Leader development: An identity-based perspective

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Thesis Declaration

I, Darja Miscenko, certify that:

This thesis has been substantially accomplished during enrolment in the degree.

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Abstract

Leadership development has been in the research spotlight for several decades now (Day, Fleenor, Atwater, Sturm, & McKee, 2014). Given the strong interest in the topic among academics and practitioners, it remains a mystery why to date only few studies have taken a longitudinal perspective to study leadership development. In addition, this far the proposed approaches to leader development have mainly focused on the acquisition of well-defined skills, while ignoring the deeper structures of adult development (Day, Harrison, & Halpin, 2009). In the last decade, identity has been proposed as an underlying knowledge structure that motivates engagement with leadership and interacts with the development of relevant skills (Day et al., 2009; Lord & Hall, 2005). Still, empirical work to support these conceptual propositions is lacking. To address these gaps, the thesis advances and empirically tests various components of an integrative model of leader development grounded in an identity perspective (Day et al., 2009). The thesis consists of three empirical studies. First study (N=196) establishes leader identity as the mediator between leadership training and leader effectiveness, and demonstrates how this relationship is moderated by leadership experience. Second (N=98) and third (N=80) studies test the developmental trajectory of leader identity among the graduate students and high-potential executives, respectively, in a leadership development program. In addition, these two studies together test the potential reciprocal relationship between leader identity and leadership skills (competencies) development. Overall, the thesis helps to advance a more comprehensive understanding of how leaders develop over time and which factors influence this development. Theoretical and practical implications, future research directions, and limitations are addressed in a General Discussion section.
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Student contribution to work:

The student completed the extensive search and coding of published literature, literature review, and primary manuscript preparation. David Day helped to prepare the manuscript by editing and providing feedback.

Co-author signatures and dates:

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Coordinating supervisor signature:

Date: 10 January 2017
Chapter 1: General Introduction

The aim of this thesis is to examine the role of self-perception as a leader (i.e., leader identity) in the process of leader development.

Leadership development has been an active field of scholarly and practitioner interest over the previous three decades (Day et al., 2014). Scholars have investigated and demonstrated the value and benefits of leadership interventions (for a review see Avolio, Reichard, Hannah, Walumbwa, & Chan, 2009), while corporates and universities have heavily invested in leadership development programs. A recent report suggests that one third of the corporate training budget is spent on leadership and management development (O’Leonard, 2014). However, the field has been criticized for the lack of rigorous research incorporating the longitudinal and multilevel nature of leadership development (Day, 2011b; Day & Dragoni, 2015).

Whereas leadership development involves developing a broader shared capacity for engaging in leadership processes, leader development focuses on the development of individuals as leaders, including their self-views, skills, and abilities (Day, 2001). The present thesis focuses on addressing the research gaps by advancing and empirically testing an integrative model of leader development that is grounded in an identity perspective. Specifically, leader identity is proposed as a proximal antecedent of leader and leadership development (Day & Dragoni, 2015) in that it supports the development of leadership skills and competencies over time, and results in increased leader effectiveness.

Leader identity is defined as the “sub-component of one’s identity that relates to being a leader or how one thinks of oneself as a leader” (Day & Harrison, 2007, p. 365). For the purposes of the present thesis, leader identity is conceptualized in line with identity theory as a collection of meanings associated with a leadership role (Stryker &
As a cognitive schema, leader identity stores information and knowledge attached to such leadership role (Lord & Hall, 2005); therefore, it directs an individual’s behaviour and interactions in one’s leadership position (Day et al., 2009). Not surprisingly, identity has been proposed as central to the study of leadership, because it allows to investigate “who will lead” and “who will follow” (Epitropaki, Kark, Mainemelis, & Lord, in press). At the very least, identity is a valuable part of the leadership puzzle, because it allows us to understand how leaders see and define themselves.

Thus, the concept of leader identity constitutes a promising avenue for research in the leader and leadership development field. First, studying longer-term changes in leader identity addresses the lack of longitudinal perspective in the extant leadership development literature. For example, a recent review of leadership identity literature noted that although identity change is implied in some of the leader development literature, only few accounts of these changes are available (Epitropaki et al., in press). Second, because identity can be conceptualized as a deeper-level knowledge structure that encompasses skills and behaviour relevant to the leadership role, within-person multilevel influences in leadership development are potentially addressed.

The remainder of this chapter is structured as follows: first, I discuss the concept of work identity, its definition according to different theoretical perspectives, and its dominant characteristics. Next, I provide a more detailed description of leader identity, its changes, and its role in leader development. Finally, I offer an overview of the three studies included in the present thesis.

**Work identity**

Sociologists and psychologists have considered various aspects of individual’s self-concept for more than a century, dating back to the writing of William James.
However, only recently identity emerged as a topic of interest in management and organizational studies (Sveningsson & Alvesson, 2003). Nevertheless, in a short time, hundreds of conceptual and empirical studies have been published on various aspects of work identity and identification (for a recent review see Miscenko & Day, 2016). The keen interest in identity among organizational scholars is understandable considering that individuals spend a large proportion of their time at work. Therefore, organizations become critical for shaping a person’s identity (Elsbach, 1999). Identity and work environments influence each other reciprocally, such that individuals choose occupations that correspond to their innate traits, and occupations, in turn, induce change in personal traits and identity (Wille & De Fruyt, 2014).

**Defining Identity**

The exponential growth in publications on work identity and identification has produced a multitude of definitions and conceptualizations of identity. However, most of these definitions can be classified under three main theoretical lenses (see Alvesson, 2010 for an extensive discussion). First, social identity theory (Tajfel, 1982) postulates that an individual’s identity at work is derived from membership in a collective, through a process of identification, as people define themselves and enable others to define them based on the groups to which they belong (Hogg, 2003). Thus, identification with the social group involves a certain degree of depersonalization (Stets & Burke, 2000).

Second, post-modernists view identity as claimed and granted in social interactions. Because identity negotiation is influenced by complex, recursive, and reflexive processes, identity is viewed as constantly under construction (Ybema et al., 2009). Identity negotiation and construction is studied through the lens of identity work, defined as “people being engaged in forming, repairing, maintaining, strengthening, or revising their identities” (Sveningsson & Alvesson, 2003, p. 1165). Whereas this
definition suggests a certain degree of individual agency in constructing one’s identity, a more extreme post-structuralist approach views identity as mostly shaped by multiple social discourses (Alvesson, 2010).

Finally, grounded in symbolic interactionism, identity theory argues that identity is defined by the different social roles that an individual occupies (Gecas, 1982; Mead, 1934). Because each role (and thus identity) is associated with certain social expectations, these roles provide structure as well as meaning to human behaviour (Stryker & Burke, 2000). Work identity thus is seen as the collection of meanings attached to the self by the individual and others in a work domain (Gecas, 1982). In addition, identities may be represented as cognitive schemas that store information and meanings attached to a particular role (Kihlstrom, Beer, & Klein, 2003). For example, a socio-cognitive perspective conceptualizes identity as a self-schemata, which is a cognitive generalization about the self, derived from past experiences and it guides the processing of self-related information (Markus, 1977). Thus, identity serves as a framework to interpret experiences (Stryker & Burke, 2000). Finally, because individual occupies numerous social roles, the self-concept encompasses multiple identities, however, only one is believed to be activated at any particular time (referred to as working self-concept; Lord, Brown, & Freiberg, 1999)

The three approaches also differ in their conceptualization of identity stability versus fluidity (Brown, 2015). Social psychologists generally describe identity as a relatively stable set of meanings and argue that this degree of stability is required for employees to function effectively (Stryker & Burke, 2000). Because identity theory views identity as closely linked with a work role, identity changes are profoundly related to role transitions. Initially, when an individual assumes a new role, he or she engages in symbolic interactions with others to negotiate meaning of these roles (Ibarra,
This negotiation creates a consistent set of behaviours that reinforce the identity (Stryker & Burke, 2000). If the role remains stable, the associated identity remains unchanged. In contrast, discursive sociologists and postmodernists deny the notion of enduring and stable identity (Brown, 2015) and view identity as always provisional and contested (Alvesson, Ashcraft, & Thomas, 2008). According to the latter perspective, employees are portrayed in a constant state of liminality (Beech, 2010), while engaged in dynamic construction of the self. For example, gender or ethnicity may be viewed as an ascribed social identity that hardly changes throughout an individual’s life (Deaux, 1991); however, the meaning attached to this identity by an individual and others can be more fluid (see Ely & Meyerson, 2010). In an attempt to consolidate these views, it has been proposed that identities are mutable to varying degrees (Markus & Wurf, 1987).

In sum, the three approaches to define identity differ in their views on the source of identity, its potential to change over time, and the role of social context in identity construction. However, all three are beneficial to study identity, as these provide differing insights into the highly complex phenomenon. For instance, whereas identity theory studies various roles people play in organizations and society, social identity theory is concerned with social categories and group processes. Identity work adds to the puzzle by bringing attention to the higher-level organizational and societal discourses that shape identity.

**Identity Characteristics**

Making matters even more complex, identity may differ in the level of inclusiveness at which it is constructed: individual, interpersonal (relational), and collective (Brewer & Gardner, 1996). Work identity at the individual level focuses on the unique traits and characteristics that differentiate a person from others in a work domain. Interpersonal work identity is derived from relationships with significant
others, such as one’s boss or peers in the workgroup. Finally, collective identity is based on self-perceived organizational and social category membership. Although both interpersonal and collective identities include others in the self-definition, they differ with regard to the quality of these social connections. Interpersonal identities are constructed based on personalized bonds in dyadic relationships, including those established in small, face-to-face work groups. Collective identities are derived from common identification with some symbolic group and thus do not require personal relationships. Identities at different levels of inclusiveness are distinct in their social motivation, type of self-knowledge, and source of self-worth (Brewer & Gardner, 1996). Finally, identity activation at the specific level of inclusiveness depends on organizational context (e.g., task and reward structures; Brickson, 2000).

It is also the case that identity is multidimensional, consisting of many different yet interconnected sub-identities. Although individuals typically hold several sub-identities, only one is believed to be active at any given point of time (Lord & Brown, 2004; Markus & Wurf, 1987). For example, the presence of a social group increases the identification with a relevant social category (Van Dick, Wagner, Stellmacher, & Christ, 2005). In addition, identities differ with regard to identity salience or the level of importance an individual places on a particular identity (Ashforth, 2001; Stryker & Serpe, 1994). Higher levels of identity salience mean that there is a greater likelihood that identity will be more often invoked across a variety of situations (Stryker & Burke, 2000).

Research has identified several motivational forces that relate to how identity is constructed and expressed (for a comprehensive review see Ashforth & Schinoff, 2016). In identity theory, self-verification is a need to affirm one’s identity by expressing it through identity-relevant behaviour (Burke, 1991). People tend to attach positive value
to their identities, as identity relates to their sense of self-worth (Gecas, 1982; Hogg & Terry, 2000). Therefore, individuals strive to maintain positive identities even when their work fails to become a source of beneficial identity (Dutton, Roberts, & Bednar, 2010; Lucas, 2011). Studies show that employees who are unable to verify their professional identity by fulfilling work tasks that are central to role definition will experience a range of negative individual outcomes including negative affect (Gabriel, Dieffendorff, & Erickson, 2011) and emotional exhaustion (Haines III & Saba, 2012). Self-verification also motivates people to seek affirmation for their identity from peers (Swann, 1983). In contrast to self-verification, whereby individuals attempt to affirm both positive and negative aspects of their identity (Swann, 1983), self-enhancement motive drives individuals to promote only the positive aspects of identity and avoid the negative ones (Sedikides, 1993). For example, individuals’ efforts to portray a positive work identity are associated with workplace time commitment (Kuhn, 2006). Finally, people are motivated to maintain self-integrity—“a sense of global efficacy, an image of oneself as able to control important adaptive and moral outcomes in one’s life” (Cohen & Sherman, 2014, p. 336). Whereas this motive applies to a global self-concept and not any particular identity, sense of self-integrity can be drawn from a variety of roles and identities. Perceived self-integrity is achieved through self-affirmation—an act that demonstrates one’s adequacy (Steele, 1988). For example, participating in volunteer activities sponsored by organization is an act of self-affirmation, which increases employees’ experienced self-integrity in the workplace, and in turn positively relates to organizational commitment (Brockner, Senior, & Welch, 2014). In the later section, I discuss how identity motive of self-affirmation relates to the development of leader identity during developmental interventions.

**Leader Identity**
Leader identity is defined as “the sub-component of one’s identity that relates to being a leader or how one thinks of oneself as a leader” (Day & Harrison, 2007, p. 365). In line with identity theory, leader identity was conceptualized as a knowledge structure that organizes the relevant leadership experiences, skills, and behaviours (Lord & Hall, 2005) and motivates the individual to seek opportunities and experiences for leadership practice (Van Knippenberg, 2011). Because a leadership role can be complex and multifaceted, especially among professionals, leader identity is likely to be multidimensional as well. For example, Cascón-Pereira and Hallier (2012) proposed that emotions influence the enactment of particular dimensions of leader identity by prioritizing the awareness of identity issues.

Leader identity can also be constructed at different levels of inclusiveness: individual, relational, and collective (Lord & Hall, 2005). This level of inclusiveness of leader identity influences important leader- and follower-related outcomes. At the individual level, leader identity is derived from one’s unique characteristics as a leader and differentiating oneself from other potential leaders. Adopting a strong individual-level leader identity may be beneficial for leaders. For example, leader identity was positively related to other-rated leadership effectiveness over time (Day & Sin, 2011). Similarly, leader identity attributes (self-awareness and self-monitoring) were positively related to perception of charismatic leadership style among followers (Sosik, 1999). Parry and Kempster (2014) conducted a qualitative analysis of followers’ implicit narratives of charismatic leaders in organizational settings and have similarly suggested that adopting a certain identity might lead one to be attributed with charismatic qualities by followers. Some scholars, however, caution that when individuals identify with their leadership role too strongly they may feel entitled to behave in self-serving or abusive manner. Individuals with higher self-definition as a leader were more likely to engage in
self-serving behaviour and relied on information about other leaders’ self-allocation of resources and effective leadership beliefs to make self-allocation decisions (Rus, Van Knippenberg, & Wisse, 2010).

At the relational level, specific other individuals become included in the leader’s identity. Relational identity thus promotes leader to differentiate between subordinates and develop qualitatively different relationships with them. These relational differences have been extensively studied in the literature on leader-member exchange (Graen & Uhl-Bien, 1995). For example, leader relational identity was found to moderate relationships between LMX and subordinate performance, organizational citizenship behaviour. Specifically, leader relational identity mitigated the effect of low-quality LMX on performance (Chang & Johnson, 2010). At the collective level, leader’s identity is closely tied to group membership, meaning that leader will be guided by group norms and potentially confirm to a group prototype (Hogg, 2001; Van Knippenberg, Van Knippenberg, De Cremer, & Hogg, 2004). Being seen as prototypical of the group is beneficial for the leader, because prototypical leaders are perceived as more desirable and effective (Hogg, Van Knippenberg, & Rast III, 2012). For example, Giessner, Van Knippenberg, and Sleebos (2009) found that group members endorsed the prototypical leader even if they failed to achieve important group goals.

Several studies have explored the interaction between different levels of inclusiveness of leader (and follower) identity. For example, the fit between leader and follower identities and the interactions among fit at different self-identity levels predict LMX quality (Jackson & Johnson, 2012). Similarly, leaders’ chronic collective and individual identities were found to uniquely predict frequency and consistency of subsequent transformational and abusive behaviour, respectively (Johnson, Venus,
Lanaj, Mao, & Chang, 2012). Authors also report that abusive behaviours were most frequent when a leader had a strong individual identity and a weak collective identity.

**Leader Identity Change**

The three dominant theoretical perspectives (as per previous section) guide theoretical insights into the development of leader identity. For example, in line with post-modernists view, some study leader identity construction as a dynamic phenomenon. Alvesson and Sveningsson (2003) demonstrate how the contemporary discourse on leadership and practical aspects of managerial work affect the ambiguity of leader identity, particularly in knowledge-intense organizations. Discourse analyses suggested that managers aspire, but fail to secure a coherent leader identity, as they continuously move between different positions of leadership. Sveningsson and Larsson (2006) also considered how contemporary discourse on leadership affects the positioning of themselves among middle managers. Authors find that managerial claims of leadership are inconsistent with actual practice, and propose fantasy as a notion to describe leadership identity work. Beyond the broader societal discourse, organizational leadership discourse shaped by structural and historical circumstances might also affect managerial identity work, as managers rely on the multiplicity of available social constructions of leadership (Watson, 2008). Finally, some conceptualize leadership as the management of meaning and study everyday work interactions as an arena for leader identity negotiation using sense making stories constituted within a narrow discourse of business meetings and broader organizational discourse (Clifton, 2014).

Leader identity scholars have also used a variety of narrative approaches to study the construction of leader identity. A psychosocial account of managerial lives suggests that managers construct multiple, competing, and ambiguous narratives of leader selves (Ford, 2010). Relying on the theory of time, Turnbull (2004) argued that
leaders construct and shape their identity by considering the allocation of their social time to the self, interactions with others, and organization, while striving to synchronize with social and organizational practices. Beech (2008) investigated multiple identity narratives of a manager to uncover dialogical process in leadership identity work, conceptualized as a construction of identity meaning. Another study combined observed dramaturgical performance and self-narration to examine how a frontline supervisor constructs his managerial identity (Down & Reveley, 2009). The authors found that managerial identity work consists of interwoven performance and narration processes. In this study, managerial identity was conceptualized similarly to present notion of leader identity. Finally, narrative analysis of identity dynamics among senior figures in an organization undergoing change process suggested that leader’s identity was influenced by the organizational change (Beech & Johnson, 2005). Interestingly, the results suggested that the relationship was reciprocal, so that identity dynamics also influenced the process of change, often in unexpected and unintentional ways.

Identity theory advocates a very different view of leader identity change in that identity is considered to be relatively stable and expected to change only following external shocks, such as role transitions and developmental interventions (I discuss developmental interventions in the next section of the introduction). For example, a study among trainee accountants transitioning into a managerial role, found that new managers experience destabilization of their identity and adopt a new set of practices that shape their managerial identity (Kornberger, Justesen, & Mouritsen, 2011). A similar study among physicians becoming managers found that they experienced an identity conflict and constructed a hybrid identity, grounding their leader identity in the professional identity (Spyridonidis, Hendy, & Barlow, 2015). Because leader identity is closely linked to the leadership role, identity is also expected to change following the
re-definition of such leadership role. A study of first-line managers at a manufacturing plant that recently introduced a teamwork structure found that managers struggled to adapt their leadership role and perform leadership tasks (Rappe & Zwick, 2007).

**Identity in Leader Development**

Leader identity plays a key role in leader development. Early conceptual work proposed that the development of leadership skills is underlined by changes in information processing and underlying knowledge structures, such as identity (Lord & Hall, 2005). Specifically, stronger self-perception as a leader (i.e., leader identity) will prompt an individual to act as a leader and further develop leadership skills (Day & Harrison, 2007). Importantly, scholars propose that leader development will necessarily encompass the transition to more inclusive levels of leader identity (Day & Harrison, 2007; Lord & Hall, 2005). In other words, the path of development from novice to expert leader will require the acquisition of leadership skills and cognitive structures that will allow expanding one’s leader identity to include followers.

Consolidating these theoretical propositions, Day et al. (2009) proposed an integrated model of leader development that encompasses three key elements: development of leader expertise, leader identity, and adult development. The key proposition of this integrated model is the notion of identity-development spiral that describes how individuals seek additional experiences to enhance their leadership skills, which further entrenches a leader identity. In case of a positive identity development spiral, individuals motivated by leadership development program will engage more strongly with their leadership role, receive confirmation for their leadership claims from others, further align leadership behaviors and the role, which will lead to stronger leader identity. The greater self-perception as a leader then motivates individuals to further engage with leadership role. In a case of negative developmental spiral, an individual
fails to assert oneself as a leader, which prevents the alignment between the leadership role and identity, and further diminishes the motivation to take on leadership roles, which will ultimately weaken their identity (DeRue, Ashford, & Cotton, 2009; Ely, Ibarra, & Kolb, 2011).

Self-affirmation theory (Steele, 1988) provides theoretical foundation for the proposed identity-development spiral. Specifically, cycles of adaptive potential describe a series of reciprocally reinforcing interactions between the self and the social system (Cohen & Sherman, 2014). For example, initial self-affirmation may motivate an individual to achieve better performance (i.e., adaptive outcome), which in turn leads to greater self-affirmation. Furthermore, better performance leads others to have greater expectations of the individual, which further improves performance and produces yet greater self-affirmation. Others may also directly affirm the individual’s self through positive feedback (Cohen, Garcia, Purdie-Vaughns, Apfel, & Brzustoski, 2009).

Similar to changes in (leader) identity following work role transitions, leader identity is proposed to change during training interventions, such as leadership development programs. Primarily, this is because the content of the leadership development program will present participants with a new set of identity meanings that might challenge the meaning ascribed to a currently held leader identity. Developmental interventions provide a rich context against which meanings and behaviours contained in leader identity can be evaluated, such as varied experiences, challenging environments, and feedback (Day & Harrison, 2007; Lord & Hall, 2005). Specifically, identity-relevant events or encounters can accentuate the discrepancy between the meanings that oneself and others attach to identity. This will draw one’s attention to the meaning of one’s own identity and compel one to re-construct currently held leader identity to achieve better alignment between the social role and identity (Sveningsson &
Internalizing leader identity that is consistent with personal values and meaning ascribed to identity by others is a form of self-affirmation (Cohen & Sherman, 2014). In addition, leadership development programs will influence leader identity change if these trigger self-reflection about the content and meaning of the currently held leader identity (Day et al., 2009). For example, Andersson (2012) demonstrated how personal development training induced changes in participants’ leader identities by prescribing a normative reflection process.

Overall, the two mechanisms of leader identity change in the context of developmental program—interaction with content and self-reflection—seem to operate in the iterative fashion. One possible sequence of interactions between an individual and the program’s context would be as follows. Leadership development program provides examples of leadership role models, which demonstrate a set of behaviours associated with leader identity. At the same time, the comparison of the self to these role models, triggers self-reflection about the meanings contained within leader identity. Leadership development program compels the participant to “try out” behaviours and assume a leadership role. Acting in the leadership role will produce encounters with others, which will potentially highlight the discrepancy between the content of leader identity and social expectations of the leadership role. This will induce the individual to engage in self-reflection to revise and further align leadership role and identity. This process is consistent with the notion of identity-developmental spirals described above. DeRue and Ashford (2010) proposed a dynamic model of leader identity development and discussed similar iterative processes. Their model is set as series of transactions, whereby an individual is prone to claim a leadership role based on internal self-perception as a leader; this claim is consequently evaluated against social context, specifically, whether others grant leadership. Others can initiate the cycle by “granting”
or authorizing leadership to someone. Over time, the cumulative outcome of such transactions will be that the individual’s leader identity becomes increasingly (or decreasingly) stronger. These propositions have recently been supported empirically (Marchiondo, Myers, & Kopelman, 2015).

Several studies have supported the view that leadership development programs prompt changes in leader identity. Rappe and Zwick (2007) found that after participation in a leadership development program, manufacturing managers reported greater identification with the leadership role. Similarly, behaviour-modelling intervention significantly increased a transformational leader role identity among participating university students, compared to the control group (Waldman, Galvin, & Walumbwa, 2013). Adopting a critical identity lens, Gagnon and Collinson (2014) discussed how participants in leadership development programs resist the regulatory practices prescribed as an idealized leader self. Similarly, a longitudinal, in-depth study found that personal development program provokes identity regulation among participating managers by prescribing a normative identity process (i.e., self-awareness). This identity work undertaken by participants was regulated by participants’ expectations, level of insecurity, and their organizational and professional situations (Andersson, 2012). Another approach to identity construction in the context of leadership development suggests that individuals rely on baseline identity (e.g., manager) to understand, construct, and perform emergent leader identity, and these identities dynamically interact (Carroll & Levy, 2008). Finally, Nicholson and Carroll (2013) were among the first to focus on “identity undoing” or identity work practices aimed at the deconstruction, unravelling, and letting go of identity in the context of a leadership development program.

**Overview of Thesis**
Overall, the thesis contributes to the advancement of leadership development literature by focusing on leader identity as a proximal outcome of leader development. Leader identity is studied at the individual level and focus is on the intrapersonal (i.e., within-person) dynamics of identity change, its antecedents and outcomes.

The first study (Chapter 2) establishes leader identity as an important component of leader development, since identity is proposed to channel the effects of reactions to leadership training on leader effectiveness among a diverse sample of managers. To complement the existing within-person studies, this study adopts a between-person approach to assess in how far differences in reactions to training associate with differences in leader effectiveness. Drawing from affect research, leader identity is proposed to serve as an important motivational mechanism that explains the relationship between leadership training and leader effectiveness. In addition, the study examines the extent to which leadership experience moderates the relationships between leadership training, leader identity, and effectiveness. More experienced leaders are likely to have developed a more complex identity; whereas novices may hold less nuanced self-views (Day & Harrison, 2007; Lord & Hall, 2005).

The study sample was 196 managers from Germany, working for a range of industries and holding a formal leadership position at different hierarchical levels. All respondents have reported undertaking a form of leadership training in the 6 months prior to data collection. Hypotheses were tested using structural equation modelling (SEM) approach. The results suggest that leader identity partially mediated the relationship between reactions leadership training and leader effectiveness. Furthermore, leadership experience creates a boundary condition for this effect, such that leader identity was found to facilitate leader effectiveness following leadership training among less experienced leaders, but not more experienced leaders.
The second study (Chapter 3) utilizes longitudinal data to investigate the process of leader identity change among graduate students undergoing leadership development program. Based on the previous conceptual and empirical evidence, it is proposed that leader identity change will be overall positive, but likely curvilinear. In addition, the study investigates the association between changes in leader identity and changes in two fundamental leadership skills of consideration and initiating structure. Drawing upon self-perception theory (Bem, 1972), leadership skills were proposed to drive the development of leader identity, as individuals infer their identity by observing their overt behaviour. This is a first empirical study in the field that tests the developmental trajectory of leader identity in a truly longitudinal design.

The study sample consisted of 98 graduate students participating in a leader development program. A combination of paper and online questionnaires have been distributed to students weekly for a total of 7 measurement points, thus a longitudinal dataset has been collected. Hypotheses were tested using latent growth curve modelling (Duncan, Duncan, & Strycker, 2006; Wang & Wang, 2012) and latent change score analyses (Ferrer & McArdle, 2010; McArdle, 2009) with changes-to-changes extension (Grimm, An, McArdle, Zonderman, & Resnick, 2012). Results suggest that leader identity develops in a J-shaped pattern during the 7 weeks of the program. In addition, findings demonstrated that previous changes in leadership skill of consideration were significantly related to subsequent changes in leader identity. The previous level, but not changes in, leadership skill of initiating structure were significantly related to the changes in leader identity.

The third study (Chapter 4) extends the findings of the second study into the sample of high-potential executives. The study focuses on investigating the development of eight distinct leadership competencies over time (i.e., 5 months) and
proposes that these competencies will differ in terms of their rate of development, and relationship with antecedents and outcomes. Similar to study 2, the developmental trajectory of leader identity among senior leaders is proposed to be overall positive. Leader identity is also proposed to form differentiated relationships with the distinct leadership competencies. Finally, the influence of leadership competency development on participants’ career outcomes (i.e., job promotion) is assessed.

The sample (N=80) consists of high-potential executives undergoing a corporate leadership development program that included coaching sessions. These participants were nominated for the program as leadership talent. Data on leadership competencies were collected from externally hired coaches. Hypotheses were tested using a hierarchical linear modelling approach (Raudenbush & Bryk, 1992) to account for the multilevel nature of data (time points nested within participants). Results suggest that although all eight leadership competencies developed in a positive, linear fashion, there were significant differences between initial levels and rates of change. Leader identity is found to develop along a positive developmental trajectory and to predict the development in some, but not all, leadership competencies studied. Finally, initial level and change in some leadership competencies were associated with chance of job promotion.

The final chapter, general discussion offers a “big picture” of the present thesis. This includes the discussion of findings from the three studies, their contribution to the literature, and some practical implications.
Chapter 2: Why and When Leadership Training Predicts Effectiveness: The Role of Leader Identity and Leadership Experience

Abstract

Leadership training and development can substantially improve managers’ ability to lead effectively. Unfortunately, our knowledge of why and when this effect holds is relatively sparse. Here, we introduce leader identity as an important mechanism explaining why reactions to leadership training associate with leader effectiveness. We argue that this relationship should be especially pronounced among leaders with little leadership experience. We test our hypotheses using a sample of German managers (N = 196) and find that leader identity indeed mediates the relationship between reactions to leadership training and leader effectiveness. We also find this mediation to be conditional upon leadership experience, such that the indirect effect only holds for less, but not for more, experienced leaders. We discuss implications for the theory and practice of leadership development.

Keywords: Leader identity, leader effectiveness, leadership development, moderated mediation model
Introduction

It is a key question in organizational science and practice: What does it take to foster leadership effectiveness? One answer given is that leaders can become more effective by undergoing training (Day et al., 2014). Research supports the idea that leadership training is beneficial to leadership development: Meta-analytical evidence shows that leadership interventions have an overall positive effect in terms of behavioural and performance outcomes ($d = 0.48$) (Avolio et al., 2009). Leadership training also has a positive effect on leader effectiveness (conceptualized as a behavioural means to facilitate follower task performance; Day & Sin, 2011). Still, although much empirical evidence speaks to an overall positive main effect, our understanding of why and when leadership training results in greater leader effectiveness remains limited, and scholars, accordingly, have called for greater attention to mediating processes and moderating factors (Avolio et al., 2009). In response to these calls, we advance the idea that leader identity serves as an important mechanism explaining the relationship between reactions to leadership training (i.e., how participants evaluate and feel about the training) and leader effectiveness. We also examine the extent to which leadership experience moderates the relationship between reactions to leadership training, leader identity, and effectiveness.

A number of previous studies have used within-person designs to assess how leader identity and/or leader effectiveness change in response to leadership training (e.g., Rappe & Zwick, 2007; Waldman et al., 2013). To complement these within-person studies, we adopt a between-person approach to assess in how far between-person differences in reactions to training associate with between-person differences in leader effectiveness, and whether and how leader identity and leadership experience matter to this relationship. This is important because within-person and between-person
research may yield different and sometimes even contradictory findings (Molenaar & Campbell, 2009).

Trainee reactions describe subjective evaluations of learners about their training experiences (Kirkpatrick, 1976) involving both affective and attitudinal reactions to training (Saks & Burke, 2012). Such reactions are multidimensional in that they that capture perceived liking, utility, and learning (Brown, 2005). Therefore, reactions to leadership training capture more accentuated information about perceived effects of training, than more widely used binary measures of training participation. To test the relationships in the present study, we investigate how reactions to the various types of leadership trainings undergone in the past six months by participants from different organizations relate to their leader identity at present.

We conceptualize leader identity as an individual’s self-perception as a leader related to a particular social role (i.e., leadership role; Stryker & Burke, 2000). Social roles convey socially constructed and negotiated expectations of appropriate behaviour. The greater the alignment between these role expectations and an individual’s leader identity (i.e., who I think I am as a leader), the stronger the leader identity (Hall, 2004). Along with other individual differences (such as personality traits, motivation, and skills) that have been meta-analytically investigated and found to associate with leader effectiveness (DeRue, Nahrgang, Wellman, & Humphrey, 2011; B. J. Hoffman, Woehr, Maldagen-Youngjohn, & Lyons, 2011; Judge, Bono, Ilies, & Gerhardt, 2002), leader identity is an important antecedent to leader effectiveness because it motivates and facilitates leadership behaviour (Day & Dragoni, 2015; Day et al., 2009; DeRue & Ashford, 2010). Empirical evidence suggests that leader identity is positively influenced by training and that leader identity is related to leader effectiveness (Day & Sin, 2011). Extending this line of research, we argue that leader identity serves as a mediator of the
relationship between reactions to leadership training and leader effectiveness. This is because positive reactions to training promote greater engagement with learning and greater alignment of leadership role and identity, which, together, will increase leader effectiveness.

Additionally, we propose leadership experience to moderate the relationship between reactions to leadership training and leader effectiveness. This is because experience is likely to be associated with leader identity; more experienced leaders are likely to have developed a more complex identity, whereas novices may hold less nuanced self-views (Day & Harrison, 2007; Lord & Hall, 2005). Although scholars have acknowledged the importance of such experience-related differences in leader development (McCall, 2004), we miss empirical research into the moderating effect of leadership experience—a gap that we seek to address in this study. In sum, when integrating our arguments on mediation and moderation, we propose that leadership experience will moderate the indirect effect of reaction to leadership training via leader identity to leader effectiveness. Figure 2-1 depicts this integrative model.

![Figure 2-1. Study model](image)

In sum, our study contributes to the extant literature in the following ways. First, we propose and test leader identity as a motivational mechanism that explains the relationship between reactions to leadership training and leader effectiveness. In doing
so, we respond to recent calls to study more proximal indicators of leadership development including self-views such as leader identity (Day & Dragoni, 2015). Second, we investigate the role of leadership experience as a moderator to the relationship between leadership training and leader effectiveness, via leader identity. Although the role of experience in leadership development has been extensively discussed in the conceptual literature (e.g., McCall, 2004a), there is little empirical research into the contextual influence of leadership experience vis-à-vis leadership outcomes. Conceptually, though, there is good reason to expect stark differences in the leader identity of experienced vs novice leaders. Third, previous literature has investigated the relationship between leader identity and leader effectiveness predominantly using samples of students who often lack leadership experience (e.g., Day & Sin, 2011; Miscenko, Guenter, & Day, forthcoming). Therefore, our study adds to the limited set of empirical studies that investigate the link between leader identity and effectiveness in drawing from a diverse sample of managers holding formal leadership positions (e.g., Johnson et al., 2012).

**Hypotheses Development**

**Leader Identity and Effectiveness**

Leader identity is defined as ‘the sub-component of one’s identity that relates to being a leader or how one thinks of oneself as a leader’ (Day & Harrison, 2007, p. 365). Following identity theory (Stryker & Burke, 2000), leader identity is defined by the leadership role that an individual occupies (Gecas, 1982). In other words, the leadership role is associated with social expectations towards the behaviour of the incumbent; therefore, it provides structure and meaning to leader identity. The strength of one’s self-perception as a leader depends on how strongly leadership role and identity align. That is, individuals assess the extent that their leader identity aligns with the leadership
role expectations; greater alignment will then increase the strength of self-perception as a leader. In addition, leader identity is a cognitive schema that stores and organizes information (i.e., knowledge, skills, experiences) attached to a leadership role (Kihlstrom et al., 2003). Thus, identity directs individual behaviour and interactions with others in one’s leadership role.

Theorists suggest that observable, behavioural levels of leadership competence (i.e., effectiveness) are supported by deeper-level mental structures, such as leader identity (Day et al., 2009). We expect that holding stronger leader identity is positively associated with leader effectiveness because identity motivates a leader to actively engage with leadership and affects leader and followers’ behaviour (Day & Sin, 2011). Thinking of oneself as a leader will motivate an individual to act as a leader (Chan & Drasgow, 2001; Fiske, 1992), and therefore engage with leadership. Because identity guides individual behaviour in a specific role and, as a knowledge structure, provides information about skills and competencies underlying these behaviours, holding a stronger leader identity will relate to greater leader effectiveness. This proposition has found empirical support. Leader identity, for example, was positively associated with other-rated leader effectiveness among university students (Day & Sin, 2011). In a sample of higher-level managers, leader identity was positively related to perceived leader effectiveness, and this relationship was mediated by leader behaviour (Johnson et al., 2012). Finally, the motivational effects of leader identity might also spill-over to followers, in that leader identity shapes followers’ behaviours (Hewapathirana, 2012). For example, leader identity motivates leaders to form high-quality relationships with their followers (Chang & Johnson, 2010; Erin M Jackson & Russell E Johnson, 2012). Past research suggests that high-quality leader-follower relationships are linked to leader effectiveness (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012).
Reaction to Leadership Training and Identity

Participation in leadership training may strengthen one’s leader identity because training helps to clarify role expectations and prompts individuals to reflect on their identity. During the leadership training, examples of leadership skills and behaviours are often provided, thus making leader role expectations more salient. This prompts participants to self-reflect and compare their identity against these role expectations. Thus, training promotes greater alignment between a role and one’s identity, therefore, strengthening leader identity. This positive relationship is well established in the empirical literature (e.g., Waldman et al., 2012; Rappe & Zwick, 2007). For example, in a quasi-experimental study, leader role identity was stronger among students participating in a leadership training, as compared to non-participating students (Waldman et al., 2013). Similarly, graduate students developed a stronger leader identity during a leadership development program (Miscenko et al., forthcoming). Similar effects also hold true for managers: Lower-level manufacturing managers developed a stronger identification with their leadership role (i.e., leader identity) during the participation in the leadership training (Rappe & Zwick, 2007). Finally, in a qualitative investigation, Andersson (2012) found a personal development training to provoke identity regulation among senior leaders because it activated a self-reflection process.

Extending this line of research, we propose that the more positive the reaction of leaders to the training the more their leader identity will be strengthened. This is for two reasons specifically. First, affect research suggests that participants experiencing higher positive affect are more engaged in training (Ainley, Hidi, & Berndorff, 2002). Thus, we expect that positive reactions to leadership training will facilitate trainee’s engagement with self-reflection and role-identity alignment, which will strengthen their
leader identity\(^1\). Second, role expectations modelled in the training may be appraised by participants as potentially harmful to the meaning or enactment of an identity (Petriglieri, 2011). For example, Gagnon and Collinson (2014) discussed how participants in leadership development programs resist the regulatory practices prescribed as an idealized leader self. However, if trainees experience positive reactions to a training (e.g., perceive it as useful), their resistance to perceived identity threat will be lower (Petriglieri, 2011), facilitating a greater alignment of role and identity. Thus, we suggest:

*Hypothesis 1: Reactions to leadership training are positively related to leader identity.*

**The Mediating Role of Leader Identity**

Of greater interest to our research is the mediating role of leader identity in explaining the positive relationship between reactions to leadership training and leader effectiveness. We adopt a between-person approach and propose a positive relationship between reactions to leadership training and leader effectiveness, which we expect to be mediated by leader identity. We base these propositions on affect research, which suggests that individuals experiencing higher positive affect also have higher levels of motivation (Brown, 2005). People are motivated to sustain a positive affective state so they strive to continue thinking about or engaging in what they believe created the state (Isen, 1984). In as far leader identity motivates individuals to engage with their

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\(^1\) A related possibility is that stronger leader identity leads to more positive reactions to leadership training, because individuals with stronger leader identity are motivated to seek leadership opportunities and would potentially view those more favourably. However, in the present study, we investigated how past reactions to leadership training (i.e., training undergone in the previous 6 months) related to leader identity.
leadership role, it indeed is a form of motivation, similar to other self-concepts, such as self-efficacy. For example, a recent meta-analysis found that trainee reactions had an overall positive effect on post-training self-efficacy (Sitzmann, Brown, Casper, Ely, & Zimmerman, 2008).

We argue that positive reactions to leadership training are related to the strength of one’s leader identity, which, in turn, motivates participants to engage with leadership, which will render them more effective. Indeed, meta-analytical evidence suggests that both affective training reactions (e.g., whether one enjoys the training) and utility reactions (e.g., whether the training is perceived to be useful) positively associate with the reported use of learned skills and behaviours on the job (Blume, Ford, Baldwin, & Huang, 2010) and job performance (Alliger, Tannenbaum, Bennett, Traver, & Shotland, 1997). In addition, Warhurst (2011) proposed that managerial identity facilitates the transfer of acquired knowledge and skills from formal interventions to workplace performance.

In sum, drawing from existing findings on the positive relationship between leadership training and leader identity (Miscenko et al., forthcoming; Rappe & Zwick, 2007) as well as leader identity and leader effectiveness (Day & Sin, 2011; Johnson et al., 2012), we propose that leader identity is a motivational mechanism that can account for the effect of reactions to leadership training on the subsequent leader effectiveness (see also Day & Dragoni, 2015).

*Hypothesis 2: Leader identity mediates the relationship between reactions to leadership training and leader effectiveness.*

**The Moderating Role of Leadership Experience**

Although we have argued that the relationship between reactions to leadership training and effectiveness is mediated by leader identity, theory and recent research
findings lead us to expect that the strength of this indirect effect will depend on the leadership experience that individuals have. Thus, in this section we examine how leadership experience moderates the indirect effect that reactions to leadership training have on leader effectiveness, via leader identity. We propose that leader identity will only mediate the relationship between reaction to leadership training and leader effectiveness when leaders are less experienced.

It takes years, if not decades, to become an expert in leading (Day et al., 2009). Leaders develop their expertise not only in leadership training but also by accomplishing everyday workplace tasks (Day et al., 2014). In other words, leadership experience contributes to the development of leaders’ knowledge, skills, and competencies (McCall, 2004a, 2010). Empirical evidence suggests that leader effectiveness and performance do improve with the accumulation of leadership experience (Avery, Tonidandel, Griffith, & Quinones, 2003; Bettin & Kennedy, 1991). Similarly, past leadership experience predicts future leader effectiveness (Atwater, Dionne, Avolio, Camobreco, & Lau, 1999). In addition, the job performance literature suggests that the gap between typical and maximum individual performance decreases the more experienced the jobholder is (Sackett, Zedeck, & Fogli, 1988). More experienced leaders operate closer to their potential maximum performance levels (i.e., leader effectiveness); this implies that the potential (effectiveness) gains to be reaped from leadership training are much larger for less experienced leaders than more experienced leaders.

We propose that leader identity partially explains why more experienced leaders have less to gain (in terms of effectiveness increases) from leadership training than less experienced leaders (i.e., first-stage moderated mediation model; Edwards & Lambert, 2007). Leader identity changes with the accumulation of leadership experience (Day et
such that leader identity becomes more complex as it encompasses qualitatively different sets of knowledge and skills (Lord & Hall, 2005). For example, Mumford, Campion, and Morgeson (2007) found that leaders require different and more complex configurations of skills as they move up the organizational levels, which is closely associated with growing experience. More experienced leaders already possess a complex cognitive structure that encompasses their accumulated experiences and skills, and a solidified understanding of their leadership role (i.e., strong alignment of the leadership role and leader identity). Thus, while experienced leaders may react positively to training and may be well engaged in training, their leader identity will strengthen less than in less experienced leaders. This is because experienced leaders have more clear leadership role expectations and achieve a greater alignment between the role and identity. Less experienced leaders, however, are more likely to have less clear role expectations and their identity and role will be less aligned, so that a positive reaction to training will motivate them to engage with learning and will strengthen their leader identity.

Furthermore, experienced leaders are not only likely to operate closer to their maximum performance level (Sackett et al., 1988), but they are also more likely to possess an expert-level leader identity (Lord & Hall, 2005). Leader identity directs effective leadership behaviour by structuring the knowledge and skills associated with the leadership role, including those [knowledge and skills] acquired in a leadership training. Because more experienced leaders already have advanced to an expert-level in leadership (that is, their leadership skills are more complex and developed), they are less likely to acquire new skills that would further improve their leader effectiveness. In contrast, less experienced leaders rely on formal training to acquire novel skills and
knowledge that will increase their effectiveness in the leadership role (Hirst, Mann, Bain, Pirola-Merlo, & Richver, 2004).

**Hypothesis 3:** Leadership experience will moderate the strength of the mediated relationship between reactions to leadership training and leader effectiveness via leader identity, such that the mediated relationship will be weaker when leadership experience is high than low.

**Method**

**Participants and Procedure**

Authors asked five of their graduate university students to recruit participants for this study. The students approached managers from several German organizations and asked them to participate in a study on leadership training. Participants were approached using personal contact or cold-calling letters. Further, participants were encouraged to invite their network to participate in the survey (snowball sampling). Questionnaires were administered online and all measures were self-reported. Study scales were translated into German using the collaborative and iterative translation approach (S. P. Douglas & Craig, 2007).

To obtain the final sample used to test the hypotheses we first eliminated the respondents who failed to provide ratings for all study variables (N = 57). Second, we only retained participants who indicated that they had followed a leadership or management training in the previous six months (N=196). Participants reported having spent an average of 54 hours (SD = 83) in leadership training in the past half year. We also asked participants to report the type of training they undertook. Many reported having attended lectures and discussions (56%), experiential learning (51%), feedback (39%), role-playing (37%), coaching and mentoring (32%), among others. The number of subordinates that leaders were responsible for ranged from 1 to 3500 (M = 90, SD =
which indicates that all study participants occupied a formal leadership position in their respective organizations. Of the participants, 17% were female and the average age was 46.5 years. Participants worked in a wide range of German industries: The majority worked in electronics (63.8%), tourism (6.6%), banking and financial services (4.6%), consulting (4.1%), and other industries (20.9%).

**Measures**

To measure the reactions to leadership training, we used the reactions to training scale (Wexley & Baldwin, 1986) which is based on the first level of Kirkpatrick (1976) model of training evaluation. In line with suggestions (Brown, 2005; Morgan & Casper, 2000), we adopted a multidimensional measure of trainee reactions. The scale consisted of five items, capturing perceived learning (i.e., ‘I learned a lot’), utility (‘I would recommend this program to colleagues’), and intent (‘I think I will use the skills I have learned’). Participants were asked to rate all items on a seven-point scale (1 = strongly disagree, 7 = strongly agree). The scale demonstrated an acceptable reliability ($\alpha = 0.92$).

To measure leader identity, we used 4 items from the leader self-identity scale developed by Hiller (2005). Previous research supports the validity and reliability of this scale (see Day & Sin, 2011). Participants were asked to rate on a seven-point scale (1 = not at all descriptive to 7 = extremely descriptive) how descriptive each statement was of them. Sample items are ‘I am a leader’ and ‘I prefer being seen by others as a leader’. The scale exhibited an acceptable reliability ($\alpha = 0.79$).

Leader effectiveness was measured using a 5-item scale developed by Day and Sin (2011). We modified the items to refer to a broader work setting, as originally these were developed to measure leader effectiveness in a team setting. The items reflect leadership behaviours for the successful completion of project (work) goals (e.g.,
supporting, setting direction, encouraging learning). In addition, to mitigate potential self-reporting biases, the referent for the scale was changed, that is, respondents were asked to indicate how their subordinates would presumably evaluate their leader effectiveness (Gosling, John, Craik, & Robins, 1998). A sample item is “This person helps to set the direction in meeting project goals”. Scale demonstrated an acceptable reliability (α = 0.81).

Leadership experience was measured using a one-item scale devised specially for this study. Respondents were asked to indicate how many years they had been in a formal leadership role. We chose to focus on formal leadership positions as an indication of leadership experience because such information is easier to recall for participants. In addition, although leadership experience may be acquired in informal leadership roles (Murphy & Johnson, 2011), formal workplace experiences are most beneficial for leadership development (McCall, 2010).

**Control variables.** We controlled for gender, as prior evidence suggests that men and women may differ in their leader self-perception (Day & Sin, 2011). For example, females rated themselves lower on a range of leadership competencies (Mayo, Kakarika, Pastor, & Brutus, 2012). We controlled for the number of subordinates participants had. A larger number of subordinates may increase leader’s role complexity (e.g., coordination becomes more difficult), and thus may decrease effectiveness. Finally, we controlled for the number of hours participants reported spending in training, because longer interventions may be have larger impact on leader identity and effectiveness (Avolio et al., 2009).

Prior to forming various scales for analyses, we conducted a confirmatory factor analysis using covariance matrix and maximum likelihood estimation to examine the distinctiveness of the study variables. Results of the proposed three-factor structure
(reactions to leadership training, leader identity, and leader effectiveness) demonstrated a reasonable fit with the data, $\chi^2 (74) = 206.23, p < 0.01$, root-mean-square of approximation (RMSEA) = 0.09, standardized root-mean-square residual (SRMR) = 0.07, comparative fit index (CFI) = 0.91. To test for discriminant validity of study constructs, we compared the three-factor model with a one-factor model and a two-factor model that combined leader effectiveness and leader identity. Nested model comparisons demonstrated that the three-factor model was superior to alternative models, as both one-factor model ($\Delta \chi^2 (77 – 74 = 3) = 1307.45, p < 0.00$) and two-factor model ($\Delta \chi^2 (76 – 74 = 2) = 214.93, p < 0.01$) showed a significantly worse fit.

Results

Descriptive statistics, intercorrelations, and Cronbach’s alphas for all study variables are presented in Table 2-1. Leader effectiveness is positively and significantly correlated with both reactions to leadership training and leader identity, as well as leadership experience.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tbody>
<tr>
<td>1 Gender</td>
<td>.17</td>
<td>.38</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2 Number of subordinates</td>
<td>90.6</td>
<td>399.3</td>
<td>-.072</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3 Number of training hours</td>
<td>54.0</td>
<td>83.0</td>
<td>-.175*</td>
<td>.170*</td>
<td></td>
<td></td>
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<tr>
<td>4 Reactions to leadership training</td>
<td>5.28</td>
<td>.96</td>
<td>.005</td>
<td>.045</td>
<td>.245**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Leader identity</td>
<td>5.26</td>
<td>.95</td>
<td>-.019</td>
<td>-.026</td>
<td>.095</td>
<td>.188*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Leadership experience</td>
<td>12.55</td>
<td>9.28</td>
<td>-.184*</td>
<td>.084</td>
<td>.036</td>
<td>-.077</td>
<td>.115</td>
<td></td>
</tr>
<tr>
<td>7 Leader effectiveness</td>
<td>5.86</td>
<td>.53</td>
<td>-.015</td>
<td>.118</td>
<td>.116</td>
<td>.370***</td>
<td>.308***</td>
<td>.166*</td>
</tr>
</tbody>
</table>

Note: N ranged from 188 to 193.
*p < .05, **p < .01, ***p < .001.
We tested our hypotheses using hierarchical linear regression (Hypothesis 1) and structural equation modelling (SEM, Hypotheses 2 and 3) approaches. SEM provides important advantages over other testing approaches (e.g., OLS regression), as it allows to incorporate measurement error (Sardeshmukh & Vandenberg, 2013). Analyses in this study were performed using SPSS and Mplus (version 7.1; Muthén & Muthén, 1998-2012). Prior to hypotheses testing, we centred our independent, mediation and moderation variables to reduce nonessential collinearity between these variables and their product terms (Aiken & West, 1991; Dalal & Zickar, 2012; Edwards & Lambert, 2007). As control variables, we included gender, number of subordinates, and number of training hours in all analyses. We obtained standard errors, indirect effects, and 95% confidence intervals using bootstrapping procedures (n = 5000) (Preacher, Rucker, & Hayes, 2007), when testing mediation and moderation hypotheses. The use of bootstrapped confidence intervals avoids the power problems of asymmetry and non-normal sampling distributions of an indirect effect (MacKinnon, Lockwood, & Williams, 2004).

Hypothesis 1 proposed that reactions to leadership training would be positively related to leader identity. The results of hierarchical linear regression suggest that while controlling for gender, number of subordinates, and number of training hours, reactions to leadership training are positively and significantly related to leader identity (β=.186, p<.01). Hypothesis 1 is thus supported.
Table 2-2

Path analysis results for testing mediation in Hypothesis 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>β</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variable: Leader effectiveness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.048</td>
<td>.079</td>
<td>.581</td>
<td>.561</td>
</tr>
<tr>
<td>Number of subordinates</td>
<td>.000</td>
<td>.000</td>
<td>1.294</td>
<td>.196</td>
</tr>
<tr>
<td>Number of training hours</td>
<td>.000</td>
<td>.001</td>
<td>.123</td>
<td>.902</td>
</tr>
<tr>
<td>Reactions to leadership training</td>
<td>.178</td>
<td>.038</td>
<td>4.703</td>
<td>.000</td>
</tr>
<tr>
<td>Leader identity</td>
<td>.177</td>
<td>.042</td>
<td>4.262</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Dependent variable: Leader identity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reactions to leadership training</td>
<td>.202</td>
<td>.074</td>
<td>2.727</td>
<td>.006</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bootstrap results for indirect effect</th>
<th>β</th>
<th>SE</th>
<th>LL 95% CI</th>
<th>UL 95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.036</td>
<td>.016</td>
<td>.015</td>
<td>.068</td>
<td>.023</td>
</tr>
</tbody>
</table>

Note: LL = lower limit. CI = confidence interval. UP = upper limit. Bootstrap sample size = 5000. All predictor variables were mean-centred.

Hypothesis 2 proposed that leader identity mediates the relationship between reactions to leadership training and leader effectiveness. To test the proposed mediation, we used path analytic techniques in order to model several related regression relationships simultaneously (Muthén & Muthén, 1998-2012). We find that reactions to leadership training were positively related to leader effectiveness ($\beta = 0.18, p < 0.01$, see Table 2-2) and leader identity ($\beta = 0.20, p < 0.01$). We also find that leader identity is positively related to leader effectiveness ($\beta = 0.18, p < 0.01$). Moreover, the indirect effect of reactions to leadership training on leader effectiveness through leader identity was significant ($\beta = 0.04, SE = 0.02, p < 0.05$, bootstrapped 95% CI: 0.02 0.07).

Hypothesis 2 is thus supported.
Hypothesis 3 predicted that leadership experience would moderate the indirect effect of leader identity for the reactions to training to leader effectiveness relationship, such that the mediated relationship will be weaker when leadership experience is high. To assess the moderated mediation effect (Preacher et al., 2007), we examined different conditional indirect effects of reactions to leadership training on leader effectiveness, via leader identity, across low and high levels of the leadership experience. Moderated mediation is demonstrated when the conditional indirect effect of reactions to leadership training on leader effectiveness, via leader identity, differs in strength across low and high levels of leadership experience (Preacher et al., 2007). We operationalized high and low levels of leadership experience as one standard deviation above and below the mean.

Table 2-3 presents the estimates, standard errors, t statistics, and significance value of the conditional indirect effects for reactions to leadership quality across low, mean, and high levels of leadership experience. For the first-stage moderated mediation model, we find an overall significant positive interaction effect of the reactions to leadership training and leadership experience on leader identity (mean $\beta = 0.04$, $p <$
0.05). Further, results show that the conditional indirect effects of reactions to leadership training were positive and significant in the low leadership experience condition ($\beta = 0.06$, SE $= 0.02$, $p < 0.05$, bootstrapped 95% CI: 0.02, 0.10), but not in the high leadership experience condition ($\beta = 0.02$, SE $= 0.02$, ns, bootstrapped 95% CI: -0.02, 0.06). Thus, Hypothesis 3 is supported.

**Discussion**

The present study adds to the existing leadership development literature by examining when and why reactions to leadership training manifest in greater leader effectiveness. Although the relationships between leadership training and subsequent effectiveness has been established in the literature (Day & Sin, 2011; Miscenko et al., forthcoming; Waldman et al., 2013), prior research has rarely addressed the mechanisms and boundary conditions of this relationship. Different from a more commonly used within-person approach in training research (e.g., pre and post-test design), we adopt a between-person approach to investigate how affective and attitudinal reactions to leadership training influence leader identity, and consequently, effectiveness. In addition, we proposed that these relationships would be dependent upon leadership experience.

We find leader identity to indeed mediate the effects of leadership training on leader effectiveness. Furthermore, our results indicate that leadership experience moderates these relationships. Specifically, we show that the mediating effect of leader identity is stronger for less experienced leaders, as compared to more experienced leaders. We suggest that this is because more experienced leaders already possess a stronger leader identity that incorporates expert-level leadership skills. In the following, we discuss both theoretical and practical implications of our findings.
Theoretical Implications

The present study adds to a growing body of literature that investigates leader identity in the context of leader and leadership development (Day & Dragoni, 2015). Recent theoretical advancements in this domain suggest that leader identity plays an integral role in facilitating the effective development of leadership skills and cognitions (Day et al., 2009; Lord & Hall, 2005). Similarly, while limited, research suggests that leader identity is malleable as it changes over the course of training interventions (e.g., Miscenko et al., forthcoming). It is also been shown to positively relate to leader effectiveness among students (Day & Sin, 2011). Our study helps advance this line of research by developing and testing an integrative model incorporating reactions to leadership training, leader identity, and leader effectiveness. Our findings establish leader identity as a mechanism that explains the effects of reactions to leadership training on leader effectiveness. Specifically, leadership training provides an opportunity for leaders (especially, the less experienced ones) to align their leadership role and identity by clarifying role expectations and by reflecting systematically about themselves. Our findings also suggest that reactions to leadership training positively associate with leader identity. Possibly, this is because strong affective reactions promote greater engagement with learning and help to overcome a perceived identity threat. Our findings further indicate that leader identity serves as a motivational mechanism that carries forward the effect from reactions to leadership training to leader effectiveness. This is in line with affect research, which suggests that individuals experiencing higher positive affect also have higher levels of motivation (Brown, 2005). Thus, leader identity is posited as a more proximal indicator of leadership development (see Day & Dragoni, 2015).
Whereas several recent studies investigated leader identity among students not yet occupying a formal leadership role (Day & Sin, 2011; Miscenko et al., forthcoming; Waldman et al., 2013), the present study provides evidence for the importance of leader identity among formal leaders. Our findings suggest that, in line with conceptual propositions, leader identity is influenced by training (i.e., Day et al., 2009), and more importantly, leader identity predicts leader effectiveness among individuals who hold formal leadership roles. Although much leadership research has been centred on formally appointed leaders (DeRue, 2011), the same is not true for leadership development research, which has often relied on student samples. To address this imbalance in the literature, our study establishes the feasibility of the leader identity construct in a sample of formal leaders.

More generally, because leader identity is one of many identities that individuals can assume at the workplace (as defined by work roles), our study offers some insights and implications for the broader literature on work identities. First, our findings suggest that workplace training can have profound effects on employees’ work identity and subsequent performance in the role. Whereas changes in work identity have been extensively studied in the literature (Miscenko & Day, 2016), only a handful of studies investigated the effects of organizational training on identity. This is unfortunate because in focusing on training effects in terms of skills and knowledge, one may overlook the more complex consequences of training in terms of work identity. Thus, future research should constructively replicate our findings and assess whether our findings also hold for other work identities (e.g., professional identity, creative identity). Second, as evident from a recent review of the individual work identity literature, the number of qualitative studies in the field clearly outnumbers its quantitative counterparts (Miscenko & Day, 2016). Our ambition with this study, thus, was to
quantify the effects of leader identity in the context of leader development and training (e.g., Andersson, 2012). Our findings should encourage others to use quantitative means to assess the consequences of leader identity thereby starting to counterbalance the predominant qualitative focus in the field. We believe that the field has matured enough to allow for such quantitative assessment of the antecedents and effects of leader identity (Edmondson & McManus, 2007).

Leadership experience has been extensively investigated as a predictor of leader effectiveness (e.g., Atwater et al., 1999; Avery et al., 2003). However, notwithstanding the recognized importance of experience in leadership development (McCall, 2010), our study is the first to empirically test in how far leadership experience moderates the relationship between leadership training and leadership effectiveness. In our study, we find this expected moderation effect, and we demonstrate how it alters the mediating effect of leader identity. Specifically, we show that for more experienced leaders the mediating effect of leader identity from reactions to leadership training to leader effectiveness is less strong than for less experienced leaders.

Finally, our study contributes to the literature on trainee reactions, particularly, in the leader development domain. In the recent meta-analysis of antecedents and outcomes of trainee reactions, only a few studies out of those 136 that were analysed were related to leadership or managerial training (Sitzmann et al., 2008). However, as our findings suggest, reactions to training can have profound cognitive and performance implications for leadership. By capturing trainees’ affective and attitudinal reactions, research could potentially explain some of the variance in outcomes of leadership interventions. Put differently, the way that participants feel about the training will determine how much they learn about leadership and to what extent they implement new skills and behaviours in the workplace. Considering that trainee reactions is the
most popular form of training evaluation in the industry (Brown, 2005), this also becomes an important practical issue.

**Practical Implications**

Our results imply that in order to yield effectiveness gains, more experienced leaders require different developmental interventions than less experienced leaders (Day et al., 2009). For example, experienced leaders may be better served with training covering more complex knowledge domains given their extensive skill-set (Hirst et al., 2004). Because experienced leaders are more likely to operate at their maximum performance levels (Sackett et al., 1988), their development is better facilitated by more challenging and longer interventions. In other words, senior leaders may benefit more from leadership development rather than leadership training (Day, 2012). Leadership training is typically shorter-term and aims to train leaders in proven solutions to known problems, thus it is more suited for novice leaders; whereas leadership development is longer term and aims to enhance the individual’s capacity to deal with unknown issues, thus it should target more experienced leaders (Day & Harrison, 2007; Fitzgerald, 1992).

Leader development and training offered to experienced leaders should last considerably longer than training offered to novice leaders. However, this is often not the case. Our data suggests that leadership experience was not associated with more training hours (i.e., non-significant correlation). A meta-analysis of leadership interventions research reports a median intervention length of just three to six hours (Avolio et al., 2009). Such short training is not likely to induce any changes in skills or behaviours and consequently effectiveness of more experienced leaders, as they already possess the “easy-to-learn” skills (Lord & Hall, 2005). This proposition is supported by
the present study, as our result show that shorter leadership training did not affect leader effectiveness (via leader identity) if leaders were more experienced.

**Limitations and Future Research**

The study has several limitations. First, we employed a cross-sectional design to collect data, which prevents us from establishing a strong causality. However, we tried to alleviate this concern by using a retrospective measure for our independent variable (asking participants to report training in the previous six months). Still, future research should aim to replicate these findings by means of a longitudinal study, including follow-up measures, in order to substantiate the causal relationship between leader identity and leader effectiveness. Second, all data is self-reported. However, because we were interested in investigating how self-perception as a leader (i.e., leader identity) is affected by leadership training, we sought to rather measure participants’ reactions to training, which provides a more rich assessment of the training utility than a binary measure of participation. In addition, previous research suggests that moderation effects are rather unlikely to be influenced by common method bias (Evans, 1985). Nevertheless, we encourage scholars to investigate if leader identity also affects more objective ratings of leader effectiveness and to use multi-source data to substantiate our findings.
Chapter 3: Am I a Leader? Examining Leader Identity Development over Time

Abstract

The extent to which someone thinks of him- or herself as a leader (i.e., leader identity) is subject to change in a dynamic manner because of experience and structured intervention, but is rarely studied as such. In this study, we map the trajectories of leader identity development over a course of a seven-week leader development program. Drawing upon identity theory (Kegan, 1983) and self-perception theory (Bem, 1972), we propose that changes in self-perceived leadership skills are associated with changes in leader identity. Using latent growth curve modelling and latent change score analyses as our primary analytical approaches, we analysed longitudinal data across seven measurement points (N=98). We find leader identity to develop in a J-shaped pattern. As hypothesized, we find that these changes in leader identity are associated with, and potentially shaped by, changes in leadership skills across time.

Keywords: leader development, leader identity, leadership skills, latent growth curve modelling, latent change score analysis
Introduction

Leader development is inherently longitudinal (Day, 2011b) involving a process by which leaders acquire relevant experiences, skills, behaviours, and knowledge over time (Lord & Hall, 2005). Robust research evidence demonstrates the value and benefits of interventions in developing leaders (for review see Avolio et al., 2009), but offers little insight into the longitudinal processes of leader development (Day & Dragoni, 2015). In addressing this oversight, leader identity has been proposed as a critical component of the leader development process (Day & Harrison, 2007). In proposing an integrative approach to leader development, Day, Harrison, and Halpin (2009) hypothesized that the observable, behavioral level of leadership skills is supported by deeper level mental structures, such as self-perception as a leader (i.e., leader identity). Nonetheless, the development of leader identity over time and its association with leadership skills have not been addressed in any detail in the empirical literature. We address these issues by focusing on intraindividual trajectories of leader identity over time (i.e., leader identity change). We use longitudinal modeling across seven measurement points to investigate leader identity change and its association with self-perceived leadership skills as a function of participation in a structured leader development program.

Identity can be conceptualized in various ways using a myriad of theoretical and methodological frameworks (see Miscenko & Day, 2016, for a comprehensive review of this literature). In the present study, identity refers to an individual’s self-definition based on a relatively stable set of meanings associated with a particular role (Stryker & Burke, 2000), as compared with other conceptualizations of identity such as those grounded in social categories such as gender or race (e.g., Hogg, 2001) or those that view identity as part of an ongoing personal narrative striving for coherence (McAdams,
2006). Relatedly, it has been proposed that leader identity develops along four dimensions: (a) meaning, (b) strength, (c) integration, and (d) level (Hammond, Clapp-Smith, & Palanski, in press). In the present study, we focus on the dimensions of meaning and strength, as they are central to how we operationalize and measure leader identity. Meaning refers to the definition of leadership held by an individual (Burke, 2006) whereas strength refers to the extent to which an individual identifies as a leader. In this manner, leader identity incorporates connotations an individual assigns to a leadership role (i.e., meaning) and the degree of self-definition as a leader (i.e., strength).

Identity is important in the leader development process because it is thought to motivate individuals to seek out developmental experiences and opportunities to practice relevant leadership behaviours (Day et al., 2009). Recent theorizing has positioned leader identity as a proximal outcome of leader development, as leader identity links individual capabilities with more distal outcomes related to deep-level changes associated with adult development such as more complex meaning-making structures (Day & Dragoni, 2015; Lord & Hall, 2005). Correspondingly, we believe that the content of the focal leader development program prompts participants to engage in identity work (Alvesson & Willmott, 2002), which motivates leader identity change. Specifically, we propose that a leader development program presents a new set of identity meanings, which motivates participants to re-construct their currently held meaning of leader identity, and this will manifest in changing strength of leader identity (i.e., identity change). In addition, opportunities to practice leadership skills will strengthen an individual’s self-perception as a leader and therefore motivate leader identity change.
Although research has greatly advanced our understanding of how individuals acquire and accumulate leadership skills over time (e.g., Dragoni, Oh, Vankatwyk, & Tesluk, 2011), we argue that skills-based approaches alone cannot capture the complex nature of leader development. Thus, here, we follow recent theoretical work that conceptualizes leader development as changes in both leadership skills and leader identity (Day et al., 2009; Lord & Hall, 2005). We investigate how self-perceived changes in leadership skills (i.e., initiating structure and consideration) relate to leader identity change (operationalized as changes in the strength of self-perception as a leader) among participants in a leader development program. We propose that leadership skills are inherently related to observed changes in leader identity and one of the primary aims of this research is to better understand that relationship. This is consistent with self-perception theory (Bem, 1972) whereby individuals draw inferences about their identity from perceptions of their own behaviour. This theoretical framework is especially relevant to studying leader identity development because, we cannot know who we are until we see what we do (Ashforth & Schinoff, 2016). We use sophisticated longitudinal modelling techniques in the form of latent growth curve modelling (LGM) and latent change score (LCS) analyses to study the dynamic (and potentially reciprocal) relationships between leadership skills and leader identity change as a function of participation in a seven-week leader development program.

Overall, the present study contributes to the existing literature in several important ways. First, we track the development of leader identity over a period of two months by empirically mapping the underlying change trajectory across participants. Although leader identity has generated much interest among leadership researchers (e.g., Day & Dragoni, 2015; Van Knippenberg, 2011), few studies have investigated the longitudinal development of identity in the context of leader development programs,
and most existing studies tend to be qualitative in nature (Andersson, 2012; Nicholson & Carroll, 2013). An exception is Day and Sin (2011) who assessed changes in leadership effectiveness over time and how those changes covary with leader identity (i.e., identity conceptualized as a time-varying covariate of effectiveness as a leader). The present study focuses on leader identity development as a proximal developmental outcome (Day & Dragoni, 2015), and hypothesizes and tests antecedents that are thought to predict leader identity change (e.g., leadership skills).

Second, we incorporate behavioural and information-processing theories of leadership by investigating how leadership skills relate to changes in leader identity over time. In doing so, we address criticism suggesting that different streams of leadership research have not been sufficiently integrated (DeRue, Nahrgang, Wellman, & Humphrey, 2011). This also allows us to more fully describe the process of leader development and complement the current literature that tends to focus on single dimensions of leader development.

Third, we respond to calls to more fully account for the role of time in leadership and the longitudinal nature of leader development (Day, 2011a; Riggio & Mumford, 2011). Because leader development represents a dynamic phenomenon, within-person research based on repeated measures offers the potential to greatly advance our understanding of the processes that underlie leader development (Shipp & Cole, 2015). Relatedly, we demonstrate the flexibility and usefulness of applying a novel analytical framework (Latent Change Score analysis; McArdle, 2009) in studying change-related issues in leader development research.
Conceptual Background and Hypotheses Development

Leader Identity Change

Leader identity refers to the “sub-component of one’s identity that relates to being a leader or how one thinks of oneself as a leader” (Day & Harrison, 2007, p. 365). As a type of cognitive schema, leader identity serves as a repository for information and knowledge attached to a leadership role (Lord & Hall, 2005), and directs an individual’s behaviour and interactions in leadership roles and processes (Day et al., 2009). For example, leader identities were found to relate uniquely to the frequency of transformational and abusive leader behaviours (Johnson et al., 2012), self– or group–serving behaviours (Giessner, Van Knippenberg, & Sleebos, 2009; Rus, Van Knippenberg, & Wisse, 2010), and others’ perceptions of someone’s leadership effectiveness (Day & Sin, 2011).

As noted previously, identity theory conceptualizes identity as a relatively stable and enduring entity, yet driven by an underlying dynamic homeostasis operating continuously in a self-adjusting feedback loop (Burke, 1991). Thus, more long-term identity changes are thought to be unusual, difficult, and externally initiated (Ashforth & Schinoff, 2016; Miscenko & Day, 2016). Examples of such external events affecting a particular social role are work role transitions and participation in professional development activities. External events expose an individual to a new set of identity meanings, which could conflict with the meaning ascribed to the specific role-related identity. This conflict prompts an individual to re-construct the meaning of his or her currently held identity (Hall, 2004; Ibarra, 1999; Sveningsson & Alvesson, 2003), which manifests itself in changing identity strength (i.e., identity change). In general, this process is conceptualized as identity work, defined as “forming, repairing, maintaining, strengthening or revising the constructions that are productive of a
precarious sense of coherence and distinctiveness” (Alvesson & Willmott, 2002, p. 626). For example, Ibarra (1999) found that young professionals transitioning into more senior managerial work roles engaged in identity work by constructing provisional professional identities that helped in exploring various meanings of the new role (also see Pratt, Rockmann, & Kaufmann, 2006).

In leader development programs, participants are often confronted with an idealized description of a leadership role (e.g., examples of prominent leaders), which may motivate a re-construction of the meaning of one’s identity as a leader (Gagnon & Collinson, 2014), while also changing the strength of that identity. For example, comparing oneself to other influential leaders or more general representations of leaders is positively associated with individual motivation to lead (Guillén, Mayo, & Korotov, 2015), which is related, but not identical, to leader identity. Similarly, students exposed to transformational leadership examples reported a significant increase in transformational leader role identity compared to a control group (Waldman, Galvin, & Walumbwa, 2013). Self-reflection that is often induced by leader development interventions also facilitates such leader identity re-construction (Day et al., 2009). Andersson (2012) reported that identity construction undertaken by managers participating in a personal development program was partly because the program prescribed self-awareness as a normative identity process.

Based on the available theoretical and empirical evidence, we propose that participants in a leader development program experience leader identity changes. Specifically, the program promotes leader identity changes by offering participants various new descriptions of the leadership role through presentation of different leadership theories and examples of prominent leaders. Participants also engage in discussions that expose them to leadership views and meanings held by others. In
addition, such a program encourages participants to engage in guided self-reflection that also encourages leader identity change.

Despite the general expectation of leader identity change during a leadership development program, there is little available theoretical guidance to hypothesize the underlying form of such identity change. In some of the only previous empirical research on longitudinal changes in leader identity, Day and Sin (2011) successfully modelled leader identity as a time-varying covariate of curvilinear changes in leadership effectiveness. Specifically, the overall form of that change was shown to be generally negative across time with a positive trend in the last measurement period; however, having a stronger self-rated leader identity was associated with higher other-rated leadership effectiveness across four measurement points. Conversely, other empirical evidence suggests that leader identity tends to become stronger as an outcome of leader development interventions (Waldman et al., 2013). Extending these previous findings, we propose that the structural form of leader identity change is likely to be curvilinear and becoming stronger over time. As noted by researchers in the field of life-span development (e.g., Baltes, 1987; Baltes, Reese, & Lipsitt, 1980), development involves an underlying dynamic between gains and losses, which renders perfectly linear forms of development as unlikely. We believe that this gain/loss dynamic also applies to leader identity change.

There are other theoretical reasons to expect curvilinear forms of development. Prominent adult development theorists propose that identity is unlikely to develop linearly toward more positive self-perception (Kegan, 1983; Levinson, 1978). For example, evolutionary views on identity construction suggest that adaptation to a new role involves generating variations of identity to select or discard different possibilities as a preliminary step in constructing a new and consistent identity (Yost, Strube, &
Bailey, 1992). In line with this perspective, Ibarra (1999) found that professionals generate various possible selves following career transitions and retain or discard some of these provisional identities based on internal evaluation of compatibility and external feedback. During a transition, movement towards a specific new identity is accompanied by a growing commitment to this identity (Ibarra & Petriglieri, 2010).

Despite this positive movement, the uncertainty about new identity in light of multiple possible selves also creates negative dynamics of identity construction. In other words, there are presses both toward and away from a new identity. More specific to this research is the identity construction process associated with the context of leader development initiatives. For example, initial qualitative evidence suggests that participants in a longitudinal leader development program struggled to redefine their leader identity and went through a considerable period of uncertainty as to the meaning of leadership (Nicholson & Carroll, 2013). Similarly, Lemler (2013) conceptualized negative changes in leader identity as temporary disengagement from leadership. Thus, participants in a leader development program confronted with new meanings of a leadership role are likely to construct several provisional leader identities (i.e., ongoing revisions of one’s identity as a leader) to then retain, discard, or revise, which will ultimately strengthen their self-perception as a leader. However, after a period of initial doubt, individuals are thought to be able to construct a coherent sense of self in a leadership role. This is all part of ongoing identity work.

Hypothesis 1: The trajectory of leader identity change among the participants in a leader development program will be curvilinear with identity becoming stronger over time.
Leader Identity and Leadership Skill

Historically, leader development has been closely linked to leadership skill acquisition (Day & Dragoni, 2015; Day et al., 2009) and several typologies of leadership skills have been introduced differentiating skill requirements by organization level (e.g., Mumford et al., 2007). Across all organizational levels, interpersonal behaviour skills (e.g., consideration and initiating structure) are important for leaders and their development (Lord & Hall, 2005; Mumford et al., 2007). Meta-analytical results further suggest that interpersonal skills predict important leadership outcomes such as follower job satisfaction and leader effectiveness (DeRue et al., 2011; Judge, Piccolo, & Ilies, 2004). In addition, changes in behavioural skills are considered to be antecedents of changes in leader performance and potentially shape other proximal outcomes of leader development such as leader identity (Day & Dragoni, 2015; Van Iddekinge, Ferris, & Heffner, 2009).

We propose that participants’ engagement with the development of interpersonal leadership skills in a leader development program will strengthen their self-perception (i.e., identity) as leaders. This is consistent with self-perception theory (Bem, 1972), which postulates that individuals derive information about their attributes and beliefs from observing their own behaviour. For example, Tice (1992) demonstrated that presenting oneself as having a certain quality (i.e., extraversion) in public, increased self-perceptions of possessing that quality (i.e., “I am extraverted”). Because identity is closely aligned with a social role and particular role-related behaviours, we propose that experience of a particular behaviour will affect the related identity (Rise, Sheeran, & Hukkelberg, 2010). In other words, individuals thinking and acting as leaders will perceive themselves as more leader-like.
The notion of identity-development spirals (Day et al., 2009) suggests that leader identity change could be either positive or negative. In case of a positive identity development spiral, individuals will exercise their leadership skills, receive confirmation for their leadership claims, further align leadership behaviors with a leadership role, which will lead to stronger self-perceptions as a leader. Stronger leader identity then motivates an individual to further develop leadership skills through engagement with leadership. In case of a negative developmental spiral, at some point in time an individual fails to assert effective leadership, which prevents the alignment between the leadership role and identity. This further diminishes the motivation to exercise leadership skills, which will ultimately weaken leader identity (DeRue, Ashford, & Cotton, 2009; Ely, Ibarra, & Kolb, 2011). We expect that leader development programs designed to improve leadership skills do so by engaging participants in skill-enhancing experiences. We further argue that these experiences will manifest in leader identity change. As noted previously, self-perception theory postulates that identity is inferred and reinforced through observing the self as acting like a leader.

*Hypothesis 2: Changes in self-perceived leadership skills (initiating structure and consideration) are related to changes in leader identity.*

**Method**

**Participants and Procedure**

Participants were postgraduate students (*N*=98) engaged in a seven-week leadership course at a Dutch business school. The course was designed to provide students with academic knowledge on leadership and motivate them to reflect on their own leadership capabilities. Students met in small groups (12-15 participants) twice a week for two hours. Each session included an interactive presentation on selected
leadership topics by two students, including videos, role-plays, and group discussions. A pre-reading was required before attending each session. All students (including those absent in the session) were required to submit several pages of reflection on the session’s topic, including how it relates to their own leadership practice. In addition, roughly half of the students \( (N=48) \) took part in a short (two hour) leader development workshop in the second week of the course, whereas the other half completed the same workshop in the sixth week of the course. The workshop was designed using a behaviour modelling training approach (Taylor, Russ-Eft, & Chan, 2005) to give participants a better understanding of leadership behaviours (e.g., initiating structure, consideration) and was intended to supplement the content of the seven-week development course. Subsequent evaluation indicated that the workshop had no statistically significant effects on self-reported skills or identity changes.

Despite the many calls to more fully incorporate time in leadership theory and empirical research (e.g., Day, 2011a; Shamir, 2011) little guidance is available to determine the optimal length of an intervention. The length of the leader development program in the present study is comparable to other studies on leader emergence in higher education populations, such as work from Sorrentino and Field (1986) who measured changes in student leadership ratings over the course of five weeks. Other studies used substantially shorter time frames (i.e., 3-6 hours) but still found significant effects (see Avolio et al., 2009), which supports our confidence in the seven-week timescale.

For the majority of students (80%), the course formed a mandatory part of their curriculum. All students enrolled in the course were approached with an offer to participate in the research study; 92% volunteered and completed the first questionnaire. Only students that completed the first questionnaire were retained in the sample. In
exchange for participation, students had the possibility to request a personalized leadership profile that outlined their self-ratings on personality and leader identity including suggestions for future leader development. These profiles were distributed to participants several weeks after completion of the course. 45% of the respondents were female and the average age was 23.4 years. Respondents had 12.6 months full-time work experience, on average, prior to enrolling in the current study program. 40% of respondents were currently employed for an average of 12 hours per week, and 16 (16%) participants reported having a supervisory position at their current place of employment.

Questionnaires were distributed to participants once a week by tutors at the end of the class. In addition, an e-mail reminder was sent at the end of the day to all students to allow those who were absent from class to fill-in the questionnaire online. The total duration of the study was eight calendar weeks (one week was excluded due to public holidays). Participants received the first questionnaire in week 1 (T0), the second questionnaire in week 3 (T1), the third questionnaire in week 4 (T2), and so on for a total of seven measurement points. On average, respondents completed 6.5 surveys; the response rate varied between 88.8% and 100% (93.4% on average).

Measures

Leadership skills were conceptualized according to the Ohio State two-factor leader behaviour model of initiating structure and consideration (Fleishman, 1973). Initiating structure refers to clarifying task responsibilities, providing direction, and letting subordinates know what is expected of them. Consideration refers to showing concern for employees’ well-being, expression of support, and display of warmth and approachability (Lambert, Tepper, Carr, Holt, & Barelka, 2012) (Fleishman, 1973; Lambert et al., 2012). To measure initiating structure and consideration we adopted the
scale developed by Lambert et al. (2012). The items were modified, as participants rated themselves and not their leader. To reduce potential self-report bias, the referent for the scale was changed so that the respondents were asked to describe how others would assess their behaviour, instead of providing an explicit self-assessment (Schat & Frone, 2011). We did so based on empirical findings indicating that by asking employees to change their perspective, socially desirable responding tendencies are reduced, yielding more accurate ratings of one’s performance (Schoorman & Mayer, 2008).

Both leadership skill dimensions were measured at each time period using three items. A sample item from the consideration scale was “Acting concerned for others personal welfare.” A sample item for initiating structure was “Encouraging others to use uniform procedures”. Participants were asked to rate the items on a five-point scale (1 = definitely not to 5 = definitely yes). Leadership skills were measured every week. In all questionnaires, except for the first one, we instructed respondents to rate their behaviour of the last seven days. This was necessary to identify possible changes in skills over time. Across seven measurement periods the consideration scale (α = 0.71 – 0.84) demonstrated acceptable reliability. The initiating structure scale (α = 0.63 – 0.83) had an acceptable reliability at all measurement points, except T3 (see Table 3-2).

Leader identity was measured using the descriptive sub-scale items from the leader self-identity scale developed by Hiller (2005). The sub-scale was developed to measure the extent to which respondents considered leader identity as descriptive of themselves. The sub-scale was used in previous longitudinal research demonstrating acceptable reliability (α = 0.80-0.86; Day & Sin, 2011). Participants were asked to rate on a five-point scale (1 = not at all descriptive to 5 = extremely descriptive) how self-descriptive each statement was. Sample items are ‘I am a leader’ and ‘I prefer being seen by others as a leader’. This leader identity measure was included in all weekly
questionnaires. Similar to leadership skill measurement, participants were asked to rate the items with the previous seven days in mind (this applied for all weekly surveys except the first one). This was done to better capture the weekly development of leader identity. Across the seven measurement points the scale exhibited acceptable reliability ($\alpha = 0.79$-$0.90$).

**Control variables.** We controlled for a number of demographic characteristics, work and leadership experiences, as well as Big Five personality traits (total of 11 control variables). First, prior empirical evidence suggests that there might be a difference in leader self-perceptions between males and females (Day & Sin, 2011). Second, meta-analytical evidence suggests that some personality traits are related to leadership (Judge, Bono, Ilies, & Gerhardt, 2002). Finally, leadership experience—and, relatedly, age—contributes to the development of leadership skills (McCall, 2010).

**Analytical Strategy**

Latent growth curve modelling (LGM) (Duncan, Duncan, & Strycker, 2006; Wang & Wang, 2012) and Latent Change Score (LCS) analyses (Ferrer & McArdle, 2010; McArdle, 2009) were used to test the hypotheses. Both of these modelling approaches allow estimating leader identity change as well as leadership skills changes as separate and distinct latent constructs. LGM is a type of structural equation modelling technique used to model the outcome growth trajectory, including the initial levels of the outcome, the form of the growth trajectory, and the rate of change (Wang & Wang, 2012). LGM models describe data by estimating latent intercept and slope growth factors that have a mean and variance parameter, so that both the overall growth trajectory and individual variation in trajectories can be estimated.

LCS extends LGM as it allows modelling dynamic relations between several constructs as these develop over time (Ferrer & McArdle, 2010). Specifically, LCS is
used to examine dynamic (i.e., lead-lag) reciprocal relationships related to individual differences in change. In a bivariate LCS model, latent intercepts and slopes are modelled as typically done in LGM. However, the unique feature of LCS is that it explicitly models a latent change variable for each individual that represents the change (i.e., gains or losses) in the true score between two adjacent time points. The traditional bivariate change model posits that changes in one variable (e.g., change in leader identity from time $t-1$ to time $t$) are dependent on a constant change component that differs across individuals (e.g., leader identity slope, $\mu_a$), the previous true state of the same variable (within-construct; e.g., leader identity at time $t$, $\beta$), and the previous true state of another variable (cross-construct; e.g., leadership skill at time $t$, $\gamma$, also referred to as a coupling parameter). This traditional model is useful for examining how the previous level of one variable influences the subsequent changes in another variable.

In the present study, however, we were interested to examine whether previous changes in one variable (i.e., changes in leadership skills) influence the subsequent changes in another variable (i.e., changes in leader identity). Therefore, we adopted the changes-to-changes extension of bivariate LCS developed by Grimm et al. (2012) that allows examining how prior changes relate to subsequent changes by modelling these changes as distinct latent constructs. In addition to estimating the parameters described above, the changes-to-changes extension of bivariate LCS allows researchers to assess whether subsequent changes in one variable (i.e., changes in leader identity from time $t-1$ to time $t$) are dependent on the previous within-construct changes (i.e., changes in leader identity from time $t-2$ to time $t-1$, $\phi$) and the previous cross-construct changes (i.e., changes in leadership skills from time $t-2$ to time $t-1$, $\xi$). Thus, the changes-to-changes extension of bivariate LCS model provides a more complex dynamic system framework to account for the influence of recent changes on subsequent changes. In the
present study, this allows us to examine whether changes in leader identity from $t-1$ to $t$ are impacted by changes in leadership skill from $t-2$ to $t-1$. Figure 3-1 presents a simplified path diagram of a bivariate LCS model and changes-to-changes extension with two factors: leader identity and leadership skills.
Figure 3-1. Bivariate latent change score model with changes to changes extension for leader identity and leadership skills. Adapted from Grimm et al. (2012). This is a simplified representation of a bivariate latent change score model.
Analytical Technique

Traditional bivariate LCS models as well as changes-to-changes extensions were fit to repeated measures of leader identity and leadership skills (initiating structure and consideration) in an exploratory nature (i.e., all models were fitted and compared). Following Grimm et al. (2012), nested models were compared using likelihood ratio tests (change in -2 log-likelihood with respect to the change in the number of estimated parameters) and information criteria (Akaike’s Information Criterion (AIC) and Bayesian Information Criterion (BIC)).

We evaluated goodness-of-fit by using the chi-square value (Wang & Wang, 2012) and a number of fit indices, such as comparative fit index (CFI), Tucker-Lewis index (TLI), and root mean square error of approximation (RMSEA). Acceptable model fit was indicated by the following values: CFI and TLI above .90, RMSEA below .08 with a 90% confidence interval between 0 and .08 (Hu & Bentler, 1999; Wang & Wang, 2012). In accordance with recommendations on longitudinal organization research using LCS analysis (e.g., Li et al., 2014), we did not use standardized root mean square residual (SRMR) to assess model fit.

All analyses in this study were performed using the Mplus statistical software (version 7.1; Muthén & Muthén, 1998-2012). The model parameters were estimated using maximum-likelihood estimation with robust standard errors. In LGM analyses, the residual variances of leader identity were estimated as equal over time in all models (Byrne & Crombie, 2003). To fulfil measurement invariance criteria for LCS, within-construct errors were constrained to equality across measurement occasions.

Models. Bivariate models were fit in two steps. First, we fitted the following four traditional bivariate LCS models: a model with no coupling parameters (i.e., no relationships between skills and identity; Model 1a); level of identity leading to changes
in leadership skill (initiating structure or consideration; Model 2a); level of leadership skill leading to changes in leader identity (Model 3a); and bidirectional coupling model that includes both coupling parameters (Model 4a). The best fitting model was retained for second step estimations. Second, models included parameters examining how prior changes related to subsequent changes. The first model (Model 1b) added the within-construct changes to changes parameters. Next, two models were estimated to include one cross-construct changes-to-changes parameter: changes in leader identity as a predictor of changes in leadership skill (Model 2b) or changes in leadership skill as a predictor of changes in leader identity (Model 3b). Finally, Model 4b included the estimation of both cross-construct changes-to-changes parameters.

Results

Dimensionality of Study Variables

Confirmatory factor analyses were conducted to demonstrate the distinctiveness of study variables at each of the measurement occasions. Results show that a three-factor model (leader identity, initiating structure, and consideration) yielded an acceptable fit to the T0 data: $\chi^2(32) = 51.42, p < .01, \text{CFI} = .93, \text{RMSEA} = .079$. This model fit the data better than an alternative two-factor model combining the two leadership skills variables: $\chi^2(34) = 120.66, p < .001, \text{CFI} = .687, \text{RMSEA} = .161$; and a one-factor model combining all the three variables: $\chi^2(35) = 149.90, p < .001, \text{CFI} = .585, \text{RMSEA} = .183$. Similar results were obtained for data collected at the other six waves with three-factor model yielding adequate fit to the data and alternative models resulting in poorer model fit (see Table 3-1). These results suggest our measures were distinct from each other for all seven occasions. Table 3-2 presents descriptive statistics and intercorrelations for all study variables.
Effect of Leadership Workshop

As noted previously, workshop participation was unrelated to other study variables. Bootstrapped independent samples t-tests indicated that participants in the earlier workshop were not significantly different from participants in the later workshop in terms of the demographic variables, leader identity, or leadership skills (i.e., initiating structure and consideration) for any of the measurement points. Workshop participation did not have any significant effects on self-rated leadership skills or leader identity.2

Sample Homogeneity

Before testing our hypotheses we calculated an intraclass correlation coefficient (ICC1 = 0.57), indicating that approximately 57% of the variance in individual-level leader identity scores is attributable to between-individual differences, whereas the remainder is a function of within-individual differences over time. We conducted some exploratory analyses to ensure sample homogeneity. We used growth mixture modelling (GMM), which allows researchers to identify any unobserved subpopulations in longitudinal data and to predict differences in intercepts and slopes among two or more latent classes (Wang & Bodner, 2007). The fit indices suggested that the 2-class solution did not provide a better fit than a 1-class (initial model) solution (BIC = 1339.39, entropy = 0.78, Adjusted LRT = 6.41, ns), therefore, we concluded that the sample was fairly homogenous in terms of developmental trajectories.

2 The workshop could be considered as a leadership intervention in itself. However, it was intended to supplement the 7-week development program, and as such is nested within the larger intervention. The nonsignificant results suggest that the effects of the longer and more comprehensive 7-week intervention overshadowed any effects of the workshop.
Table 3-1

Results of confirmatory factor analyses

<table>
<thead>
<tr>
<th>Time</th>
<th>Model</th>
<th>$\chi^2$ (df)</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time 0</td>
<td>3-factor model</td>
<td>51.42 * (32)</td>
<td>.930</td>
<td>.079</td>
</tr>
<tr>
<td></td>
<td>2-factor model</td>
<td>120.66*** (34)</td>
<td>.687</td>
<td>.161</td>
</tr>
<tr>
<td></td>
<td>1-factor model</td>
<td>149.91*** (35)</td>
<td>.585</td>
<td>.183</td>
</tr>
<tr>
<td>Time 2</td>
<td>3-factor model</td>
<td>52.21* (32)</td>
<td>.932</td>
<td>.085</td>
</tr>
<tr>
<td></td>
<td>2-factor model</td>
<td>127.88*** (34)</td>
<td>.685</td>
<td>.177</td>
</tr>
<tr>
<td></td>
<td>1-factor model</td>
<td>175.89*** (35)</td>
<td>.528</td>
<td>.214</td>
</tr>
<tr>
<td>Time 3</td>
<td>3-factor model</td>
<td>44.16 (32)</td>
<td>.967</td>
<td>.064</td>
</tr>
<tr>
<td></td>
<td>2-factor model</td>
<td>71.25*** (34)</td>
<td>.899</td>
<td>.108</td>
</tr>
<tr>
<td></td>
<td>1-factor model</td>
<td>169.48*** (35)</td>
<td>.634</td>
<td>.202</td>
</tr>
<tr>
<td>Time 4</td>
<td>3-factor model</td>
<td>64.62 *** (32)</td>
<td>.914</td>
<td>.106</td>
</tr>
<tr>
<td></td>
<td>2-factor model</td>
<td>131.19*** (34)</td>
<td>.745</td>
<td>.177</td>
</tr>
<tr>
<td></td>
<td>1-factor model</td>
<td>221.14*** (35)</td>
<td>.511</td>
<td>.242</td>
</tr>
<tr>
<td>Time 5</td>
<td>3-factor model</td>
<td>52.56* (32)</td>
<td>.950</td>
<td>.085</td>
</tr>
<tr>
<td></td>
<td>2-factor model</td>
<td>114.02*** (34)</td>
<td>.804</td>
<td>.164</td>
</tr>
<tr>
<td></td>
<td>1-factor model</td>
<td>190.25 *** (35)</td>
<td>.620</td>
<td>.225</td>
</tr>
<tr>
<td>Time 6</td>
<td>3-factor model</td>
<td>44.49 (32)</td>
<td>.969</td>
<td>.064</td>
</tr>
<tr>
<td></td>
<td>2-factor model</td>
<td>95.85*** (34)</td>
<td>.847</td>
<td>.138</td>
</tr>
<tr>
<td></td>
<td>1-factor model</td>
<td>184.69*** (35)</td>
<td>.629</td>
<td>.212</td>
</tr>
<tr>
<td>Time 7</td>
<td>3-factor model</td>
<td>36.71(32)</td>
<td>.990</td>
<td>.041</td>
</tr>
<tr>
<td></td>
<td>2-factor model</td>
<td>150.90***(34)</td>
<td>.752</td>
<td>.200</td>
</tr>
<tr>
<td></td>
<td>1-factor model</td>
<td>209.03***(35)</td>
<td>.630</td>
<td>.240</td>
</tr>
</tbody>
</table>

Note: *p < .05 **p < .01 ***p < .001
Table 3-2

Means, standard deviations, reliabilities and correlations of study variables

| Consideration | Mean | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  |
|---------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Time 0        | 4.23 | .55 | .71 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Time 2        | 4.16 | .60 | .54 | .79 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Time 3        | 4.13 | .68 | .28 | .34 | .80 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Time 4        | 4.12 | .71 | .47 | .48 | .60 | .83 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Time 5        | 4.15 | .57 | .50 | .51 | .35 | .45 | .76 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Time 6        | 4.11 | .65 | .25 | .31 | .37 | .43 | .40 | .81 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Time 7        | 4.11 | .72 | .48 | .47 | .39 | .55 | .40 | .45 | .84 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

| Initiating structure | Mean | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  |
|----------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Time 0               | 3.57 | .74 | .08 | .08 | .24 | .11 | .08 | .15 | .05 | .71 |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Time 2               | 3.48 | .70 | .07 | .05 | .07 | .07 | .08 | .04 | .60 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Time 3               | 3.46 | .66 | .17 | .08 | .34 | .26 | .06 | .22 | .17 | .63 |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Time 4               | 3.43 | .75 | .03 | .13 | .08 | .19 | .16 | .03 | .08 | .18 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |
| Time 5               | 3.44 | .76 | .16 | .17 | .08 | .11 | .31 | .20 | .14 | .26 | .50 | .40 | .33 | .79 |     |     |     |     |     |     |     |     |     |
| Time 6               | 3.56 | .70 | .19 | .13 | .36 | .28 | .26 | .30 | .33 | .24 | .40 | .59 | .38 | .48 | .73 |     |     |     |     |     |     |     |     |
| Time 7               | 3.60 | .84 | .02 | .05 | .22 | .02 | .19 | .19 | .15 | .38 | .42 | .45 | .36 | .53 | .57 | .83 |     |     |     |     |     |     |     |     |

| Leader identity     | Mean | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  | SD  |
|---------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Time 0              | 3.25 | .75 | .10 | .07 | .00 | .08 | .03 | .10 | .06 | .36 | .17 | .12 | .22 | .27 | .16 | .23 | .80 |     |     |     |     |     |     |
| Time 2              | 3.11 | .80 | .27 | .19 | .18 | .23 | .15 | .07 | .07 | .17 | .38 | .28 | .23 | .29 | .27 | .17 | .58 | .81 |     |     |     |     |     |     |
| Time 3              | 3.08 | .95 | .10 | .12 | .30 | .15 | .06 | .04 | .01 | .14 | .19 | .26 | .20 | .28 | .30 | .26 | .50 | .57 | .88 |     |     |     |     |     |
| Time 4              | 3.07 | .90 | .15 | .05 | .30 | .22 | .08 | .05 | .02 | .22 | .24 | .12 | .34 | .22 | .18 | .19 | .58 | .60 | .72 | .83 |     |     |     |     |
| Time 6              | 3.20 | .91 | .23 | .09 | .20 | .20 | .11 | .28 | .23 | .19 | .06 | .10 | .20 | .32 | .32 | .24 | .50 | .45 | .53 | .55 | .71 | .89 |     |     |
| Time 7              | 3.38 | .96 | .24 | .01 | .20 | .03 | .14 | .14 | .11 | .33 | .21 | .19 | .17 | .28 | .41 | .49 | .26 | .44 | .51 | .63 | .69 | .68 | .90 |     |

Note: All coefficients in bold significant at p < 0.05. Reliabilities in parentheses.
Hypothesis 1: Leader Identity Trajectory

Hypothesis 1 predicted that overall leader identity trajectory would be positive and curvilinear. To estimate the most appropriate overall functional form of the leader identity developmental trajectory, we followed modelling procedures outlined by Duncan et al. (2006). Time was included in the model with intercept and slope loadings fixed at 0, 2, 3, 4, 5, 6, and 7, to accurately represent the measurement points in the data (week 1 missing due to public holiday). The fit indices of the identified models are presented in Table 3-3.

First, we estimated a null (fixed intercept-only model) and then subsequently freed model parameters (i.e., random-intercept model, random intercept fixed slope, random intercept random slope models). A model with linear slope resulted in an adequate fit to the data: \( \chi^2 (29) = 58.1, p < .01, \text{CFI} = .917, \text{TLI} = .940, \text{RMSEA} = .101 \). Finally, we modelled a nonlinear slope of leader identity by including the quadratic change latent factor. This model exhibited a better fit: \( \Delta \chi^2 (4) = 24.17, p < .001, \text{CFI} = .974, \text{TLI} = .979, \text{RMSEA} = .060 \). The model with a cubic latent slope factor was non-identifiable. The trajectory parameters for the model with quadratic change latent factor were all significant (intercept \( \beta = 3.25, p < .001 \); linear slope \( \beta = -.11, p < .001 \); quadratic slope \( \beta = .02, p < .001 \)). Overall, these analyses suggest that leader identity develops in a curvilinear fashion (i.e., J-shape, see Figure 3-2). Thus, Hypothesis 1 is supported.

We further assessed whether any of the control variables had an effect on the intercepts and slopes of leader identity trajectory (see Appendix 1). A quadratic trajectory model with 11 control variables exhibited adequate fit: \( \chi^2 (69) = 93.13, p < .05, \text{CFI} = .940, \text{RMSEA} = .063 \). Results suggest that one of the Big 5 personality traits (extraversion) had a significant effect on the initial level (i.e., intercept) of leader identity. Therefore, we control for extraversion in the subsequent analyses. All other
tested relations were insignificant and thus were not included in tests of our hypotheses to preserve maximum statistical power.

Figure 3-2. Leader identity developmental trajectory among study participants (Hypothesis 1). Note: Week 1 excluded due to public holiday.

**Hypothesis 2: Lagged effects of leadership skills**

Hypothesis 2 predicted that leadership skills are related to change in leader identity. To examine the relationships between leader identity and leadership skills over time, we first examined the growth trajectories of leadership skills using LGM. We proceeded by fitting several LCS models, starting with traditional LCS models: correlated growth model only (Model 1a); a leader identity to leadership skill coupling only model (Model 2a); a leadership skill to leader identity coupling only model (Model 3a); and a full, bidirectional-coupling model (Model 4a). Retaining the best fitting model from the previous step, we further fitted models with changes-to-changes extension: within-construct changes to changes parameters only model (Model 1b); changes in leader identity as a predictor of changes in leadership skill only model (Model 2b); changes in leadership skill as a predictor of changes in leader identity only model (Model 3b); and full model with both cross-construct changes-to-changes parameters (Model 4b).
<table>
<thead>
<tr>
<th></th>
<th>Intercept-only model (null)</th>
<th>Random-intercept model</th>
<th>Random intercept, fixed slope model</th>
<th>Random intercept, random slope model</th>
<th>Random intercept, random slope model with quadratic term</th>
</tr>
</thead>
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<tr>
<td>( \chi^2 ) (df)</td>
<td>389.44*** (33)</td>
<td>75.48*** (32)</td>
<td>73.60*** (31)</td>
<td>58.10** (29)</td>
<td>33.93 (5)</td>
</tr>
<tr>
<td>( \Delta \chi^2 ) (df)</td>
<td>313.96*** (1)</td>
<td>1.88 (1)</td>
<td>15.5*** (2)</td>
<td>24.17*** (4)</td>
<td></td>
</tr>
<tr>
<td>CFI</td>
<td>.000</td>
<td>.876</td>
<td>.878</td>
<td>.917</td>
<td>.974</td>
</tr>
<tr>
<td>TLI</td>
<td>.351</td>
<td>.918</td>
<td>.917</td>
<td>.940</td>
<td>.979</td>
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<tr>
<td>RMSEA</td>
<td>.332</td>
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<td>.118</td>
<td>.101</td>
<td>.060</td>
</tr>
<tr>
<td>RMSEA: 90% CI</td>
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<td>.084 - .152</td>
<td>.084 - .154</td>
<td>.063 – .139</td>
<td>.001 - .107</td>
</tr>
<tr>
<td>Residual variance</td>
<td>.795***</td>
<td>.345***</td>
<td>.344***</td>
<td>.315***</td>
<td>.291***</td>
</tr>
</tbody>
</table>

Note: *p < .05 **p < .01 ***p < .001
Initiating structure. Following the same procedure that we used when testing for the most appropriate functional form of the leader identity trajectory, we found a random intercept random slope model with a quadratic change latent factor to yield the best fit to the data: $\chi^2 (25) = 17.43$, ns, CFI = .998, TLI = .999, RMSEA = .001. The trajectory parameters were significant (intercept $\beta = 3.58$, p<.001; linear slope $\beta = -.08$, p<.05; quadratic slope $\beta = .01$, p<.05). This suggests that the developmental trajectory of changes in initiating structure skill is similar to that of leader identity changes.

Fit statistics for the four bivariate LCS models and four models with changes-to-changes extension for leader identity and initiating structure skill are contained in Table 3-4. First, we focus on traditional LCS bivariate Models 1a to 4a. Based on the likelihood fit statistics, Model 3a estimating level of initiating structure leading to changes in leader identity was considered the best representation of the dynamics between leader identity and initiating structure ($-2LL = 2237$, parameters = 22). This model fit significantly better than the no coupling Model 1a ($\Delta-2LL = 17$, $\Delta$parameters = 1, p<.001) or the full bidirectional Model 4a ($\Delta-2LL = 4$, $\Delta$parameters = 1, p<.05). The model fit indices cannot be directly compared between Model 2a (estimating level of leader identity leading to changes in initiating structure) and Model 3a, because these are not nested. Therefore, we relied on information criteria to compare these models. Model 3a had lower values on all three information criteria, thus it was selected as the best fitting model. Finally, Model 3a yielded an adequate fit to the data: CFI = .947, TLI = .950, RMSEA = .057. This model was retained for the next stage of analysis.

The second series of bivariate Models 1b to 4b that included prior changes as predictors of subsequent changes were fit. Models 1b, 2b, and 4b were non-identifiable. Model 3b was estimated with initiating skill to leader identity coupling parameter and the parameter from prior changes in initiating structure to subsequent changes in leader
identity. However, this model was not significantly better than Model 3a ($\Delta$-2LL = 5, $\Delta$parameters = 3, ns). Therefore, we selected Model 3a as the best representation of the dynamics between leader identity and initiating structure.

Parameter estimates along with standard errors from Model 3a are presented in Table 3-5. As evident from the dynamic parameters ($\beta$ and $\gamma$), which describe the interplay between initiating structure and leader identity, prior level of initiating structure but not leader identity positively predicted subsequent changes in leader identity. Thus, based on Model 3a, it appears that when an individual self-perceived a lower level of initiating structure skill in the previous week, the more rapid the decrease in subsequent leader identity. We did not find any evidence that previous changes in initiating structure predicted subsequent changes in leader identity.

**Consideration.** When estimating the most appropriate form of consideration trajectory, a random intercept random slope model yielded the best fit to the data: $\chi^2 (29) = 42.70$, $p<.05$, CFI = .930, TLI = .949, RMSEA = .069. The trajectory parameters were significant (intercept $\beta = 4.21$, $p<.001$; linear slope $\beta = -.02$, $p<.05$) which suggests a linear and negative change trajectory in consideration skills.

In the following, we report the results associated with traditional LCS bivariate models (Model 1a to 4a). Based on the likelihood fit statistics, the model that included no coupling parameters, that is, Model 1a (-2LL = 2106, parameters = 21) was considered the best representation of the dynamics between leader identity and initiating structure. When adding the coupling parameter linking previous level of leader identity to change in consideration skill (Model 2a) the model fit did not significantly improve ($\Delta$-2LL = 0, $\Delta$parameters = 1, ns). Models 3a and 4a were non-identifiable. Model 1a yielded an adequate fit to the data: CFI = .902, TLI = .908, RMSEA = .078), and was thus retained for the next stage of analysis.
Table 3-4

**Fit statistics for traditional bivariate latent change score models and changes to changes extension (initiating structure)**

<table>
<thead>
<tr>
<th></th>
<th>Traditional bivariate latent change score models</th>
<th>Changes to changes extension</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model1a No coupling</td>
<td>Model2b^ No changes to changes coupling</td>
</tr>
<tr>
<td></td>
<td>-2LL (parameters)</td>
<td>-2LL (parameters)</td>
</tr>
<tr>
<td></td>
<td>2254 (21)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>AIC</td>
<td>-2LL (parameters)</td>
</tr>
<tr>
<td></td>
<td>2296</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>BIC</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>2348</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>ABIC</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>2282</td>
<td>-</td>
</tr>
</tbody>
</table>

Note. LID = Leader identity; IS = Initiating structure; -2LL = -2 log-likelihood; AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; ABIC = sample size adjusted Bayesian Information Criterion.
The effect of extraversion on the intercept of leader identity and initiating structure was controlled for in all analyses.
^Model could not be identified (iterations = 100,000, convergence = .0001, coverage = .0001).
#Selected model.
Table 3-5

*Parameter estimates for chosen bivariate latent change score model (3a) fit to leader identity and initiating structure data*

<table>
<thead>
<tr>
<th></th>
<th>Leader identity</th>
<th>Initiating structure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Parameter</td>
<td>SE</td>
</tr>
<tr>
<td>Intercept $\mu_{y0}$</td>
<td>1.32</td>
<td>.369</td>
</tr>
<tr>
<td>Slope $\mu_{s}$</td>
<td>-5.19\textsuperscript{t}</td>
<td>2.91</td>
</tr>
<tr>
<td>Level of same variable on changes $\beta$</td>
<td>-.334\textsuperscript{t}</td>
<td>.181</td>
</tr>
<tr>
<td>Level of another variable on changes $\gamma$</td>
<td>1.80</td>
<td>.775</td>
</tr>
<tr>
<td>Changes in same variable on changes $\phi$</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Changes in another variable on changes $\xi$</td>
<td>--</td>
<td></td>
</tr>
</tbody>
</table>

Note: The effect of extraversion on the intercept of leader identity and initiating structure was controlled for in all analyses.

\textsuperscript{t} Non significant parameter

-- indicates parameter was not estimated
The second series of bivariate models (Model 1b to 4b) that were fit included prior changes as predictors of subsequent changes. Of these models, Model 4b that included all changes-to-changes parameters (but not level-to-changes parameters) yielded the best fit to the data (-2LL = 2094, parameters = 25). This model fit significantly better than the traditional bivariate model without any coupling parameters (M4b vs. M1a: Δ-2LL = 12, Δparameters = 4, p<.05), a model with only within-construct changes-to-changes coupling parameters (M4b vs. M1b: Δ-2LL = 12, Δparameters = 2, p<.001), or a model with prior changes in leader identity to subsequent changes in consideration (M4b vs. M2b: Δ-2LL = 9, Δparameters = 1, p<.001). Model 3b was non-identifiable. Therefore, Model 4b was selected as the best representation of the dynamics between leader identity and initiating structure. This model yielded an adequate fit to the data: CFI = .914, TLI = .917, RMSEA = .074.

Parameter estimates along with standard errors from Model 4b are reported in Table 3-7. Focusing on the dynamic parameters (β, φ, and ξ), subsequent changes in leader identity were negatively impacted by the prior level of leader identity, the prior changes in leader identity, and the prior changes in consideration. Thus, based on Model 4b, it appears that weekly changes in leader identity increased at a slower pace when the participant reported a higher level of leader identity in the previous week. In addition, we found that when leader identity increased (decreased) in the previous week, subsequent leader identity decreased (increased). More interesting, when consideration skill increased (decreased), leader identity decreased (increased) in the subsequent week. In addition, our findings suggest that previous changes in consideration skill were negatively impacted by the prior changes in consideration skill, but not leader identity.

Overall, our findings offer partial support to Hypothesis 2.
<table>
<thead>
<tr>
<th></th>
<th>Model1a</th>
<th>Model2a</th>
<th>Model3a^</th>
<th>Model4a^</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No coupling</td>
<td>LID [t-1] → ΔCON[t]</td>
<td>CON [t-1] → ΔLID[t]</td>
<td>Bidirectional coupling</td>
</tr>
<tr>
<td>-2LL (parameters)</td>
<td>2106 (21)</td>
<td>2106 (22)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>AIC</td>
<td>2148</td>
<td>2150</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>BIC</td>
<td>2201</td>
<td>2205</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ABIC</td>
<td>2134</td>
<td>2136</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Model1b</th>
<th>Model2b</th>
<th>Model3b^</th>
<th>Model4b#</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No changes to changes coupling</td>
<td>ΔLID [t-1] → ΔCON[t]</td>
<td>ΔCON [t-1] → ΔLID[t]</td>
<td>Bidirectional coupling</td>
</tr>
<tr>
<td>-2LL (parameters)</td>
<td>2106 (23)</td>
<td>2103 (24)</td>
<td>-</td>
<td>2094 (25)</td>
</tr>
<tr>
<td>AIC</td>
<td>2152</td>
<td>2151</td>
<td>-</td>
<td>2144</td>
</tr>
<tr>
<td>BIC</td>
<td>2209</td>
<td>2211</td>
<td>-</td>
<td>2207</td>
</tr>
<tr>
<td>ABIC</td>
<td>2137</td>
<td>2136</td>
<td>-</td>
<td>2128</td>
</tr>
</tbody>
</table>

Note. LID = Leader identity; CON = Consideration; -2LL = -2 log-likelihood; AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; ABIC = sample size adjusted Bayesian Information Criterion.

^ Model could not be identified (iterations = 100,000, convergence = .0001, coverage = .0001).

# Selected model.
# Table 3-7

Parameter estimates for chosen bivariate latent change score model (4b) fit to leader identity and consideration data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Leader identity</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Parameter estimate</td>
<td>SE</td>
</tr>
<tr>
<td>Intercept $\mu_{y0}$</td>
<td>1.19</td>
<td>.321</td>
</tr>
<tr>
<td>Slope $\mu_{s}$</td>
<td>.653</td>
<td>.268</td>
</tr>
<tr>
<td>Level of same variable on changes $\beta$</td>
<td>-.201</td>
<td>.086</td>
</tr>
<tr>
<td>Changes in same variable on changes $\phi$</td>
<td>-1.17</td>
<td>.193</td>
</tr>
<tr>
<td>Changes in another variable on changes $\xi$</td>
<td>-1.10</td>
<td>.539</td>
</tr>
</tbody>
</table>

Note: The effect of extraversion on the intercept of leader identity and consideration was controlled for in all analyses.

$^t$ Non significant parameter

-- indicates parameter was not estimated
Discussion

Leadership researchers increasingly recognize the important role that identity processes play in motivating and supporting leaders’ personal growth (Day & Dragoni, 2015; Day & Harrison, 2007; Day et al., 2009; Van Knippenberg, Van Knippenberg, De Cremer, & Hogg, 2004). In response to recent calls for more longitudinal research on leader development (Day, 2011a; Riggio & Mumford, 2011), the present study examined the identity work in participants of a leader development program over a seven-week period by modelling changes in leader identities. Our results suggest that leader identity among the sampled participants changes in a curvilinear fashion (i.e., J-shaped). Using a sophisticated and innovative longitudinal modelling framework (Latent Change Score analysis; McArdle, 2009) to test a series of possible lead-lag relationships between leadership skills and identity, we demonstrated that previous changes in leadership skill of consideration were significantly related to subsequent changes in leader identity. Finally, our findings suggest that the previous level, but not changes in, leadership skill of initiating structure were significantly related to the changes in leader identity.

Theoretical and Practical Implications

A comprehensive understanding of leadership and its development over time remains elusive (Bluedorn & Jaussi, 2008). By empirically tracking and testing the development of leader identity, specifically focusing on leader identity changes (i.e., intra-individual or within-person variation in leader identity), the present study contributes to addressing a noted gap in rigorous empirical research on longitudinal leader development processes (Day, 2000), particularly in the context of higher education (Dopson et al., 2016). Consistent with previous conceptual contributions (Day et al., 2009; DeRue & Ashford, 2010) and initial empirical evidence (Day & Sin, 2011),
we find that leader identity develops in a curvilinear fashion. Specifically, identity changes were shown to follow a curvilinear J-shaped developmental trajectory. Similarly, Day and Sin (2011) found that over four measurement periods leader effectiveness had a negative (linear) developmental trend with a slight upturn (overall curvilinear) towards the end of the developmental experience and that leader identity was a time-varying covariate of these effectiveness trajectories.

Our finding of a curvilinear developmental trajectory is consistent with the proposition that adult development is a dynamic process of gains and losses (Baltes, 1987). Similarly, theorists in the field of adult development argue that identity does not develop in a solely linear manner toward more positive self-perception (Kegan, 1983). We find that our study participants had a relatively strong leader identity at the very beginning of the leader development program, but this identity substantially weakened during the first week, perhaps due to the realization that being a leader is more challenging than originally conceived. Leader identity stagnated subsequently for several weeks, and finally strengthened over the last weeks of the course. In addition, the final level of leader identity is higher than the initial one, meaning that the overall change in leader identity during the leader development program is positive although the form of that change is curvilinear (see Figure 3-2).

The initial decrease in identity that we observed seems consistent with recent qualitative work on negative dynamics in leader identity construction, or rather, de-construction. Leader identity de-construction, conceptualized as a temporary disengagement from leadership roles and processes, has been proposed as a stage in overall identity development (Lemler, 2013). Similarly, we proposed that identity change is influenced by the new meanings that participants learn to associate with their leadership role as they participate in a leader development program. For example, if one
comes to a leader development program with a strong contention that leaders are born and not made (and thinks of oneself as a born leader), exposure to opposing role models (e.g., famous self-made leaders) will force one to reconsider the basis of one’s leader identity. Similarly, Nicholson and Carroll (2013) found that participants of a longitudinal leader development program struggled to redefine their leader identity. Together these insights suggest that the de-construction is an important stage in the overall process of leader identity change. Leader development interventions trigger self-reflection and awareness of one’s identity, which, in turn, may cause one to doubt one’s leadership capacity – at least initially. Comparing oneself to a set of social expectations attached to the leadership role potentially deepens these insecurities. In an attempt to resolve such identity conflict, individuals engage in identity work and generate variations of identity to iteratively construct a modified identity that is more consistent with their leadership role (Yost et al., 1992). Eventually, this new identity becomes stronger, corresponding to the second part of the leader identity developmental trajectory that we identified (i.e., the upward quadratic slope). Overall, we believe that the curvilinear pattern of identity development identified in this research describes leader development somewhat more accurately than studies that suggest leader identity develops along a strictly linear trajectory.

Our findings support the view that leader development involves changes in leadership skills, behaviours, and identity in a mutually reinforcing manner (Day et al., 2009). Some have argued that leaders’ self-views (including leader identity) in addition to skills are proximal indicators of leader development that can be used to infer whether more long-term development might occur (Day & Dragoni, 2015). We find that the level of leadership skill of initiating structure is positively related to changes in leader identity; that is, when participants perceived themselves to have a higher level of
initiating structure skill in the previous week, their leader identity increased subsequently. This idea is consistent with self-perception theory (Bem, 1972), which suggests that individuals observe their own behaviours to infer about themselves, in particular their leader identity. However, we do not find any evidence that previous changes in initiating structure are related to subsequent changes in leader identity. It is difficult to state with any certainty why this was the case, and replication of these findings is needed. Nonetheless, the results suggest the relationships between leadership skills and leader identity are not only dynamic, but also complex, with different relationship forms associated with different types of leadership skills.

In this regard, we did find evidence that previous changes in consideration skills were significantly and negatively related to subsequent changes in leader identity. Specifically, when participants had experienced an increase in their consideration skill in the previous week, their leader identity decreased in the subsequent week. Although speculative, a potential explanation for these results could be that consideration is less closely tied to participants’ implicit leadership theories (Offermann, Kennedy, & Wirtz, 1994). Traditional theories promote leadership as primarily a process of influencing, organizing, and directing. Observing oneself to be considerate might conflict with this dominant view of leadership, which could subsequently weaken one’s leader identity. A potential practical implication of these results might be a stronger recognition to explicitly instruct participants in leader development programs on the role of implicit leadership theories in their development (Schyns, Kiefer, Kerschreiter, & Tymon, 2011).

Thus, better understanding the mental models that people hold with regard to leadership in the form of implicit leadership theories may add significant value to increasing the effectiveness of leader development interventions. Although the self-
report and non-experimental nature of our research design precludes us from drawing any strong causal inferences, the present findings are consistent with previous conceptual work (Day & Harrison, 2007), and at minimum, suggest that leadership skills and leader identity contribute to leader development processes in an interdependent manner.

Overall, our findings suggest that leader development is a complex process that unfolds over time and involves interactions between an individual’s traits, mental structures, and behaviours at different levels (see DeRue, 2011). Given that leader identity is one type of proximal indicator of ongoing leader development (Day & Dragoni, 2015), the present study provides researchers with useful insight into leader identity trajectories, which future conceptual and empirical research may seek to expand and further develop. We believe that the field of leader development would greatly benefit from the integration of different perspectives to create a more encompassing and rich understanding of processes that help leaders to progress and develop (Day et al., 2014; DeRue et al., 2011).

Limitations and Future Directions

A potential limitation of the present study is that all data were self-reported. Self-reports of behaviour can be problematic and upwardly biased (Podsakoff, MacKenzie, & Podsakoff, 2012). Nonetheless, our study was designed to assess changes in self-views (i.e., leader identity), which has been posited as a relevant and potentially diagnostic proximal indicator of longer-term leader development (Day & Dragoni, 2015). In addition, we were not interested in investigating changes in leadership skills per se, but rather in estimating the extent to which the observation of one’s overt behaviour would affect changes in one’s leader identity strength, which is in line with self-perception theory. Given these research questions, collection of self-report
data among participants in the leadership development program seems appropriate. Future research is needed to address whether participation in a similar leader development initiative affects how others rate an incumbent’s leader identity, for example, when an emerging leader attempts to assert her identity as a leader and claim a leadership role (see DeRue & Ashford, 2010).

Another limitation of the present study is that it was conducted using a sample of university graduate students. Nonetheless, the majority of study participants reported having full-time work experience, making it likely that they had been exposed to leaders and leadership in work-related contexts. Some participants also indicated having experience in formal or informal leadership roles. Our findings suggest that these participants had already developed to some degree a self-perception of themselves as a leader (i.e., holding a nascent leader identity). According to identity theory (Stryker & Burke, 2000), identity is a fairly stable entity with changes usually induced by external shocks or events (Miscenko & Day, 2016). Therefore, we propose that identity changes influenced by a leader development program would be similar in a sample of more mature leaders, this remains an empirical question to be tested in future research.

In summary, we adopted a true longitudinal design to investigate leader development in terms of self-perceived changes in leadership skills in the forms of consideration and initiating structure as well as leader identity. In doing so, we respond to recent calls in the literature to integrate existing leadership theories and create a more encompassing picture of leader development. Our findings suggest that over a period of two months and seven measurement periods, leader identity among participants in a higher education leadership course undergoes a substantial change taking the form of a J-shaped curve. In addition, we find that the previous level of initiating structure leadership skill is positively related to subsequent leader identity changes. We also find
that previous changes in consideration leadership skill are negatively related to subsequent leader identity changes. The results offer additional and much-needed insights into leader development processes. Given the incorporation of explicit research objectives and sound methodological and theoretical framings, we believe that this is a step in the right direction towards overcoming the noted lack of high quality research in the field of leader development (Day, 2000; Day et al., 2009; Dopson et al., 2016).
### Table Appendix 3-1

**Effect of control variables on the initial level (i.e., intercept) and changes (i.e., slopes) in leader identity**

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>Intercept</th>
<th>Linear slope</th>
<th>Quadratic slope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.45 (.50)</td>
<td>-.209</td>
<td>.005</td>
<td>-.002</td>
</tr>
<tr>
<td>Age</td>
<td>23.4 (1.49)</td>
<td>-.034</td>
<td>-.021</td>
<td>.002</td>
</tr>
<tr>
<td>Weekly work hours</td>
<td>4.75 (7.04)</td>
<td>-.011</td>
<td>.007</td>
<td>-.001</td>
</tr>
<tr>
<td>Supervisor status</td>
<td>.16 (.37)</td>
<td>-.071</td>
<td>.059</td>
<td>-.003</td>
</tr>
<tr>
<td>Work experience</td>
<td>12.6 (15.5)</td>
<td>.005</td>
<td>.004</td>
<td>.000</td>
</tr>
<tr>
<td>Extraversion</td>
<td>5.15 (1.05)</td>
<td>.476***</td>
<td>-.066</td>
<td>.006</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>5.74 (.75)</td>
<td>-.216</td>
<td>.063</td>
<td>-.003</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>5.42 (.87)</td>
<td>.142</td>
<td>-.059</td>
<td>.010</td>
</tr>
<tr>
<td>Emotional stability</td>
<td>4.47 (.88)</td>
<td>.058</td>
<td>.052</td>
<td>-.007</td>
</tr>
<tr>
<td>Openness to experience</td>
<td>5.57 (.84)</td>
<td>-.093</td>
<td>-.047</td>
<td>.005</td>
</tr>
<tr>
<td>Workshop participation</td>
<td>.49 (.50)</td>
<td>.006</td>
<td>.011</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note: Gender (0 male, 1 female). Supervisor status indicates whether a person holds a supervisory position at the current job. Workshop participation indicates whether a person took part in the first leadership workshop.

Model fit: $\chi^2 (69) = 93.13$, $p < .05$, $CFI = .940$, $RMSEA = .063$
Chapter 4: Identity and Leader Development among High-Potential Executives

Abstract

We propose that distinct leadership competencies will differ in their development over time. Extending the integrative model of leader development (Day et al., 2009), we further propose that leader identity will form complex relationships with leadership competencies over time. To test these propositions we use longitudinal data (i.e., five month, four measurement points) of the high-potential executives (N=80) in a corporate leadership development program. We find significant difference in the initial levels and changes of distinct leadership competencies. We also find that leader identity relates to the development of some leadership competencies. Finally, we examine how leadership competencies relate to career advancement and find that some competencies relate to job promotion. These findings are discussed in light of their theoretical and practical implications.

Keywords: leader development, leader identity, leadership competencies, high potential executives, multilevel modelling

Introduction

Some have argued that well-developed leadership competencies are essential to leadership effectiveness (Hollenbeck, McCall, & Silzer, 2006). Over the years, leadership development literature has investigated factors that contribute to the development of single leadership competencies, such as strategic thinking competency (Dragoni et al., 2011), global leadership competency (Kim & McLean, 2015), and even leader charisma conceptualized as competency (Antonakis, Fenley, & Liechti, 2011).
However, rarely these investigations are longitudinal in nature. In addition, the complexity of a leadership role requires a number of diverse competencies, which may differ in terms of their rate of development. The present study investigates the development of eight distinct leadership competencies over time (i.e., 5 months) in a sample of high-potential executives participating in a corporate leadership development program. High potential executives are mature leaders that have exhibited above average leadership potential and effectiveness (Ready et al., 2010). We also study time-varying predictor (i.e., leader identity) and career outcome (i.e., job promotion) of the leadership competency development. Overall, we propose that distinct leadership competencies will differ in terms of their rate of development, and relationship with antecedents and outcomes.

Leadership competencies can be defined as composites of knowledge, skills, and abilities needed to perform leadership tasks effectively (see Hollenbeck et al., 2006). In the present study, we focus on competencies contained in the sponsor organization’s leadership competency model and considered by program developers to be of greatest relevance, namely, challenging the status quo, valuing diversity, promoting employee voice, creating commitment, negotiating, managing stress, articulating complex ideas, and adapting to change. It has been suggested that leadership development programs contribute to the development of leadership competencies, because these facilitate the acquisition of new leadership-related knowledge and offer an opportunity to practice new skills (e.g., Day et al., 2009; Mumford, Marks, Connelly, Zaccaro, & Reiter-Palmon, 2000). Thus, we propose that leadership competencies as rated independently by executive coaches will develop during the leadership development program. More importantly, we extend this previous literature by proposing that distinct leadership competencies will develop at different rates. First, some leadership competencies rely
on more complex knowledge structures, which require longer time to develop (Lord & Hall, 2005). Second, some competencies are initialized more frequently in the work context, which leads to faster development of expertise (Dragoni et al., 2011). To our knowledge, the present study is the first to attempt to empirically test these theoretical propositions.

Leader identity refers to the “sub-component of one’s identity that relates to being a leader or how one thinks of oneself as a leader” (Day & Harrison, 2007, p. 365). Identity evolves over time as a function of various relevant experiences, including involvement in leader training and development (Day et al., 2009; Lord & Hall, 2005). Leader identity is especially important in the development of leadership competencies, because identity motivates an individual to engage in leadership activities and practice desired skills. For example, Day and Sin (2011) found that leader identity was positively related to independent team advisors’ rating of leadership effectiveness over time (i.e., identity as a time varying covariate) among university students. Another study found that changes in leadership skills and changes in leader identity were interrelated in graduate students participating in a leadership development program (Miscenko, Guenter, & Day, forthcoming). Building on this previous research, we propose that leader identity will be positively associated with the development of leadership competencies over time. It is also the case that at higher organizational levels, leaders require a more complex set of competencies to fulfil the growing demands of their roles (Dragoni et al., 2011; Mumford et al., 2007). Therefore, we expect that leader identity forms a complex relationship across a range of leadership competencies in that it relates more strongly to the development of certain leadership competencies than others.
Finally, leadership competencies have been identified as one of the factors that contribute to managerial career advancement (Claussen, Grohsjean, Luger, & Probst, 2014). Existing evidence suggests that organizational training and skill development opportunities are positively related to promotion (Ng, Eby, Sorensen, & Feldman, 2005). However, this literature lacks insights about specific leadership competencies that are crucial for promotion decisions (Claussen et al., 2014; Collings & Mellahi, 2009). The present study aims to address this gap in the literature by proposing that initial level and change in leadership competencies will differently relate to (job) promotion after the corporate leadership development program.

In sum, the present study contributes to the literature on leader development by advancing novel propositions about the development of leadership competencies. Specifically, we propose that individuals will have different initial level of each leadership competency and these competencies will change at different rates during the leadership development program. Although these propositions are fairly straightforward and consistent with models of skills acquisition (i.e., Ackerman, 1987), this is not how leadership competencies are typically conceptualized or studied. Whereas previous literature has focused on the antecedents and outcomes of a single competence, our study advances a more complex model of leadership competencies required for effective leadership at the executive level. In addition, the present study extends existing research on leadership and identity (e.g., Day & Sin, 2011) to more experienced leaders participating in a high-potential leadership development program. Given that more experienced executives have had greater exposure to leadership opportunities and engaged more in leader identity development as compared with emerging leaders, there is likely to be less variability across more mature individuals in terms of how strongly they perceive themselves as leaders. Therefore, finding evidence of leader identity
effects among experienced leaders poses a conservative test of the hypothesized relationships.

**Conceptual Background and Hypotheses Development**

**Leadership Competencies**

As discussed earlier, we define leadership competency as a composite of knowledge, skills, and abilities required to perform effectively in a leadership role (see McCall, Lombardo, & Morrison, 1988). Unlike generic leadership behaviours and skills that are relevant to leadership roles regardless of the context, leadership competency is highly dependent on the tasks and objectives of a particular leadership role (Hollenbeck et al., 2006). For example, strategic thinking competency is needed to address a specific type of organizational problem—how best to achieve organizational growth and ensure long-term viability (Dragoni et al., 2011). Not surprisingly, researchers have developed a range of leadership competencies models for specific occupations like health services (Hopkins, O'Neil, & Stoller, 2015), higher education, or project management (Müller & Turner, 2010); companies (e.g., 3M; Alldredge & Nilan, 2000); or domains of practice (e.g., cross-cultural competency; Caligiuri & Tarique, 2012).

Experience has been proposed as the most potent way to develop leaders’ competencies (McCall, 2004b, 2010). This is consistent with the proposition that leaders accumulate skills over time in a progressive, systematic fashion (Mumford, Marks, et al., 2000). For example, accumulated work experience was positively related to executives’ strategic thinking competency after controlling for individual characteristics (Dragoni et al., 2011). Experiences are usually defined in terms of on-the-job activities that provide an opportunity for competency development, such as challenging (developmental) assignments (Dragoni, Tesluk, Russell, & Oh, 2009). However, others have argued that some of the most potent developmental experiences
may not occur at work (Day & Dragoni, 2015; Hammond et al., in press), or more importantly, take a form of training interventions, such as leadership development program. Training contributes to the development of leadership competencies, because it provides a set of systematic experiences to promote the development of certain knowledge and skills (Anderson, 1993). Generally, training is believed to augment leadership competencies because it provides greater opportunity to acquire new leadership-related knowledge and practice new skills (e.g., Day et al., 2009; Kets De Vries & Korotov, 2007; Mumford, Marks, et al., 2000). Because leadership training typically exposes participants to novel leadership concepts, it facilitates the accumulation of new leadership-related knowledge. In turn, this increased knowledge enables leaders to perform in their leadership roles more effectively (Lord & Hall, 2005).

Moreover, leadership training often requires participants to practice their newly acquired skills by engaging in various forms of experiential learning, such as business simulations, role plays, and team projects (i.e., action learning). This is in line with several learning theories. Social learning theory of Bandura (1977) proposes that human behaviour is learned by observation, and thus the experiences of others guide subsequent behaviour of the incumbent. Similarly, experiential learning theory (Kolb, 1984) proposes that knowledge is created through the transformation of experience. Such competency development through experiential learning enables leaders to understand, amplify, and anticipate contexts, situations or reactions, expanding their capacity for action and adaptation in the leadership role (Avolio et al., 2009; Daloz Parks, 2005). Empirical research also supports these claims by showing that participants undergoing leadership training report higher levels of leadership skills (Hirst et al., 2004; Mumford, Marks, et al., 2000).
Finally, leadership coaching (as part of leadership development programs) is beneficial for the development of leadership competencies, because coaches challenge leaders into new perspective (i.e., new knowledge) and prompt leaders to reflect on the use of existing and new competencies to address work challenges (Ladegard & Gjerde, 2014). Importantly, coaching is a flexible individualized process that attends to the particular needs of the leaders and their respective organizations, thus it allows focusing on the development of specific leadership competencies. Scholars have long recognized the importance of providing such support to developing leaders during critical experiences (Day & Dragoni, 2015). Empirical evidence suggests that leadership coaching is beneficial for acquiring new skills (Smither, London, Flautt, Vargas, & Kucine, 2003) and developing self-efficacy in applying these skills (Baron & Morin, 2010). Moreover, combination of workshops and individual coaching had a positive effect on leadership competencies among first-line managers (Rappe & Zwick, 2007).

In sum, available theoretical and empirical evidence suggests that leadership competencies change as an outcome of leader development programs. Extending these findings, we propose that leadership competencies will develop at a different rate (see also Lord & Hall, 2005). Leaders will be quicker to acquire straightforward technical and social skills that rely on simpler knowledge structures, than creative problem solving and systems skills that rely on complex integrated knowledge structures (Mumford, Marks, et al., 2000; Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000). The development of complex integrated knowledge structures requires more time (Lord & Hall, 2005) and partly depends on the work experiences leaders are exposed to. Performing similar work activities multiple times increases the likelihood of mastery, meaning that leaders become more competent in performing a specific task (Dragoni et al., 2011). This is consistent with the notion that repetition is instrumental for skills
development (Gagné & Medsker, 1996). For example, leaders will frequently negotiate and manage stress, but will less frequently challenge the status quo. Therefore, their competency in negotiating will develop at a faster rate, compared to a more complex and less frequently practiced competency of challenging status quo.

Such differences in the rate of skill acquisition have been primarily studied in comparing junior to senior leaders. For example, Mumford and colleagues (Mumford, Marks, et al., 2000) investigated the acquisition of leadership skills over the course of leader’s career. Their findings for the social judgement competency suggest that simpler skills (i.e., systems perception) developed at a faster rate among junior to mid-level leaders, than more complex skills (i.e., solution fit), which developed faster among middle-level to senior leaders. However, we argue that leadership competencies will also develop at different rates even when comparing managers at the same level (i.e., high-potential executives), because some competencies are more complex and require longer time to develop. Some competencies will develop slower due to rare opportunities to practice (e.g., because these are not required for everyday job tasks). In addition, executives may choose to prioritize the development and practice of certain competencies, but not others, because they assign varying importance to their leadership competencies (Semeijn, Van Der Heijden, & Van Der Lee, 2014). In addition, Day and Sin (2011) found evidence of different types of developmental trajectories of leader effectiveness. Because leader effectiveness relies on mastery of leadership competencies, we expect that distinct leadership competencies will develop at different rate. Finally, there will also be difference in the starting level of different leadership competencies due to differing work experiences accumulated by program participants (e.g., Dragoni et al., 2011). Previous research has acknowledged that leaders entering
into a leadership development program will have differing experiences, skills, and learning styles (Solansky, 2010).

**Hypothesis 1:** The developmental trajectories of coach-rated leadership competencies of the high-potential executives in a leadership development program will be positive over time.

**Hypothesis 2:** There is a difference in the (a) starting level (i.e., intercept) and (b) change (i.e., slope) of developmental trajectories of coach-rated leadership competencies.

**Leader Identity Development**

Leader identity refers to the “sub-component of one’s identity that relates to being a leader or how one thinks of oneself as a leader” (Day & Harrison, 2007, p. 365). Identity theory (Stryker & Burke, 2000) conceptualizes identity as a collection of meanings associated with a particular social role (e.g., leadership role) an individual occupies. Leader identity was found to influence an individual’s behaviour in a leadership role (e.g., Giessner et al., 2009; Johnson et al., 2012). In the present study, we conceptualize identity as strength of self-identification with a leadership role that is influenced by the alignment of the meaning an individual attaches to one’s social role and one’s role-related identity.

Identity theory conceptualizes identity as a relatively stable and enduring entity (Miscenko & Day, 2016). However, external events affecting a particular social role, such as participation in professional development activities may promote changes in role-related identity. Specifically, it has been proposed that leadership development programs induce change in leader identity strength, because an individual is exposed to new identity meanings and is prompted to re-construct currently held identity (Hall, 2004; Sveningsson & Alvesson, 2003), which will ultimately influence the strength of
self-perception as a leader (i.e., leader identity) (Miscenko et al., forthcoming). For example, participants in a leadership development program may be confronted with an idealized description of a leadership role, which motivates them to re-construct their own leader identity (Gagnon & Collinson, 2014). Thus, leader identity is proposed as an important proximal outcome of leader development (Day & Dragoni, 2015).

Limited empirical evidence is available to support these propositions; however, the findings are often based on student samples. For example, students exposed to transformational leadership examples reported a significant increase in transformational leader role identity compared to a control group (Waldman et al., 2013). In another study, a developmental trajectory of leader identity among graduate students in a leader development program was overall positive with a slight decrease in the beginning of the program (i.e., J-shape) (Miscenko et al., forthcoming). The only study we identified with a managerial sample found that leadership development program had a positive effect on participants’ identification with a managerial role (Rappe & Zwick, 2007).

Extending these findings, we argue that more mature leaders will experience a positive change in the strength of their leader identity during a leadership development program. This is because same identity development mechanisms operate across different age and experience groups (Bosma & Kunnen, 2001). Therefore, experienced leaders participating in a leadership development program are likely to encounter new identity meanings that conflict with their currently held identity, which will prompt them to re-construct their currently held leader identity. For example, coaching could be especially relevant to the development of identity among experienced executives, because it allows an individualized approach and allows one to reflect on leader identity, which might lead to the discovery of the potential conflict between identity and socially constructed meaning of the leadership role. This process of reflection and re-
construction will influence the strength of leader identity. Similarly, in a qualitative study mentoring has been found to influence the discovery and development of leader identity (Muir, 2014).

Hypothesis 3: The developmental trajectories of self-rated leader identity of the high-potential executives in a leadership development program will be positive over time.

Leadership Competencies and Identity

Drawing from an integrative model of leader development, we propose that leader identity will be associated with the development of leadership competencies. Specifically, it has been proposed that as a mental structure (i.e., deep-level) leader identity supports the observable, behavioural level of leadership competencies (i.e., surface-level) (Day et al., 2009; Day & Sin, 2011). First, as a knowledge structure, identity supports the acquisition and integration of leadership competencies (Lord & Hall, 2005). Second, identity provides a basis for motivation to further develop leadership competencies, in that a strong sense of self as a leader will motivate an individual to seek out opportunities to practice and further develop one’s leadership competencies (Day et al., 2009). This is because humans are motivated to maintain a stable, consistent self-concept (Rosenberg, 1979). Furthermore, the notion of identity-development spirals (Day et al., 2009) suggests that leader identity is related to the development of leadership competencies in a reciprocal fashion. That is, leader identity motivates individuals to engage with leadership, which allows them to develop leadership competencies. In turn, participating in leadership experiences strengthens leader identity. Hence, not only thinking motivates doing (Fiske, 1992), but observing oneself to engage in certain behaviours allows one to infer identity (Ashforth & Schinoff, 2016; Bem, 1972).
Extending these theoretical insights, we propose that leader identity will differently relate to the development of leadership competencies. This is because individuals likely have different leadership schemas specifying which leadership competencies are most representative (i.e., prototypical) of an ideal leader (e.g., Implicit Leadership Theories; Epitropaki & Martin, 2004; Lord, Foti, & De Vader, 1984). These leadership schemas might be shared to some degree among members of the same group or organization (i.e., leadership prototype; Hogg, 2001) and thus describe a dominant implicit view as to who is considered an effective leader in a given group. Because leadership schemas are a fundamental sub-component of leader identity (Epitropaki et al., in press), we believe that leadership competencies that are grounded in leadership schema are more likely to be influenced by leader identity.

Research question 1: Does leader identity relate to the development of different leadership competencies?

Leadership Competencies and Promotion

Finally, to investigate tangible outcomes of participation in a leadership development program, we examine how initial level and change in leadership competencies relate to (job) promotion after the program. In line with human capital theory (Becker, 1975; Strober, 1990), developmental programs are used to enhance leaders’ competencies, which are linked to organizational performance. Thus, individuals are motivated to invest in their development, because this will allow advancing their career. There are increasingly fewer positions the higher one rises in a corporate organization, which some have labelled tournament mobility (Rosenbaum, 1979). It is also in the best interest of organizations to invest in the development of their leaders and promote those with the most developed leadership competencies (i.e., human capital) in the hopes of achieving better performance. For example, research has
demonstrated that there is a link between executive level leadership and organizational performance (e.g., Day & Lord, 1988).

Early empirical research demonstrated that on-the-job training is positively correlated with promotion (Sheridan, Slocum Jr, & Buda, 1997). In a meta-analytical review of predictors of career success, Ng et al. (2005) found that organizational training and skill development opportunities are positively correlated with promotion. More specific to the leadership domain, an increase in human capital (i.e. expertise) was found to improve promotion odds for middle- and senior-management positions (Claussen et al., 2014).

Extending these findings, we propose that initial level and change in different leadership competencies will differently relate to promotion. This is because those making promotion decisions may consider some leadership competencies as more important for higher-level position (see Breaugh, 2011). Thus, even if a leader has a higher initial level and experiences an improvement in a specific leadership competency as an outcome of leadership development program, he or she may not be promoted, if this competency is not considered as important for a higher-level leadership position. Supporting this proposition, Semeijn et al. (2014) found that supervisor rated results-oriented competencies were positively related to perceived managerial effectiveness, but relationship-oriented competencies were not.

**Hypothesis 4: Initial level (i.e., intercept) and change (i.e., slope) of leadership competencies will predict the promotion of high-potential executives following participation in a leadership development program.**
Method

Participants and procedure

The sample consisted of executives nominated by their respective businesses (all part of a large Australian conglomerate primarily operating in retail with 200,000+ employees) to participate in a corporate leadership development program. Each year a cohort of 14 to 19 participants engaged in a six-month program that involved assessments for development, coaching, business simulations, and completion of a team action-learning project with presentations to senior management, among other activities. The data were collected over five years with a total sample size of 80. All ratings were collected electronically from participants and coaches the week following a multi-day engagement session that occurred at various points throughout the broader program. Measures were administered at four different time points (T0 - T3) during the program, approximately four to five weeks apart.

About a quarter (26.6%) of the participants were female. The average age was 38.6 years and 66.3% of the participants had a senior management position role at the time of the program (e.g., manager of technical services, financial services business manager); 22.5% were in a managerial or senior professional role (e.g., business analyst), and 7.5% were in a general management role (e.g., business category manager, regional manager). The response rate among program participants varied between 82.5% and 90.0% (86.3% on average).

Executive coaching was provided by coaches from the same external vendor across cohorts at the individual and team level during the multi-day engagement sessions and throughout the program by phone. Ten coaches were engaged with the program. Number of participants per coach varied between 3 and 21 (average = 5.1). Six coaches participated in the program just once, one coach twice, one coach three
times, one coach four times, and finally, one coach participated in all five program years. Three of the coaches were female.

Measures

Leader identity was self-reported by study participants using an established three-item measure (Day & Sin, 2011; Hiller, 2005). Participants were asked to rate on a five-point scale (1 = never or rarely to 5 = always) how consistently they describe and see themselves as leaders. Sample items are ‘[I am] a leader’ and ‘[I] consider being a leader to be important’. Internal consistency (alpha) estimates for the leader identity measure were acceptable (T0 = .738; T1 = .656; T2 = .763; T3 = .731).

We measured eight distinct leadership competencies via a single item each derived from a company’s leadership competency framework. These competencies were rated by coaches on four different occasions during the leadership program. Although single-item measures are not ideal because of potential reliability concerns, longer assessments were not allowed especially in that the surveys were completed across multiple measurement waves. The competencies measured were challenging the status quo (SQ), valuing diversity (VD), promoting employee voice (PEV), creating commitment (CC), negotiating (N), managing stress (MS), articulating complex ideas (ART), and adapting to change (AD). The items used to measure each competency are presented in Appendix 4-1.

We extracted the information about promotion (outcome) from company records after the last cohort of high-potential executives completed the program. Promotion was coded 1 if participant changed to a higher role within the same hierarchical level or were promoted to the next level position. Promotion was coded 0 if participant stayed in the same role, including those who left the organization since the conclusion of the
program. Overall, 56.3% of the program participants were promoted after participation in the program.

**Control variables.** Because ten different coaches provided ratings of leadership competencies, we controlled for individual coaches in all analyses. Each coach was coded as a binary variable (i.e., 0 and 1), with the first coach serving as a baseline in the analyses. We also controlled for participant’s gender, as prior evidence suggests that men and women may differ in their leader self-perception (Day & Sin, 2011). For example, females rated themselves lower on a range of leadership competencies (Mayo et al., 2012). Finally, when predicting promotion outcomes, we controlled for the year in which participants took part in the leadership development program, because those who took part in the earlier program may have had higher chances of promotion, because longer time elapsed since the program. Each program year was coded as a binary variable (i.e., 0 and 1), with the first program year serving as a baseline in the analyses.

**Analytical Strategy**

Data were conceptualized at two levels of analyses—between individual (Level-2, i.e., promotion outcome, gender, coach) and within individual (Level-1, i.e., leader identity, leadership competencies) and the hypotheses involved relationships between variables at the same and different levels of analysis. Considering this data structure, hierarchical linear modelling (HLM; Raudenbush & Bryk, 1992) was used for analysis, since it allows testing for interactions between variables at different levels of analysis and account for different sources of variance (Mathieu, Aguinis, Culpepper, & Chen, 2012). Hypotheses were tested using the nonlinear and linear mixed effects (NLME) program for S-PLUS and R (Pinheiro & Bates, 2006), following the analytical procedures outlined by Bliese and Ployhart (2002) in R version 3.0.1. Within-individual
predictors (i.e., leader identity) were centred on the person mean. Centring week-level variables at the person mean implies that the random effect of these time-varying covariates will be based on within-person variation (Hoffman & Stawski, 2009), which is appropriate given the aims of the present study. Deviance statistics (-2 log likelihood) was used for comparing models in terms of fit. The specific analyses conducted are explained in the results section.

**Results**

Appendix 4-2 presents descriptive statistics and intercorrelations for all study variables. Retest correlations for leader identity ranged from .58 to .74; challenging the status quo (SQ) leadership competency from .45 to .61; valuing diversity (VD): .53 to .72; promoting employee voice (PEV): .32 to .63; creating commitment (CC): .41 to .73; negotiating (N): .46 to .63; managing stress (MS): .40 to .73; articulating complex ideas (ART): .51 to .64; and adapting to change (AD): .50 to .67.

**Leadership competencies**

Although the aim of the present study was to investigate the differences in development of leadership competencies over time, we conducted exploratory factor analyses with the eight measured leadership competencies to establish the underlying factor structure. We chose principle axis factoring as the extraction method (Fabrigar, Wegener, MacCallum, & Strahan, 1999). The factors were free to vary based on the traditional Eigenvalue cut-off of 1.0. Across four measurement points, all eight leadership competencies loaded on one factor that explained more than 50% of the variance in the items (T0 – 51.67%, T1 – 54.5%, T2 – 54.1%, T3 – 63.3%). Factor loadings were acceptable (T0: .58 - .75; T1: .58 - .80; T2: .53 - .83; T3: .69 - .85). These results suggest that eight leadership competencies describe a single underlying construct.
Table 4-1 reports the results of model estimation, including coefficients, results of variance decomposition, and model fit. To test Hypothesis 1, the analyses were conducted in three steps. First, we estimated an unconditional means model (intercept-only, Model 0) to determine the intraclass correlation coefficient (ICC1), which indicates how much of the total variance in leadership competencies varies between versus within individuals. Between 35.8 (promoting employee voice) and 50.5 (managing stress) percent of variance in different leadership competencies was attributable to within-person variation. These findings suggest that leadership competencies considerably fluctuate over time; thereby suggesting that multilevel analysis is an appropriate data analysis strategy.

Next, we estimated two models with time variable to account for possible linear trend in leadership competencies. In Model 1a the slope for time was fixed, but in Model 1b slopes were allowed to vary across time. The two models were compared in terms of fit. For most leadership competencies (except promoting employee voice and managing stress), the model with time varying slope was not significantly better than the model with fixed slope. However, in line previous research indicating that cross-level interactions should be tested regardless of the significance of slope variance (Bliese & Britt, 2001; LaHuis & Ferguson, 2009), we retain the time-varying slope models for further analyses. We also tested for quadratic slope in leadership competencies; however, quadratic slope was insignificant for almost all leadership competencies (except promoting employee voice). Thus, a model with time-varying

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3 Quadratic slope coefficient for promoting employee voice leadership competency was negative and significant (β = -0.076, p < .05) in the model that only included intercept and slopes. However, when control variables and leader identity were included in the model 2, the quadratic slope coefficient was
linear slope was found as best when describing the developmental trajectory of leadership competencies in the present study.

Finally, the next modelling step was the inclusion of control variables (Model 2). Supporting Hypothesis 1, findings suggest that, while controlling for gender and coaches, almost all leadership competencies developed along a linear, positive trajectory (linear slope estimate for challenging the status quo: $\beta = .27$, $p < .001$; valuing diversity: $\beta = .29$, $p < .001$; promoting employee voice: $\beta = .30$, $p < .001$; creating commitment: $\beta = .21$, $p < .001$; negotiating: $\beta = .23$, $p < .001$; managing stress: $\beta = .20$, $p < .001$; articulating complex ideas: $\beta = .26$, $p < .001$; and adapting to change: $\beta = .31$, $p < .001$). Thus, Hypothesis 1 is supported.

Hypotheses 2a-b proposed that despite the similar developmental trajectory of leadership competencies, there will be differences in their starting level (i.e., intercept) and rate of change (i.e., slope). To test this hypothesis, we first extracted individual participants’ intercept and slope coefficients for each leadership competency. These coefficients were obtained from model 2, and thus included the effects of control variables (coach and gender). Next, we conducted ANOVA analyses to establish whether individual’s intercepts and slopes were different between leadership competencies. We used robust Welch test (Kohr & Games, 1974) due to heterogeneous variance (Levene’s test for intercepts: $6.68$, $p < .001$; slopes: $32.51$, $p < .001$). Results suggest that both intercepts ($F [7,270] = 50.71$, $p < .001$) and slopes ($F [7,238] = 15.07$, $p < .001$) were significantly different across leadership competencies. Thus, both Hypotheses 2a and 2b are supported.

insignificant ($\beta = -.064$, ns). Therefore, the model with linear slope only was reported and retained for further analyses to ease model comparison and interpretation.
Table 4-1

Results of hierarchical linear regression analyses (Hypotheses 1 and 3)

<table>
<thead>
<tr>
<th>Leadership competency</th>
<th>Leader identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQ</td>
<td>VD</td>
</tr>
<tr>
<td>Model 0</td>
<td>0.413</td>
</tr>
<tr>
<td>ICC(1)</td>
<td>0.452</td>
</tr>
<tr>
<td>-2LL (df=3)</td>
<td>727.5</td>
</tr>
<tr>
<td>Model 1a</td>
<td>2.78*</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.269*</td>
</tr>
<tr>
<td>Linear slope</td>
<td>640.2</td>
</tr>
<tr>
<td>-2LL (df=4)</td>
<td>2.76*</td>
</tr>
<tr>
<td>Model 1b</td>
<td>3.4</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.269*</td>
</tr>
<tr>
<td>Linear slope</td>
<td>636.8</td>
</tr>
<tr>
<td>-2LL (df =6)</td>
<td>3.4</td>
</tr>
<tr>
<td>∆-2LL (∆df = 2)</td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td>3.37*</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.269*</td>
</tr>
<tr>
<td>Linear slope</td>
<td>-0.072</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.386</td>
</tr>
<tr>
<td>Coach #2</td>
<td>0.339</td>
</tr>
<tr>
<td>Coach #4</td>
<td>- .375</td>
</tr>
<tr>
<td>Coach #5</td>
<td>- 1.08*</td>
</tr>
<tr>
<td>Coach #6</td>
<td>- .705*</td>
</tr>
<tr>
<td>Coach #7</td>
<td>- .125</td>
</tr>
<tr>
<td>Coach #8</td>
<td>- .938*</td>
</tr>
<tr>
<td>Coach #9</td>
<td>.101</td>
</tr>
<tr>
<td>Coach #10</td>
<td>- .962*</td>
</tr>
<tr>
<td>-2LL (df=16)</td>
<td>581.5</td>
</tr>
</tbody>
</table>

Note: SQ - challenging the status quo, VD - valuing diversity, PEV - promoting employee voice, CC - creating commitment, N - negotiating, MS - managing stress, ART- articulating complex ideas, AD – adapting to change.

*significant at $p < .05$
Leader identity and competencies

To test Hypothesis 3 (the developmental trajectory of leader identity) we followed the same modelling steps as when estimating the developmental trajectory of leadership competencies. Unconditional means model (intercept-only, Model 0) indicated that 30.0% percent of variance in leader identity was attributable to within-person variation. The model with time varying slope (Model 1b) was not significantly better than fixed slope model (Model 1a), however, as discussed above, we retained the time varying model for future analyses. The quadratic slope coefficient was not significant. In Model 2, we included gender as control variable. The results of Model 2 suggest that similar to leadership competencies, leader identity developed along a linear, positive trajectory (linear slope $\beta = .186$, $p < .001$). Thus, hypothesis 3 is supported.

Next, we investigated the relationships between leader identity and different leadership competencies as per research question 1. We included leader identity as a time-varying predictor in the models retained from previous HLM analyses. Table 4-2 reports the results of model estimation, including coefficients and model fit. The findings suggest that leader identity is significantly and positively related to three leadership competencies (challenging the status quo: $\beta = .227$, $p < .05$; valuing diversity: $\beta = .293$, $p < .01$; creating commitment: $\beta = .190$, $p < .05$). This findings suggest that leader identity is positively related to the development of some leadership competencies over time.
Promotion

Hypothesis 4 proposed that initial level (i.e., intercept) and change (i.e., slope) of leadership competencies will differently relate to (job) promotion post leadership development program. To test this hypothesis we conducted analyses using binary logistic regression in SPSS. Intercept and slope coefficients for each leadership competency were obtained from Model 2 of HLM analyses, and thus included the effects of control variables (coach and gender). We also controlled for program year in
these analyses, because those who took part in the earlier program may have had higher chances of promotion, due to longer time employed post program. Table 4-3 reports the results of the analyses, including coefficients and model fit. The findings suggest that initial level and change in some leadership competencies were related to (job) promotion post program. Specifically, initial level/change in valuing diversity leadership competency were significantly and negatively related to promotion (intercept $\beta = -6.35$, p<.01; slope $\beta = -36.8$, p<.01). Similarly, level/change in negotiating were significantly and negatively related to promotion (intercept $\beta = -28.2$, p<.05; slope $\beta = -36.8$, p<.05). Change, but not initial level, in managing stress was positively and significantly related to promotion ($\beta = 7.65$, p < .05). All other leadership competencies were unrelated to promotion. Thus, Hypothesis 4 is partially supported.

Table 4-3

Results of binary logistic regression analysis (Hypothesis 4)

<table>
<thead>
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<th>VD</th>
<th>PEV</th>
<th>CC</th>
<th>N</th>
<th>MS</th>
<th>ART</th>
<th>AD</th>
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<td>.064</td>
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Note: SQ - challenging the status quo, VD - valuing diversity, PEV - promoting employee voice, CC - creating commitment, N - negotiating, MS - managing stress, ART - articulating complex ideas, AD – adapting to change.

*significant at p < .05
Discussion

Leadership competencies are a necessary component of effective leadership at the executive level. Extending the leadership literature that primarily evaluated the development of a single leadership competency as a function of leader’s experience (e.g., Dragoni et al., 2011); the present study proposes that high-potential executives rely on a complex set of leadership competencies in their leadership role. We investigated how these distinct leadership competencies develop over time among participants in a corporate leadership development program, as well as antecedents and outcomes of their development. Our findings support the proposition that there will be some differences in the rate of development of leadership competencies. We also find that leader identity relates to the development of some leadership competencies and that (job) promotion is predicted by few competencies. We discuss these findings and their theoretical and practical implications in the following sections.

Leadership competencies

The findings of the present study demonstrate that leadership competencies develop along a positive, linear developmental trajectory during five-month long leadership development program. This is consistent with previous empirical evidence suggesting that leadership skills and leadership effectiveness develop in the overall positive pattern during the leadership development interventions (Day & Sin, 2011; Miscenko et al., forthcoming). More importantly, we find that the initial level and rate of change differ among distinct leadership competencies. We proposed that this is because leadership competencies are underlined by different knowledge structures, which differ in their complexity. More complex knowledge structure will require longer time to develop (Lord & Hall, 2005). It is also likely that executive leaders utilize some leadership competencies more frequently, as these are required for everyday job tasks.
Repeatedly used competencies will develop at the faster pace, especially in combination with leadership development program, which offers additional opportunities for practicing knowledge, skills, and abilities that underlie competencies.

More specifically, looking at the results for each leadership competency analysed in the present study (see Table 4-1), we find that (after controlling for participant’s gender and coach) participants had highest initial level of managing stress competency and lowest initial level of articulating complex ideas competency. Contrasting these two competencies, articulating complex ideas competency potentially relies on a more complex underlying knowledge structure than managing stress competency. For example, Lord and Hall (2005) proposed that leaders develop principled level knowledge that allows them to define problems and environments in terms of underlying principles rather than surface level features. Clearly articulating complex ideas will require a deeper, expert level understanding that develops with experience and deliberate practice (Ericsson & Charness, 1994). On the other hand, research suggest that managers consistently report higher level of stress (Skakon, Kristensen, Christensen, Lund, & Labriola, 2011), thus, managing stress competency is better developed due to repetitive need to use it. In addition, we find that managing stress competency developed at the slowest rate during the leadership development program. This may be because senior leaders in our sample already achieved a higher level of expertise in the said competency. Finally, we find that adapting to change leadership competency developed at the fastest rate. We suspect this is because participation in leadership development program in itself represented a disruptive experience that required participants to become more open to changes. This is consistent with previous findings suggesting that participants in leadership development programs experience a considerable uncertainty (Nicholson & Carroll, 2013).
In sum, the present study is the first to empirically test the differences in the development of distinct leadership competencies, conceptualized as the set of underlying knowledge, skills, and abilities. Findings are robust in that these align with previous conceptual literature (Lord & Hall, 2005), limited empirical findings of the differences in skills among novice and expert leaders (e.g., Mumford, Marks, et al., 2000), and rely on other ratings of leadership competencies and not self-report. By demonstrating that time required to develop leaders will depend on specific competencies trained, we highlight the importance of examining time in leadership. This is in line with recent conceptual calls to devote greater attention to temporal issues in leadership research (Bluedorn & Jaussi, 2008; Shamir, 2011). We encourage future research to incorporate time as an important consideration in leader and leadership development.

**Leader identity and leadership competencies**

There is an increasing recognition among leadership researchers that identity processes play an important role in motivating and supporting the personal growth of leaders (Day & Dragoni, 2015; Day & Harrison, 2007; Day et al., 2009; Van Knippenberg et al., 2004). One of the goals of this research was to demonstrate the relevance of leader identity even among senior executives for whom thinking of oneself as a leader would already be expected to varying degrees. Because high-potential executives are likely to have internalized a leader identity to a larger extent than emerging leaders, this study represents a conservative yet important test of the underlying relationships between identity processes and leader development. Indeed, present results showed that whereas leader identity ratings demonstrated a positive trajectory over the course of the program, there was a notable ceiling effect on ratings by the program’s end (average of 4.6 out of 5.0 possible).
More importantly, the present study finds that adopting a leader identity (self-rated) has a positive effect in the development of some distinct leadership competencies (coach rated) over the course of a five-month executive development program. Specifically, we find that leader identity is positively related to developmental trajectories of three leadership competencies: challenging the status quo, valuing diversity, and creating commitment. We proposed that leader identity would have more pronounced effect on the competencies that are embedded in the implicit leadership view of an effective leader in a particular context (i.e., organization). Possibly, the three leadership competencies that were positively influenced by leader identity represent part of the leadership schema at the studied organization, because leader identity is grounded in a specific social role (i.e., head of the department at company X), which is associated with certain social expectations of the incumbent’s behaviour (Stryker & Burke, 2000). Interestingly, all eight leadership competencies studied in the present study were included in the company’s leadership competency framework. This suggests that although all eight competencies are explicitly communicated by the organization as important, only some are implicitly tied to the identity of effective organizational leader.

In a recent review of the leadership development literature, Day and Dragoni (2015) proposed leader identity as relevant self-view (along with leadership self-efficacy and self-awareness) that in combination with leadership competencies offers reasonable insights into proximal leader development. The results from the present research support this perspective. What is needed in addition to research on trajectories of more proximal leader development outcomes is long-term longitudinal research on more distal outcomes such as changes in dynamic skills and abstractions as well as deep-level meaning-making structures and processes. Such research – although quite
difficult given the time scales involved – is needed to provide a more complete picture of the life-span leader development process.

Finally, examining the time-varying effects of leader identity on the development of leadership competence is an extension of previous research using emerging leaders (i.e., students; Day & Sin, 2011). Thus, we extend the research in the leadership development domain and demonstrate that leader identity remains highly relevant for the development of more experienced leaders, as it predicts the development of leadership competencies.

Career outcomes

Professional development plays an important role in advancing one’s career and securing higher-level positions. In the present study, we find that the initial level and change in some, but not all, leadership competencies are related to promotion after the participation in leadership development program. Possibly this is because decision makers may view some leadership competencies as more important for the higher-level positions (Breaugh, 2011). Surprisingly, we find that initial level and change in two leadership competencies (i.e., negotiating and valuing diversity) were significantly and negatively related to job promotion. We speculate that if leaders have a higher negotiating competency, they might be perceived as manipulative and thus less effective, which could affect their chances of promotion. This effect is likely to be highly dependent on other leader’s characteristics (e.g., political skill). For example, political skill was found to moderate the relationship between use of impression management tactics and supervisor ratings of performance (Harris, Kacmar, Zivnuska, & Shaw, 2007); however, leader effectiveness was lower when they relied on interpersonal influence (Douglas & Ammeter, 2004). Finally, change, but not initial level, in managing stress leadership competency was positively related to promotion.
Higher-level leadership positions are often associated with increased responsibility and pressure to perform; hence, it is not surprising that leaders who improve their ability to handle stress effectively have higher chances of promotion.

Overall, the present study adds to the limited literature investigating how distinct leadership skills and competencies related to career advancement (Claussen et al., 2014). More importantly, and uniquely, we show that changes in some leadership competencies (resulting from leadership development program) are related to job promotion. However, we note that in the present study a limited number of leadership competencies were investigated. Specifically, none of the competencies described delegation or building a shared leadership capacity (Day, Gronn, & Salas, 2004), which might be important for career advancement of senior leaders. Future research should examine how these and other leadership competencies relate to job promotion and other career outcomes for leaders.

**Practical implications**

The findings of the present study have important practical implications for organizational leadership development. We suggest that leader development should follow a more tailored approach and consider individual and organizational developmental needs (see Day, 2001). For example, our findings suggest that distinct leadership competencies develop at different rates, which is likely due to differences in the use of these competencies and underlying knowledge structures. Some of the more complex competencies (i.e., creating commitment; challenging the status quo) are vital to organizational success in the changing business landscape, but are not utilized as often as other less complex competencies (i.e., managing stress). Therefore, leader development initiatives should focus more on and allow longer time for the development of more complex competencies.
Our findings also suggest that individual differences, such as leader identity, play an important role in facilitating the development of some leadership competencies. This indicates that leadership self-views should be taken into account when designing developmental interventions. Potentially, this is even more important at the senior leadership level, because complex leadership competencies must be supported by strong underlying cognitive structures to facilitate their development (Lord & Hall, 2005). Finally, we find that some leadership competencies are related to promotion, which highlight the value of developmental initiatives for both individuals and organizations. Specifically, in-house development programs will allow organizations to tailor the content to their specific needs and thus develop a better skilled talent pool.

Organizational needs should determine leadership competencies that are targeted by developmental initiatives. Although competency frameworks have been widely criticized by some scholars (Hollenbeck et al., 2006), the criticism mostly applies to the attempts to determine universal leadership competencies that apply across all organizations and industries. However, as our study also demonstrates, leadership competency frameworks can be useful to determine leadership competencies required at a single organization (see also Alldredge & Nilan, 2000), and to guide the design of leadership development programs. Overall, present study suggests that leader development should be tailored to individual by taking into account their unique differences in cognition and competencies and to the organization by considering the requirements of specific positions (e.g., Claussen et al., 2014).

Limitations

The present study is not without limitations. First, we note the relatively modest sample size (N=80), which precluded us to utilize more sophisticated modelling tools (e.g., Latent Change Score analyses or Growth Mixture Modelling) to analyse the
longitudinal data. However, longitudinal data on high potential leaders, especially participating in leadership development programs, is usually hard to obtain due to restricted access. This is especially evident in the leader development literature that predominantly relies on student samples. Therefore, our study offers a rare investigation into the developmental needs of “real-world” senior leaders. Second, although the non-experimental nature of our research design precludes us from drawing any strong causal inferences, the present findings are consistent with previous conceptual work (Day & Harrison, 2007), and, at minimum, suggest that leadership competencies and leader identity contribute to leader development processes among senior leaders. Third, some limitations are associated with measures used in the present study. Leadership competencies were assessed via a single item, which potentially raises reliability concerns. However, as discussed above this was the only feasible approach to data collection given the longitudinal design and sponsoring organization’s demands. In addition, unlike much of previous research, we used other (i.e., coaches’) ratings of leadership competencies. Leader identity was measured using an established scale (Hiller, 2005), which however exhibited some range restrictions in the present sample of experienced leaders. However, despite these apparent range restrictions the effects of leader identity on the developmental trajectories were still evident across three of the leadership competencies.

In summary, we believe this study adds to existing literature in several important ways. First, we extend the research on identity and leadership to more experienced leaders and find that leader identity plays an important, yet complex role in the development of leadership competencies. That is, leader identity relates more strongly to some leadership competencies than others. Additional research is needed to ensure such effects are not spurious, but it opens the possibility for additional theorizing as to
which particular leadership domains (i.e., competencies) are most likely to be shaped through leader identity processes. Second, we demonstrate the value of examining the differences in developmental processes of distinct leadership competencies, instead of treating these in a univariate fashion. This is especially important since we find that some of the leadership competencies are related to job promotion among study participants.
### Table Appendix 4-1

**Survey items used to measure leadership competencies**

<table>
<thead>
<tr>
<th>Competency</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenging status quo</td>
<td>[The individual] can depart from accepted group norms of thinking and behaving when necessary</td>
</tr>
<tr>
<td>Valuing diversity</td>
<td>[The individual] sees the value in others’ unique differences</td>
</tr>
<tr>
<td>Promoting employee voice</td>
<td>[The individual] encourages direct and open discussion about important issues</td>
</tr>
<tr>
<td>Creating commitment</td>
<td>[The individual] is able to pull people together around a common goal</td>
</tr>
<tr>
<td>Negotiating</td>
<td>[The individual] accurately senses when to give and take when negotiating</td>
</tr>
<tr>
<td>Managing stress</td>
<td>[The individual] is able to stay calm and perform under pressure</td>
</tr>
<tr>
<td>Articulating complex ideas</td>
<td>[The individual] clearly articulates even the most complex concepts</td>
</tr>
<tr>
<td>Adapting to change</td>
<td>[The individual] adapts to changing conditions</td>
</tr>
</tbody>
</table>
Appendix 4-2

Table Appendix 4-2

Means, standard deviations, reliabilities and correlations of study variables

| Control variables | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gender            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 2 Coach#1         | -.01|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 3 Coach#2         | -.07| -.11|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4 Coach#3         | .03 | -.05| -.01|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 5 Coach#4         | -.0 | -.10| -.20| -.08|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 6 Coach#5         | .03 | -.14| -.29| -.12| -.25|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 7 Coach#6         | -.14| -.05| -.11| -.05| -.01| -.14|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 8 Coach#7         | -.01| -.05| -.11| -.05| -.01| -.14| -.05|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 9 Coach#8         | -.01| -.05| -.11| -.05| -.01| -.14| -.05| -.05|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 10 Coach#9        | .15 | -.07| -.14| -.06| -.12| -.17| -.07| -.07| -.07|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 11 Coach#10       | .02 | -.07| -.15| -.06| -.13| -.19| -.07| -.07| -.07| -.09|     |     |     |     |     |     |     |     |     |     |     |     |     |
| Leader identity   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 12 T0             | -.18| .06 | .15 | .12 | -.09| -.03| .03 | -.01| -.07| -.16| -.13|     |     |     |     |     |     |     |     |     |     |     |     |     |
| 13 T1             | -.20| .14 | .06 | .14 | -.04| -.11| -.12| .08 | -.02| -.12| .13 | .71 |     |     |     |     |     |     |     |     |     |     |     |     |
| 14 T2             | -.01| .08 | .17 | .15 | -.17| -.05| -.07| .01 | .08 | -.03| -.07| .62 | .65 |     |     |     |     |     |     |     |     |     |     |     |
| 15 T3             | -.19| .07 | .20 | .16 | -.13| .02 | .14 | -.11| .08 | -.06| -.12| .58 | .69 | .74 |     |     |     |     |     |     |     |     |     |
| Challenging the status quo |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 16 T0             | -.00| .20 | .11 | .21 | .18 | -.39 | -.09| .20 | -.09| .18 | -.26| -.24| .24 | .10 | .06 |     |     |     |     |     |     |     |     |
| 17 T1             | -.15| .07 | .19 | .17 | .17 | -.42 | -.17| .15 | -.09| .25 | -.14| .05 | .22 | .21 | .15 | .56 |     |     |     |     |     |     |     |
| 18 T2             | -.05| .23 | .05 | .20 | -.05| -.31 | .00 | .08 | -.08| .22 | -.04| .06 | .17 | .27 | .12 | .45 | .53 |     |     |     |     |     |     |
| 19 T3             | .12 | .18 | .09 | .34 | .11 | -.48 | .11 | .11 | -.18| .31 | -.19| .06 | .04 | .06 | .11 | .50 | .52 | .61 |     |     |     |     |     |
| Valuing diversity |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
### Table Appendix 4-2

**Means, standard deviations, reliabilities and correlations of study variables**

|          | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24    |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 20 T0    | -0.01 | 0.01  | 0.14  | 0.33  | 0.11  | -0.39 | 0.08  | 0.08  | 0.01  | -0.05 | -0.04 | 0.07  | 0.17  | 0.12  | 0.02  | 0.47  | 0.36  | 0.45  | 0.52  |
| 21 T1    | 0.01  | 0.12  | 0.07  | 0.23  | -0.00 | -0.40 | -0.10 | 0.05  | 0.27  | -0.15 | 0.25  | 0.17  | 0.35  | 0.35  | 0.24  | 0.17  | 0.39  | 0.37  | 0.36  | 0.56  |
| 22 T2    | 0.09  | 0.23  | 0.19  | 0.22  | -0.15 | -0.41 | 0.07  | 0.07  | 0.15  | -0.07 | 0.08  | 0.05  | 0.11  | 0.24  | 0.12  | 0.20  | 0.24  | 0.44  | 0.48  | 0.55  | 0.62  |
| 23 T3    | 0.05  | 0.36  | 0.17  | 0.31  | -0.29 | -0.43 | 0.06  | 0.21  | 0.06  | 0.02  | 0.03  | 0.06  | 0.11  | 0.12  | 0.07  | 0.32  | 0.26  | 0.37  | 0.49  | 0.59  | 0.53  | 0.72  |

#### Promoting employee voice

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#### Managing stress

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Articulating complex ideas
Table Appendix 4-2

Means, standard deviations, reliabilities and correlations of study variables

|   | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 40 T0 | .14  | -.01 | -.24 | .41  | .13  | -.27 | .07  | -.08 | .07  | .40  | -.08 | .05  | .05  | .12  | .03  | .46  | .40  | .39  | .42  | .25  | .22  | .18  | .24  | .35  |
| 41 T1 | .03  | .15  | -.18 | .09  | .02  | -.15 | -.06 | -.13 | .22  | .25  | .01  | .13  | .14  | .28  | .18  | .16  | .40  | .51  | .25  | .06  | .32  | .18  | .11  | .22  |
| 42 T2 | .08  | .12  | -.03 | .16  | -.08 | -.27 | -.09 | -.09 | .12  | .41  | .04  | .04  | .12  | .21  | .13  | .36  | .40  | .42  | .40  | .13  | .23  | .18  | .09  | .34  |
| 43 T3 | -.08 | .23  | -.05 | .31  | -.05 | -.53 | .15  | .15  | .08  | .32  | -.03 | .14  | .24  | .20  | .14  | .41  | .47  | .64  | .65  | .32  | .40  | .45  | .41  | .23  |

Adapting to change

|   | 44 T0 | -.02 | .27  | .30  | .38  | .07  | -.50 | .04  | -.19 | .04  | -.13 | -.06 | .15  | .21  | .31  | .17  | .42  | .40  | .42  | .54  | .57  | .55  | .56  | .51  | .38  |
| 45 T1 | -.12 | .17  | .26  | .20  | .06  | -.38 | -.03 | -.23 | .23  | -.15 | .06  | .22  | .19  | .30  | .22  | .18  | .44  | .43  | .22  | .36  | .57  | .42  | .22  | .43  |
| 46 T2 | -.09 | .28  | .41  | .17  | .10  | -.43 | -.15 | -.15 | .20  | -.07 | -.26 | .15  | .21  | .32  | .28  | .35  | .54  | .33  | .34  | .29  | .46  | .34  | .34  | .35  |
| 47 T3 | -.14 | .43  | .20  | .37  | .14  | -.63 | .08  | -.01 | .08  | -.13 | -.10 | .04  | .17  | .09  | .16  | .47  | .46  | .44  | .64  | .51  | .50  | .58  | .60  | .35  |

Promoted*

|   | -.10 | .09  | .04  | .04  | .02  | .8   | -.03 | -.03 | -.26 | -.04 | -.17 | -.03 | .03  | -.07 | -.01 | -.06 | -.16 | .01  | .01  | -.11 | -.31 | -.35 | -.28 | -.13 |

Mean

|   | .26  | .05  | .19  | .04  | .15  | .26  | .05  | .05  | .05  | .08  | .09  | 4.0  | 4.1  | 4.3  | 4.5  | 2.8  | 3.0  | 3.3  | 3.6  | 3.0  | 3.1  | 3.5  | 3.8  | 2.9  |

SD

|   | .44  | .22  | .39  | .19  | .34  | .44  | .22  | .22  | .22  | .27  | .28  | .56  | .61  | .57  | .49  | .81  | .74  | .75  | .80  | .81  | .78  | .75  | .78  | .96  |

Note: All coefficients in bold are significant at p<.05. *Spearman’s (non-parametric) correlations coefficients in this row
Chapter 5: General Discussion

The purpose of this thesis was to examine the role of self-perception and identification as a leader (i.e., leader identity) in the process of leader development. In Chapter 2, I proposed leader identity as a motivational mechanism that explains the relationship between managerial reactions to leadership training and their subsequent leader effectiveness. In Chapter 3, I incorporated the self-perception theory (Bem, 1972) into the integrated model of leader development (Day et al., 2009) and proposed that changes in leadership skills relate to changes in leader identity. In Chapter 4, I examined the differences in the development of distinct leadership competencies and their association with leader identity. In this concluding chapter, I integrate the findings and theoretical implications from respective thesis chapters. Firstly, I summarize the findings of these studies and discuss the contributions the current work makes to the leader identity and leader development literatures. I then discuss the practical implications of the findings. Finally, I address some general limitations.

Summary of findings

Chapter 2 aimed to argue for and empirically support the important role of leader identity in leader development. In line with previous theoretical work (Day et al., 2009; Lord & Hall, 2005) and empirical studies (Day & Sin, 2011), leader identity was proposed as a proximal outcome of leader developmental interventions, such as training, that leads to more distal outcomes, for example, leader effectiveness (Day & Dragoni, 2015). Supporting these propositions, I found that leader identity is positively related to leader effectiveness, and both leader identity and effectiveness are predicted by positive reactions to leadership training. Leader identity was found to mediate the relationship between reactions to leadership training and leader effectiveness. Furthermore, I found that leadership experience creates a boundary condition for this mediation. Findings
suggest that leader identity mediates the relationship between reactions to leadership training and leader effectiveness only for less experienced leaders, but not more experienced leaders. Potentially, this is because more experienced leaders gain less from leadership training, because they already possess leadership skills and knowledge that are incorporated into their leader identity.

In Chapter 3, I shifted focus from cross-sectional examination of antecedents and outcomes of leader identity at the between-person level to studying the longitudinal nature of leader identity development at the within-person level. This study was the first to empirically examine the developmental trajectory of leader identity in participants (i.e., graduate students) of a leader development program over a seven-week period. I proposed that leader identity change will be overall positive, but likely curvilinear. This is consistent with adult development theories that suggest the expectation of linear, positive development is unrealistic (Baltes, 1987; Kegan, 1983) and qualitative work on negative dynamics in leader identity construction (Lemler, 2013; Nicholson & Carroll, 2013). Findings supported this proposition, as identity changes were shown to follow a curvilinear J-shaped developmental trajectory. Furthermore, in line with self-perception theory (Bem, 1972), I find that previous level of initiating structure leadership skill is positively related to changes in leader identity, whereas previous changes in consideration skills were significantly and negatively related to subsequent changes in leader identity.

In Chapter 4, I aimed to replicate and extend the findings of Chapter 3 by empirically testing the developmental trajectories of leader identity and leadership competencies among high-potential executives in a corporate leadership development program. Findings suggest that trajectories of leader identity and eight distinct leadership competencies (rated by independent coaches) were linear and positive over
five months. More importantly, in this study I sought to extend the integrated model of leader development (Day et al., 2009) and investigate whether leader identity differently relates to the development of leadership competencies. I proposed that this is because certain competencies will be more grounded in leadership schema and, therefore, leader identity. Findings suggest that leader identity was positively related to the developmental trajectories of three leadership competencies studied: challenging the status quo, valuing diversity, and creating commitment. Finally, to test the beneficial outcomes of competency development for individual’s career progression, I tested whether distinct leadership competencies relate to job promotion. Results were surprising in that the initial level and change in some leadership competencies (valuing diversity, negotiating) were significantly and negatively related to promotion. Change, but not initial level, in managing stress competency was positively related to promotion.

**Theoretical contributions**

In this section, I discuss the theoretical contributions of this thesis to the literatures on leader identity and leader development. I integrate the findings of three empirical studies presented and propose some avenues for future research. Overall, in line with previous theoretical contributions (Day & Harrison, 2007; Day et al., 2009; Lord & Hall, 2005), the three empirical studies in the present thesis provide evidence for the importance of leader identity, especially in the context of leader development.

**Leader identity.** The construct of leader identity has captured the interest of leadership researchers in the past several decades (Epitropaki et al., in press). This is not surprising, since identity is fundamental to how individuals perceive themselves and others (Leary & Tangney, 2003), thus significantly influencing their interactions with others at work (Ashforth & Schinoff, 2016; Miscenko & Day, 2016). I demonstrate the importance of leader identity, as I find it to be positively related to leader effectiveness.
(Chapter 2), consistent with previous limited empirical evidence (Day & Sin, 2011; Johnson et al., 2012). However, previous findings are extended in two ways: 1) the relationship between leader identity and leader effectiveness is tested in a sample of managers occupying a formal leadership position, whereas previous research relied on student samples (e.g., Day & Sin, 2011); and 2) a specific measure of leader identity (Hiller, 2005) is used, whereas previous research used general levels of self-concept scale (Selanta & Lord, 2005).

The present thesis also demonstrates the importance of leader identity for organizational leaders at different hierarchical levels and at different stages of their leadership progression: from emerging leaders who do not yet occupy a formal leadership role (Chapter 3) to middle-level managers (Chapter 2) to high-potential corporate executives (Chapter 4). Together, these findings of leader identity development suggest that it is relevant and crucial to account for at different levels of leadership. Mounting evidence suggests that leader development starts early in life (Day, 2011a; Gottfried et al., 2011) and that individuals experience considerable strain when transitioning into a leadership role (Benjamin & O'Reilly, 2011). Strong self-perception as a leader may help individuals to deal with these early career challenges. Thus, the finding of overall positive developmental trajectory of leader identity adds to an emerging stream of research emphasizing the importance of early factors in leadership development (Day & Sin, 2011; Waldman et al., 2013). In addition, whereas a majority of existing scholarly work is dedicated to formal leadership roles (DeRue, 2011), my findings emphasize the importance of studying emerging and informal leaders, who already possess a relatively strong sense of being a leader.

Furthermore, although senior executives are expected to have internalized a leader identity to a larger extent than emerging leaders, my findings suggest that leader
identity is paramount for their development, as it continues to strengthen over time (Chapter 4). Although a notable ceiling effect on ratings by the program’s end (average of 4.6 out of 5.0 possible) was observed, the study represents a conservative yet important test of the underlying role of leader identity in executive leadership. These finding are supported by the results of cross-sectional study among middle-level managers (Chapter 2), which indicated that the participants had a strong leader identity that positively predicted leader effectiveness. Together these two studies emphasize the relevance of leader identity for managers in formal leadership roles even at higher organizational levels.

Nevertheless, leadership experience is the potential boundary condition for the effects of leader identity. Specifically, I find that the mediation effect in the relationship between reactions to leadership training and leader effectiveness becomes insignificant for more experienced leaders (Chapter 2). In addition, I find that although both emerging and highly experienced leaders had an overall positive developmental trajectory of leader identity (Chapters 3 and 4), only emerging leaders experienced a significant drop in their identity at the beginning of leader development program (i.e., J-shaped). These findings imply that more experienced leaders have a stronger self-perception as a leader, which is less susceptible to change and identity threats (e.g., Petriglieri, 2011). For example, I find that mean leader identity among emerging leaders was lower (3.1 to 3.4, see Table 3-2) than high-potential executives (4.0 - 4.5, see Appendix 4-2). However, due to different data collection methodologies, it is not possible to statistically test for significant differences between the two samples, hence these findings should be interpreted with caution. Future research should seek to empirically test the differences in the strengths of leader identity among leaders with varying levels of experience.
In addition, these findings potentially suggest that with growing experience leader identity becomes more central to their overall self-concept. This proposition is consistent with earlier suggestions that within-individual centrality of a given sub-identity will vary over time (Thoits, 1995) as a function of time spent in a role and depending upon how one evaluates one’s demonstrated performance (e.g., Nurius & Markus, 1990). If, indeed, experienced leaders have a more central leader identity that raises several interesting future research questions. First, the present thesis provides a solid account of changes in strength of leader identity that are primarily due to encountering new meaning of identity, role (expectations), and the alignment between the role and identity. However, there is some uncertainty whether identity strength and centrality could be (and should be) conceptually and empirically distinguished (see Stryker & Serpe, 1994). For example, even if an individual has a strong self-perception as a leader (i.e., leader identity), perhaps, this does not imply that leader identity is very central to the overall self-concept. Thus, future research should examine whether the development of identity strength and centrality are potentially underlined by different mechanisms. Second, and relatedly, the interaction of leader identity and other work and non-work identities in the context of the overall self-concept should be investigated in more detail. For example, qualitative evidence suggests that professional identity supports the construction of leader identity (Rottmann, Sacks, & Reeve, 2015; Spyridonidis et al., 2015). On the other hand, family identity potentially conflicts with leader identity (Tietze & Musson, 2010). Future research should examine how the development of leader identity is influenced by other sub-identities, and what implications this has for the centrality and strength of leader identity.

Finally, although the focus of the present thesis was to investigate the effect of leader development initiatives on leader identity and its development, a range of other
antecedents were (in)directly tested. For example, I controlled for the effect of participants’ gender on leader identity (Chapter 2) and its developmental trajectory (Chapters 3 and 4). In all studies, gender was not significantly related to leader identity, contrary to previous research (Day & Sin, 2011). In Chapter 3, I tested whether age, employment situation, work experience, or Big Five personality traits were related to leader identity change and found that only extraversion (a personality trait of being outgoing and social) was positively and significantly related to the initial level of leader identity (see Appendix 3-1). Nevertheless, given the importance of personality factors in leadership emergence (Judge et al., 2002) and early development (Murphy & Johnson, 2011), future research should examine personality and other individual differences as predictors of leader identity development. This is especially important since individual differences are the consistent predictor of leader behaviour (Tuncdogan, Acar, & Stam, in press), which, as discussed in the present thesis, are supported by leader identity.

**Leader development.** The development of effective leaders remains an important organizational concern (Day et al., 2014). Drawing on previous conceptual work, the present thesis suggests that leader development is a complex, multilevel and longitudinal process (Day, 2001). Specifically, I find that leadership skills (Chapter 3) and competencies (Chapter 4) are related to the development of leader identity. This is consistent with a proposition that leadership skills and behaviours at the observable, surface-level are supported by the cognitive structures at the deeper-level, such as leader identity (e.g., Lord & Hall, 2005). Interestingly, I find changes in leader identity are predicted by changes in leadership skills (Chapter 3), but also leader identity is related to the development of leadership competencies (Chapter 4). Together these finding potentially offer support for the reciprocal relationship between identity and skills (i.e., identity-development spiral; Day et al., 2009), whereby the development of one is
supported by the other. This is consistent with two theoretical perspectives: self-perception theory (Bem, 1972), which argues that individuals infer their self-views from observing one’s behaviour, and social cognitive perspective that ‘thinking is for doing’ (Fiske, 1992), which suggests that thinking of oneself as a leader will prompt acting like one. However, these seemingly contradictory perspectives could be integrated to form a strong theoretical foundation to examine identity construction and associated leader development (see Ashforth & Schinoff, 2016). For example, such interaction of cognition and behaviour is illustrated in the study of young professionals constructing a provisional professional identity (so-called provisional selves; Ibarra, 1999) through adopting and discarding professional behaviours that they perceive as consistent or inconsistent with the role as signalled by others’ feedback. Whereas studies presented in this thesis offer a first preliminary test of these propositions, future research should examine how leader identity and skills form a reciprocal relationship in the process of leader development. Finally, testing such complex, dynamic systems requires highly sophisticated analytical tools, as demonstrated in the present thesis. For example, Chapter 3 is the first to use Latent Change Score analyses with changes-to-changes extension (Grimm et al., 2012) in the leadership field. My hope is that this will encourage future research to utilize these new methodologies.

Finally, the thesis demonstrated the value of workplace leadership development programs (Chapter 4) and leadership training (Chapter 2) as experiences that contribute to the development of leader identity and competencies. Recently, leader development has been conceptualized as occurring across multiple domains (e.g., community, family), and not only at work (Hammond et al., in press). Specifically, authors argued that varying experiences from multiple life domains lead to the changes in leader’s identity. Chapter 3 supports this proposition by showing that leadership experiences (in
the form of leadership intervention) in the higher education context promote the development of emerging leaders. Future work should examine how other types of leadership experiences in different life domains (e.g., job assignment, volunteering, community sports coaching, and parenthood) contribute to the development of leaders’ identity, skills, and behaviours.

**Practical implications**

The findings of the present thesis have several important implications for leadership development practitioners and educators. First, and foremost, I provide ample evidence for the need to differentiate leadership development interventions depending on leaders’ career stage or skills/competencies trained. Leaders at a more advanced career stage will require training that covers more complex knowledge domains, as I find that training was unrelated to leader effectiveness among more experienced leaders (Chapter 2). This is because experienced leaders already possess an extensive skillset (Hirst et al., 2004; Lord & Hall, 2005). In other words, senior leaders may benefit more from leadership development rather than leadership training (Day, 2012). Leadership training is typically shorter-term and aims to train leaders in proven solutions to known problems, thus it is more suited for novice leaders; whereas leadership development is longer term and aims to enhance the individual’s capacity to deal with unknown issues, thus it should target more experienced leaders (Day & Harrison, 2007; Fitzgerald, 1992).

Novice leaders, on the other hand, may benefit from leadership training that offers plenty of positive feedback to support their development. I observed that emerging leaders experienced negative identity dynamics (Chapter 3), which potentially could be alleviated if the support is available. Scholars suggest that feedback helps to support emerging leaders in their discovery of own leadership capacity (DeRue &
Wellman, 2009). Thus, feedback can become an effective tool to counter some of the identity struggles experienced by emerging leaders in leadership development programs, especially since initial decreases in leader identity may be associated with negative social feedback (e.g., Komives, Longerbeam, Owen, Mainella, & Osteen, 2006).

In addition, my findings also suggest that longer-term leadership interventions are more beneficial for developing a stronger leader identity and better leadership skills and competencies for all leaders. This is consistent with recent meta-analytical evidence suggesting that longer-term leadership interventions have greater effects as compared to shorter ones (Avolio et al., 2009). The interventions reported in the present thesis ranged from an average of 54 hours across 6 months (Chapter 2) to seven weeks (Chapter 3) to five months (Chapter 4). This is substantially longer than the median intervention length (3 – 6 h) in the leadership development literature (Avolio et al., 2009). The importance of longer interventions should not be underestimated. For example, I find that in the first weeks of the program, students experienced a drop in their self-view as leaders (Chapter 3). Potentially, a leadership program that is only few weeks long might not achieve any beneficial outcomes, but rather just leave participants with identity that is even more ambiguous.

Second, consistent with previous research I find that graduate students have already developed a relatively strong self-perception as leaders (Foti, Bray, Thompson, & Allgood, 2012). Because leader identity will guide person’s interactions and behaviour in future leadership roles, this finding suggests more leadership development and training should be targeted at emerging leaders (e.g., lower-level employees, students). Put simply, by the time these individuals actually take on a leadership role, it might be too late or too hard to change their leadership behaviour. This is consistent with recent insights suggesting that leadership development starts early in life (Murphy...
& Johnson, 2011). Finally, business schools could play an important role in the
development of future organizational leaders, as suggested by others (Klimoski &
Amos, 2012).

Limitations

The present study is not without limitations. First, common method bias may
have affected the results, particularly, of the cross-sectional study reported in Chapter 2
(Podsakoff, MacKenzie, & Podsakoff, 2012). Nevertheless, previous research suggests
that moderation effects are rather unlikely to be influenced by common method bias
(Evans, 1985). Similarly, all data was self-report in Chapter 3, but as discussed
previously, the central purpose of the study was to estimate the extent to which the
observation of one’s own overt behaviour would affect changes in one’s leader identity.
Given these research questions, collection of self-report data seems appropriate in
addition to the true longitudinal nature of the research and sophisticated statistical tools
used to analyse the data (i.e., estimating latent change rather than relying on raw
difference scores). In Chapter 4, these concerns are somewhat alleviated by using self-
ratings of leader identity and other ratings of leadership competencies. Relatedly,
measuring leader identity via self-report is warranted, because it refers to the self-
perception as a leader, thus, only the incumbent can assess it. However, all studies in
the present thesis rely on the self-report (i.e., explicit) measure of leader identity (Hiller,
2005), which could be susceptible to respondents’ attempt to present oneself in a more
favourable light, especially if they are driven by self-enhancement motives. Future
research should attempt to test the propositions present in this thesis using the indirect
(i.e., implicit) measures of identity (such as Implicit Association Tests; Greenwald,
McGhee, & Schwartz, 1998). The caveat is: there is no indirect measure of leader
identity developed yet.
Second, the cross-sectional nature of Chapter 2 prevents strong support for the causal relations proposed by the mediation hypotheses. Similarly, casual inferences should be drawn with caution from the findings of Chapters 3 and 4, because the research was of non-experimental nature. However, at minimum, the findings suggest that leadership skills, competencies, and leader identity contribute to the leader development process.

Third, as discussed in the introduction, leader identity in the present thesis was conceptualized at the individual level in all studies. This makes sense, because I was primarily interested to investigate the role of identity in the leader development process. However, because of the strong relational nature of the leadership process, significant others and groups may have a considerable impact on the strength of leader identity internalization (DeRue & Ashford, 2010). Future research should thus seek to test if leadership development programs have a similar impact on the change in relational and collective leader identity and whether this change is associated with the development of leadership skills and competencies.

Conclusion

The present thesis advanced and empirically tested the integrated model of leader development grounded in an identity perspective. Across three independent empirical studies, I establish leader identity as an important construct to consider in the examination of leader development. I find that leader identity is predictive of leader effectiveness and it mediates the effects of leadership training on effectiveness. In addition, in two studies I find that leader identity develops along a positive developmental trajectory among both graduate students and high-potential executives. I find that previous level and changes in some leadership skills affect the subsequent changes in leader identity. Furthermore, findings of another study indicate that leader
identity is related to the development of some distinct leadership competencies. Overall, the thesis contributes to the present literature on leader development and promotes the use of longitudinal analyses.


