7.75
	SD	.31	.28

Note. The mean reaction time values reported above have been transformed using a log function.

^a Mean reaction time for transformational items from computerized task. ^b Mean reaction time for transactional items from computerized task.

Table 6b

Means and Standard Deviations of Mean Reaction Time Dependent Measures for Order Groups

Predictor		RT transform ^a order = 1 ^b	RT transact ^c order = 1	RT transform order = 2 ^d	RT transact order = 2
Prime					
We prime	M	7.78	7.83	7.58	7.62
	SD	.32	.30	.35	.37
They prime	M	7.81	7.89	7.77	7.75
	SD	.24	.22	.52	.46
Control	M	7.99	8.09	7.77	7.78
	SD	.36	.38	.28	.25
Self-Identity					
High-High	M	7.78	7.90	7.68	7.66
	SD	.32	.29	.55	.54
Low-Low	M	7.93	7.99	7.66	7.72
	SD	.40	.41	.40	.37
High-Low	M	7.94	7.97	7.85	7.87
	SD	.30	.37	.29	.24
Low-High	M	7.79	7.87	7.63	7.64
	SD	.27	.23	.34	.27

Note. The mean reaction time values reported above have been transformed using a log function.

^a Mean reaction time on transformational items from computerized task. ^b Order = 1 means that computerized task was given before the free recall task. ^c Mean reaction time on transactional items from computerized task. ^d Order = 2 means that computerized task was given after the free recall task

Table 7a

*Means and Standard Deviations from Reaction Time Dependent
Measures: Self-Identity by Prime Condition*

Self-Identity	Prime		RT transform	RT transact
High-High	We prime	M	7.48	7.57
		SD	.31	.36
	They prime	M	7.80	7.81
		SD	.52	.51
	Control	M	7.90	8.02
		SD	.29	.25
Low-Low	We prime	M	7.81	7.83
		SD	.45	.46
	They prime	M	7.62	7.75
		SD	.33	.18
	Control	M	7.94	8.00
		SD	.41	.43
High-Low	We prime	M	7.80	7.82
		SD	.16	.23
	They prime	M	7.81	7.85
		SD	.39	.34
	Control	M	8.0800	8.10
		SD	.20	.30
Low-High	We prime	M	7.68	7.74
		SD	.37	.33
	They prime	M	7.81	7.84
		SD	.27	.20
	Control	M	7.65	7.67
		SD	.30	.28

Note. The mean reaction time values reported above have been transformed using a log function.

^a Mean reaction time for transformational items from computerized task. ^b Mean reaction time for transactional items from computerized task.

Table 7b

Means and Standard Deviations of Reaction Time Dependent Measures: Self-Identity by Prime Condition for Order Groups

Self-Identity	Prime		RT transform ^a order = 1 ^b	RT transact ^c order = 1	RT transform order = 2 ^d	RT transact order = 2
High-high	We prime	M	7.59	7.72	7.23	7.18
		SD	.30	.27	.10	.27
	They prime	M	7.83	7.89	7.78	7.74
		SD	.19	.23	.71	.68
	Control	M	8.0	8.23	7.78	7.82
		SD	.40	.17	.07	.06
Low-low	We prime	M	7.98	7.96	7.72	7.76
		SD	.48	.60	.49	.46
	They prime	M	7.73	7.84	7.41	7.57
		SD	.39	.15	*	*
	Control	M	7.98	8.05	7.70	7.72
		SD	.44	.45	*	*
High-low	We prime	M	7.82	7.81	7.79	7.83
		SD	.20	.31	.13	.18
	They prime	M	7.88	7.95	7.73	7.73
		SD	.37	.37	.47	.34
	Control	M	8.13	8.15	8.03	8.04
		SD	.27	.44	.11	.09
Low-high	We prime	M	7.84	7.88	7.35	7.44
		SD	.35	.28	.07	.22
	They prime	M	7.75	7.87	7.87	7.80
		SD	.12	.07	.38	.29
	Control	M	7.74	7.84	7.62	7.63
		SD	.33	.39	.32	.26

* n=1

Note. The mean reaction time values reported above have been transformed using a log function.

^a Mean reaction times on transformational items from the computerized task ^b Order = 1 means that the computerized task was given before the free recall task. ^c Mean reaction times on transactional items from the computerized task. ^d Order = 2 means that the computerized task was given after the free recall task ($p < .01$), suggesting the possibility of a common response bias across the two types of items.

Hypotheses 5a and 6a were tested using planned comparisons. To protect the family wise error rate, a Bonferroni correction was employed, and each test (one-tailed) was conducted at an $\alpha = .016$.

Hypothesis 5a predicted that for individuals who were primed to adopt an interdependent self-identity, reaction time would be quicker for items consistent with a transformational leadership prototype. The planned comparisons for Hypothesis 5a compared the we-prime group with three other groups (they-prime, control-prime, they- and control-prime groups together) on free recall transformational items. Note that due to significant order effects found in the preliminary analyses (see above), the contrasts were tested separately for participants who either received the computerized task before or after the free recall task.

Regardless of whether the computerized task was administered before or after the free recall task, results suggested that there were no significant differences between the we-prime group and any of the other three groups on transformational items ($p > .016$), refuting Hypothesis 5a.

Hypothesis 6a predicted that for individuals who were primed to adopt an independent self-identity, reaction time would be quicker for items consistent with a transactional leadership prototype. Planned comparisons tested whether the they-prime group was different from other groups of interest (we-prime, control-prime, we- and control-prime groups together) in response latencies to transactional items. Regardless of whether the computerized task was administered first or second, results suggested that there was no statistically significant difference between the they-prime group and any other comparison group on transactional items ($p > .016$). Thus, Hypothesis 6a was not supported.

Hypothesis 5b predicted that when the nature of a priori self-identity was interdependent, reaction time would be quicker for items consistent with a transformational leadership prototype. Hypothesis 6b predicted that when the nature of a priori self-identity was independent, reaction times would be quicker for items consistent with a transactional leadership prototype. Because only one planned comparison was predicted to test both Hypothesis 5b and 6b, a nominal alpha of .05 (one-tailed) was maintained for each planned comparison test.

Hypothesis 5b was tested by comparing those with an interdependent a priori self-identity with the remaining participants on free recall transformational items. Findings demonstrated that regardless of order, the difference between the groups was not significant ($p > .05$). Hypothesis 6b was tested by comparing those with an independent a priori self-identity with the remaining participants on free recall transactional items. No significant differences were found regardless of order ($p > .05$). In sum, neither Hypothesis 5b or Hypothesis 6b received support.

Hypothesis 5c predicted that faster response times for transformational items would be obtained when an interdependent self-identity was primed and the nature of a priori self-identity was interdependent. Similarly, Hypothesis 6c predicted that response latencies ratings for transactional items would be shorter when an independent self-identity was primed and the nature of a priori self-identity was independent.

Both hypotheses were analyzed using 3 (prime) X 4 (a priori identity) ANOVA tests to examine the possibility of a statistically significant interaction between a priori self-identity and the priming manipulation. Regardless of order, none of the main effects or interactions were statistically significant (all $p > .05$). In sum, the results did not support either Hypothesis 5c or Hypothesis 6c.

Discussion

The primary purpose of this study was to examine the relationship between individuals' self-identity and implicit leadership theories. Specifically, individuals' a priori self-identity, and the priming of self-identity, were used to individually and jointly predict implicit leadership theories measured via a paper-and-pencil and computerized leadership tasks.

Examination of the free recall data suggests that the manipulated prime did not strongly influence the reporting of transformational or transactional items on the free recall task. There was no direct support for either Hypothesis 1a or 2a, however there was some indirect (albeit weak) support found for Hypothesis 1a, which pertained to the transformational items. In particular, the we-prime group reported significantly fewer transactional items than the control-prime group suggesting that the we-prime may have attenuated the reporting of transactional items. This also provides some evidence that the priming manipulation was at least somewhat successful in activating a self-identity consistent with the prime (Brown & Lord, 2001; Lord et al., 1999; Lord & Brown, 2001).

Interestingly, this finding was only statistically significant when the free recall task directly followed the priming manipulation. One possibility is that time displacement between the prime and the recall task may have had a substantive effect on the results. It is conceivable that the effect of the prime dissipated for those participants completing the computerized task first. Prior research examining self-identities and priming has not systematically examined the strength of the priming manipulation over time (Brewer & Gardner, 1996; Gardner, Gabriel, & Lee, 1999; Trafimow, Triandis, & Goto, 1991). Nonetheless, this may help explain (at least in part) the differential findings across the two ordering groups.

A second possibility is that the computer task may have had an unintended influence on those participants completing the recall task subsequent to the computer task. That is, some participants might have memorized some of the computer task items, and simply reported them during the recall task. This could have biased the results for these participants – insofar as the recall task was intended to tap into implicit leadership theories (rather than participant memory for specific computer-generated items).

The overall pattern of null findings for the free recall task might be explainable based upon the premise that participants had an a priori propensity to report one particular type of leadership style. Specifically, upon examination of the free recall data, it appears that individuals had a propensity to report transformational items rather than transactional items. On average, participants reported many more transformational items, regardless of their a priori self-identity or the priming manipulation (see Table 2a).

This idea is supported by previous research (e.g., De Cremer and Knippenberg, 2002; Yorges, Weiss, and Strickland, 1999), whereby participants had a tendency to report perceptions of charisma (a subset of transformational leadership style) in a leader, and tended to prefer leaders with transformational qualities overall. This suggests the potential utility of examining a priori implicit leadership theories before priming, to determine whether there is an overall bias in favor of transformational leadership qualities.

Examination of the relationship between a priori self-identity and the free recall dependent variables suggests that a priori self-identity did not influence the reporting of either transformational or transactional items as hypothesized. Although Hypothesis 1b and 2b were not supported, there was evidence that the order of the leadership tasks may have affected the findings. Upon examination of the relationship between independent

self-identity and the reporting of free recall transactional items, a statistically significant difference was found between the independent self-identity group and the remaining participants when the computerized task was administered before the free recall task.

Counter to predictions, participants reporting an independent self-identity recorded significantly fewer transactional items than other participants. This relationship did not hold when the computerized task was given after the free recall task. Perhaps the computerized task initiated a recall bias for transformational items among those with an a priori independent self-identity, attenuating the reporting of transactional items. As indicated above, there is some evidence to support a bias in favor of transformational leaders (e.g., Yorges et al., 1999). What is not clear, however, is why this finding was restricted only to participants reporting an independent self-identity.

Hypothesis 1c was not supported, insofar as the interaction between a priori self-identity and prime conditions for transformational free recall items was not significant, regardless of the order of leadership tasks. Interestingly, the interaction was statistically significant for the transactional items (Hypothesis 2c) when the free recall task was administered before the computerized task.

Inspection of Figure 1 suggests that the pattern of means does not conform to the anticipated configuration of means as per Hypothesis 2c. Participants did not report the highest number of prototypical leadership qualities in accord with their self-identities when the priming manipulation further primed the same self-identity.

Nonetheless, inspection of Figure 1 reveals some potentially interesting results. First, participants without a clear a priori identity (i.e., high-high and low-low) did not appear to be affected by the priming manipulation in any predictable way. For these participants, the we-prime did not appear to attenuate the reporting of transactional items.

Without a coherent self-identity at the outset, it might not be possible to prime a coherent self-identity.

For the participants reporting a clear a priori identity, the we-prime did appear to attenuate the reporting of transactional items. This pattern of results also corroborates the finding reported above concerning the main effect of the we-prime on the reporting of transactional leadership qualities. Again, this suggests that the we-prime was at least partially successful inasmuch as transactional leadership qualities received less endorsement in the face of a we-prime manipulation.

Arguably the more provocative component of the findings reported in Figure 1 revolves around the two groups reporting a coherent self-identity before priming. Participants categorized as having a strong self-identity (e.g., high in one dimension, low in the other) appeared to be more affected by the priming manipulation than participants with an ambiguous self-identity (e.g., either high or low on both dimensions). I found that when participants had an interdependent self-identity, they appeared to be strongly influenced by the they-prime, which caused them to report a greater number of transactional items. Moreover, participants who had an independent self-identity and received the we-prime reported very few transactional items during the free recall task. Overall, this suggests that for these two groups, the priming seemed to be most effective when the priming was counter to the participants' a priori self-identity. This finding is at odds with the exploratory multiplicative model, predicting that self-identity and priming should somehow combine together – as predicted in the interactive hypotheses.

These results may be partially explained from the perspective of cognitive dissonance theory which proposes that people attempt to reduce or eliminate dissonance-arousing situations by restoring consistency among their cognitions and actions (Kunda,

1990; Ajzen, 1996). In this study, the administration of a prime dissonant to the stated a priori self-identity may have caused an unconscious state of psychological arousal. This may have motivated participants to restore consistency or reduce dissonance by biasing the reporting of leader traits to correspond with the priming manipulation.

These findings, however, appear to be at odds with the concept of “inhibitory relations among identity levels” as proposed by Lord, Brown and Freiberg (1999). According to Lord et al., the activation of one identity through priming should prevent the alternative level (a priori self-identity) to be accessed simultaneously. This implies no multiplicative effect of self-identity and priming; there should be no interaction according to this formulation.

This idea of inhibitory relations is actually supported by several lines of research suggesting that people have substantial difficulty simultaneously activating more than one level of self-identity (Malt, Ross, & Murphy, 1995). For example, Malt et al. found that people could only hold a single cognitive schema in mind when making judgments regarding ambiguous stimuli. They reported that participants could not simultaneously encode information about a house from the perspective of both a burglar and a homebuyer, even though they had equal knowledge of these alternative schemas.

In terms of the present study, the inhibitory relations hypothesis would suggest that among participants with a strong self schema (i.e., either independent or interdependent), the priming manipulation should activate a new schema, replacing the initial self schema and influencing the reporting of leadership traits on the free recall task. Again, however, the obtained interaction seemingly contradicts this hypothesis. Clearly, future research is needed to examine the robustness of this interaction result before any firm conclusions can be drawn.

Turning to the results for the prototype rating task, I found no order effects for the prototype ratings. The absence of order effects suggests the possibility that the completion of the free recall task prior to the computer task might not have biased the ratings on the computer task - in the same way that the computer task may have biased the free recall task as noted above.

Results suggested that the priming manipulation influenced the reporting of prototype ratings for both transformational and transactional items, providing partial support for Hypotheses 3a and 4a. Specifically, we-primed participants reported significantly higher mean prototype ratings than the control group for transformational items. Inspection of Table 4 indicated that the we-primed group also reported more transformational items than the they-primed group, yet this finding was not statistically significant. This provides some descriptive evidence that the we-prime led participants to rate transformational items as more important to effective leadership.

Moreover, the they-primed group reported significantly higher mean prototype ratings than the control group for transactional items, suggesting that the they-prime did have some positive effect on the transactional prototype ratings. This result provides evidence supporting the notion that that the priming manipulation was effective in making an independent self-identity salient based upon the they-prime.

It is worth noting that the significant results for the prototype ratings were obtained, even when there was a time displacement between the priming manipulation and the computer task (i.e., for participants completing the free recall task first). Further, it should be mentioned that the displacement between the priming manipulation and the computer task was greater when the free recall task came first. This is because the free recall task took longer (approx. 10-20 minutes per participant) than the computer task

(approx. 5-10 minutes per participant). Overall, although I speculated above that time displacement for the prime might have affected the study results, the findings for the prototype ratings might indicate that time displacement was not a serious concern for the priming manipulation.

Contrary to expectations, the interdependent self-identity group reported significantly lower prototype ratings than the remaining participants on transformational items (Hypothesis 3b). Examination of Table 4 suggests that participants who had an ambiguous a priori self-identity (i.e., either high or low on both dimensions) had higher mean prototype ratings on transformational items than the remaining groups who reported a strong self-identity. The participants who scored high on both dimensions reported the highest ratings, followed by those who were low on both dimensions. These findings may be explained by a response bias for the ambiguous group who scored high on both dimensions of self-identity. Perhaps these participants had a tendency to provide inflated ratings on tasks involving a Likert-type scale, which was the case in both the SCS and the computerized task.

There was no significant difference between the independent group and the remaining participants for mean prototype ratings transactional items, however, it is interesting to note that participants who were high on both self-identity dimensions, reported the highest mean prototype ratings for transactional items. Again, a response bias explanation may be tenable. The interaction between prime and a priori self-identity was not significant for mean prototype ratings on transformational items, however both main effects were statistically significant (Hypothesis 3c). Follow-up analyses demonstrated a statistically significant difference between participants with an ambiguous a priori self-identity (i.e., high scores for both interdependent and independent

domains) ($M = 4.19$) and those with an interdependent self-identity ($M = 3.78$). Again, it is possible that a response bias may help explain why those with an ambiguous self-identity reported the highest mean ratings on these items.

The interaction between self-identity and prime was not significant for the transactional prototype ratings (Hypothesis 4c), however, the main effect of prime was statistically significant. Nonetheless, the absence of any statistically significant pairwise comparisons based upon the follow-up Tukey HSD tests renders this finding difficult to interpret (at least from the standpoint of simple group comparisons).

All hypotheses (H5a-H6c) concerning reaction time as the dependent variable were not supported. There were no significant differences between the priming groups on reaction time to either transformational or transactional items. Similarly, there were no significant differences between a priori self-identity groups in terms of the leadership items. Finally, the interactions between prime and a priori self-identity were not statistically significant for either transformational or transactional items from the computerized task.

Overall, the lack of significant findings suggest that reaction time may not be the most effective way to tap into implicit leadership prototypes following a priming manipulation concerned with self-identity. Unlike Lord et al. (1984) who effectively used reaction time measures in the context of leadership prototypes, this study examined reaction times following a manipulated prime with the focus on participant self-identity. Reaction time measures may lack the sensitivity required to tap into something as complex as an internal leadership prototype based upon participant self-identities.

Further, the computerized task was developed specifically for the current study and may have contained some problematic items. Although the items were derived from a

leadership questionnaire that was shown to be both reliable and valid, most of the original items had to be altered (i.e., reworded and shortened) to ensure equal word length and frequency between the two leadership dimensions (i.e., transformational and transactional) on the computer task. This could have introduced some unwanted ambiguity for some of the specific exemplars participants were asked to rate.

Implications and Future Research

Leadership research has focused on the assessment of easily observable leadership qualities and their direct impact on organizational outcomes, however, the understanding of underlying processes that actually produce leadership perceptions has been largely ignored (Hall & Lord, 1995; Lord et al., 1999; Lord et al., 2001). The present study provides some support for the need to consider self-identity as an important determinant of follower perceptions to leaders.

Some of the findings from the present study suggest that self-identity can be primed to influence leadership perceptions. This supports a growing body of research suggesting that different self-identities can coexist within the same individual, available to be activated at different times or in different contexts (Brewer & Gardner, 1996). Similarly, implicit leadership theories are also changeable, and although people may have a preference for a particular leadership style at any given time, this too can be changed in response to contextual factors.

Future research should be conducted in field settings, to further examine the situational factors that potentially prime follower self-identity in an organizational context. For example, organizational culture can have an important influence on the self-identity of followers. At a general level, organizational culture refers to the identity of the organization, or the shared values, ideas and expectations of organizational members

(Muchinsky, 2000; Schein, 1996). An organization may have a collectivist identity in which group goals are emphasized and there is a connectedness among group members. This organizational context may make interdependent self-identity more salient among organizational members, even if some organizational members have a general tendency to be independent.

Moreover, leaders can also influence self-identity through activities that influence the accessibility of self-identity (Lord, Brown, & Freiberg, 1999). For example, by emphasizing similarities among workers, leaders can increase activation of interdependent self-identities, while inhibiting independent identities. Another way in which leaders can maximize their potential is by choosing followers that have self-identities that are aligned with the leader's values.

The match between follower self-identity and leadership style may have important organizational outcomes as suggested by the findings of Jung and Avolio (1999). The results of their study showed that the Caucasians students working with a transactional leader produced more than when they were working with a transformational leader. In contrast, Asians produced more when they were working with a transformational leader. In sum, future research should examine the relationship between self-identity and effective leadership style in actual organizations.

This study also demonstrated that certain biases can have a strong and unanticipated effect on the findings in this type of research. For example, the current sample appeared to have propensity to report transformational leadership items. Regardless of a priori self-identity or priming condition, participants generally had a bias to report transformational items on the free recall task. This implies that participants did not come into the experiment as "blank slates", but rather held pre-existing implicit

leadership theories of what defined a good leader. Future research might examine these pre-existing implicit leadership theories by measuring them before the priming manipulation. It is possible that the effectiveness of any contextual prime on implicit leadership theories will be moderated by these pre-existing theories. This is especially relevant in real-world contexts, insofar as employees have well articulated a priori leadership theories.

Another important consideration in this type of research is order effects. In the present study, order effects had a significant influence on the findings for both the free recall items and reaction-time data. In future research, this can be controlled and perhaps prevented. For example, only one leadership task may be used to measure implicit leadership theories. Further, the computerized and free recall task could be improved by limiting the amount of time allowed to complete the task. For the free recall task, participants were not limited in the amount of time they were given to complete the task. For the computerized task, the stimulus items appeared on the screen until the participants selected a prototype rating by pressing the keys. If the amount of time to complete these tasks was limited, this may help reduce any potential effects of time displacement between the priming manipulation and leadership tasks.

Limitations of the Study

The present study may be limited by the specific measures used. The Self-Concept Scale (SCS) contained only 24 items and it could have been difficult to accurately tap into self-identity using so few items. However, empirical evidence suggests that the SCS is both reliable and valid despite the length of the scale (Singelis, 1994; Singelis, Triandis, Bhawuk, & Gelfand, 1995), and the current study demonstrated similar reliabilities. On the other hand, it is possible that some degree of response bias

(as noted earlier) may have infiltrated the responses for some participants on this measure.

The priming manipulation used in the current study could have also been problematic. For example, the prime could have resulted in demand characteristics during the experimental task. However, pilot testing suggested that demand characteristics were not a problem in the current study. Lack of main effects for the priming manipulation could have also been the result of a weak prime. Bargh and Chartrand (2000) proposed that in general, the more priming stimuli presented to the participant, the stronger the obtained priming effects. Perhaps a stronger priming effect would have been obtained had there been more pronouns in each of the paragraphs. However, it was also important not to make the manipulation too “heavy-handed”, as it is likely to tip off some participants as to the nature of the study (Bargh & Chartrand, 2000).

Arguably, the we-prime and they-prime could have primed two different levels of “social identity”, leading to a lack of differences between these two groups in the current study and the inconclusive findings (Brewer & Gardner, 1996). For example, the we-prime could have primed a collective identity, where people see themselves as members of larger collectives and social categories. Alternatively, the they-prime could have primed an interpersonal identity, in which individuals viewed themselves in terms of relationships with specific others. Although the they-prime could have primed a self-identity which makes people see themselves as different or unique from certain others (i.e., out-group members), they may at the same time identify with other in-group members, and see themselves as part of smaller collectives. Limited evidence for the distinction between these two types of self-identity was reported by Brewer & Gardner.

They found that collective (we-prime) and interpersonal (they-prime) self-identity each had differential effects on judgments of similarity and self-descriptions.

A more effective priming manipulation may involve using *I-mine* pronouns to prime independent self-identity and using *we-ours* to prime interdependent self-identity. For example, Gardner, Gabriel, and Lee (1999) successfully used these two priming conditions to prime the self-identities of students with different cultural backgrounds. They found that the both these priming manipulation were successful in activating a relatively greater interdependent or independent self-construal among European-American students and Asian students.

In this study, I utilized brief generic descriptions of leadership traits in relative isolation to assess implicit leadership prototypes on the computerized task. However, realistically, followers observe leaders interacting in a complex social context when they form judgments about the leaders. Research suggests that leadership cannot be understood outside of the social context and that the context in which leadership occurs influences which type of leader behavior is called for (Muchinsky, 2000).

For example, Green and Nebeker (1977) examined favourable and unfavourable leadership situations. In the favourable situation leaders emphasized a more transformational style (i.e., emphasized interpersonal relations and were supportive of the group members). In the unfavourable situation, the leaders became more transactional (i.e., they were task oriented and more concerned with goal accomplishment than with interpersonal relations). This research highlights the context-specific nature of different leadership styles and a weakness of the current study. The importance of the interaction between the person and the situation is likely factored into followers' perceptions of leaders.

For the free recall task, participants were asked to report on a cognitive category of leadership at the most general level, referred to as “superordinate” (Offermann, Kennedy & Wirtz, 1994). The characteristics used to define these leadership prototypes do not necessarily generalize to participant’s prototypes of organizational leaders, including business leaders, managers and supervisors. In fact, one participant indicated that she was using a leadership prototype referring to a professor due to an item on the previous SCS (“I would offer my seat in a bus to my professor”). Future research may need to look at leadership at more specific levels or within more specific contexts. Indeed, research suggests that implicit prototypes vary according to the level of leadership that is specified, therefore; this should be an important consideration in future research (Offermann et al., 1994).

Further, the free recall task was positively worded and participants were asked to provide their definitions of an “effective leader”. An interesting question is whether “effective leader” is different from “leader”? Perhaps participants would have reported more negative traits had only “leader” been specified in the instructions. Further, the reporting of positive and negative traits could be determined by the level of leadership. For example, some traits could be positively related to leaders, and negatively related to supervisors or vice versa. Again, this underscores the importance of examining the level of leadership.

In this study, I used a sample of relatively young, inexperienced university students to examine the relationship between self-identity and implicit leadership theories. It has been argued that people’s implicit leadership theories are generated and refined over time as a result of experiences with actual leaders (Offermann et al., 1994). Future research needs to look at the relationship between self-identity and implicit

leadership theories in a more experienced field sample that have substantial exposure to organizational leadership. It could be predicted that a more experienced sample of workers would possess well-articulated and deeply-ingrained leadership prototypes or schemas, and as a result, priming would have little effect. At a minimum, this study could have been improved by measuring the extent of participants' exposure to organizational leaders.

Last, the existence of order effects led to a sub-sampling procedure, which inevitably lowered statistical power for many of the inferential tests. Again, addressing the order effects in subsequent research is fruitful, and this would also alleviate the resulting loss of power emanating from sample size reduction.

Summary

In sum, some results obtained are consistent with the idea that self-identity might be malleable - and that it is related to implicit leadership theories. Thus, future leadership research should continue to examine the social cognitive processes that are involved in followers' perceptions of leadership. Moreover, future research needs to examine the contextual factors that influence these cognitive processes in organizational settings.

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Appendix A

Please read the paragraph on the next page carefully and circle all the PRONOUNS found within the paragraph. The pronouns may be singular (e.g. he, she, me, I, you, mine, yours, etc.) or plural (e.g. we, they, our, their, etc). Please take your time.

We go to the city often. Our anticipation fills us as we see the skyscrapers come into view. We allow ourselves to explore every corner, never letting an attraction escape us. Our voices fill the air and street. We see all the sights, we window shop, and everywhere we go we see our reflections looking back at us in the glass of a hundred windows. At nightfall we linger, our time in the city almost over. When finally we must leave, we do so knowing that we will soon return. The city belongs to us.

Please read the paragraph on the next page carefully and circle all the PRONOUNS found within the paragraph. The pronouns may be singular (e.g. he, she, me, I, you, mine, yours, etc.) or plural (e.g. we, they, our, their, etc). Please take your time.

They go to the city often. Their anticipation fills them as they see the skyscrapers come into view. They allow themselves to explore every corner, never letting an attraction escape them. Their voices fill the air and street. They see all the sights, they window shop, and everywhere they go, they see their reflections looking back at them in the glass of a hundred windows. At nightfall they linger, their time in the city almost over. When finally they must leave, they do so knowing that they will soon return. The city belongs to them.

Please read the paragraph on the next page carefully and circle all the instances of the word 'IT' or 'ITS' found within the paragraph. Please take your time.

It goes to the city often. Its anticipation fills it as it sees the skyscrapers come into view. It allows itself to explore every corner, never letting an attraction escape it. Its voice fills the air and street. It sees all the sights, it window shops, and everywhere it goes, it sees its reflection looking back at it in the glass of a hundred windows. At nightfall it lingers, its time in the city almost over. When finally it must leave, it does so knowing that it will soon return. The city belongs to it.

Appendix B

Self-Construal Scale (Singelis, 1994)

Please read the following statements and indicate your agreement with each using a 7-point scale (1=*strongly disagree*, 7=*strongly agree*).

Interdependent items

1. I have respect for the authority figures with whom I interact
2. It is important for me to maintain harmony within my group
3. My happiness depends on the happiness of those around me
4. I would offer my seat in a bus to my professor
5. I respect people who are modest about themselves
6. I will sacrifice my self-interest for the benefits of the group I am in
7. I often have the feeling that my relationships with others are more important than my own accomplishments
8. I should take into consideration my parents' advice when making education/career plans
9. It is important to me to respect decisions made by the group
10. I will stay in a group if they need me, even when I'm not happy with the group
11. If my brother or sister fails, I feel responsible
12. Even when I strongly disagree with group members, I avoid an argument

Independent items

13. I'd rather say "No" directly, than risk being misunderstood
14. Speaking up during a class is not a problem for me
15. Having a lively imagination is important to me
16. I am comfortable with being singled out for praise or rewards
17. I am the same person at home that I am at school
18. Being able to take care of myself is a primary concern for me
19. I act the same way no matter who I am with
20. I feel comfortable using someone's first name soon after I meet them, even when they are much older than I am
21. I prefer to be direct and forthright when dealing with people I've just met
22. I enjoy being unique and different from others in many respects
23. My personal identity independent of others, is very important to me
24. I value being in good health above everything

Appendix C

Leadership Computer Task

Neutral Items, Practice (7)

- 1) explains actions
- 2) integrates information
- 3) seeks information
- 4) argues convincingly
- 5) seeks suggestions
- 6) prevents conflict
- 7) allocates decisions

Transformational Items (13 items)

- sets long-term goals
- inspirational
- engenders followers' enthusiasm
- arouses aspirations
- emphasizes ideas
- initiates organizational change
- creative

- goal-oriented
- acts as a teacher
- requests more than is expected
- arouses followers' hopes
- emphasizes group goals
- focuses on ideas

Difficulty 951

Word Count 260

repeat items (2 items)

- motivates long-term goals
- provides inspiration

Transactional Items (13 items)

- sets short-term goals
- managerial
- maintains organizational stability
- allocates rewards
- clarifies performance goals
- provides performance feedback
- practical

- task-oriented
- focuses on rewards
- requests only what is required
- clarifies job roles
- clarifies responsibilities
- monitors performance

Difficulty 900

Word Count 273

repeat items (2 items)

- motivates short-term goals
- provides rewards

Appendix D

LEADER CHARACTERISTICS

In the spaces provided below, please list up to 25 leadership traits or behaviors that can be used to describe an "effective leader". These traits or behaviors can be described using one word (e.g., charismatic, practical) or a few words (e.g., emphasizes long-term goals, implements rewards). Use a definition of "leader" that is meaningful to you personally.

- | | |
|-----------|-----------|
| 1. _____ | 20. _____ |
| 2. _____ | 21. _____ |
| 3. _____ | 22. _____ |
| 4. _____ | 23. _____ |
| 5. _____ | 24. _____ |
| 6. _____ | 25. _____ |
| 7. _____ | |
| 8. _____ | |
| 9. _____ | |
| 10. _____ | |
| 11. _____ | |
| 12. _____ | |
| 13. _____ | |
| 14. _____ | |
| 15. _____ | |
| 16. _____ | |
| 17. _____ | |
| 18. _____ | |
| 19. _____ | |

Appendix E

Debriefing Procedure for Priming Task¹

The experimenter proceeds to ask the participant the following questions and records the answers given:

1. What do you think the purpose of this experiment was?
2. What do you think this experiment was trying to study?
3. Did you think that any of the tasks you did were related in any way? (if “yes”) In what way were they related?
4. Did anything you did on one task affect what you did on any other task? (if “yes”)

How exactly did it affect you?

¹ Source: Chartrand & Bargh, 1996, Experiment 1. Only items relevant to the current study were used, therefore, not all items from the original study were included.

Appendix F



CERTIFICATION OF INSTITUTIONAL ETHICS REVIEW

This is to certify that the Conjoint Faculties Research Ethics Board at the University of Calgary has examined the following research proposal and found the proposed research involving human subjects to be in accordance with University of Calgary Guidelines and the Tri-Council Policy Statement on "*Ethical Conduct in Research Using Human Subjects*". This form and accompanying letter constitute the Certification of Institutional Ethics Review.

File no: CE101-3499
Applicant(s): Heather MacDonald
Department: Psychology
Project Title: Leadership and Perceiver Cognition
Sponsor (if applicable):

Restrictions:


This Certification is subject to the following conditions:

1. Approval is granted only for the project and purposes described in the application.
2. Any modifications to the authorized protocol must be submitted to the Chair, Conjoint Faculties Research Ethics Board for approval.
3. A progress report must be submitted 12 months from the date of this Certification, and should provide the expected completion date for the project.
4. Written notification must be sent to the Board when the project is complete or terminated.



Chair

Conjoint Faculties Research Ethics Board



Date:

Distribution: (1) Applicant, (2) Supervisor (if applicable), (3) Chair, Department/Faculty Research Ethics Committee, (4) Sponsor, (5) Conjoint Faculties Research Ethics Board (6) Research Services.

09/00