The Origins of Task- and People-Oriented Leadership Styles: Remains From Early Attachment Security and Influences During Childhood and Adolescence

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Abstract
An increasing number of findings indicate that there are connections between leadership and infant, child, and adolescent development. These connections are largely overlooked in the traditional leadership literature. This study discussed this development with a focus on how it influences the task-oriented part of leadership. For the empirical part of the study, which had an exploratory emphasis, data on 79 leaders were collected, including information on their childhood, collected with a self-report survey (Experiences in Close Relationships [ECR]), their adolescent family experiences, and their leadership styles (Employee-centered, Production-centered, and Change-centered) measured with a survey answered by a subordinate. The results indicated connections between task-oriented leadership style and early experiences: Insecurely attached leaders are at risk of not being considered good leaders by their subordinates. Experiences during adolescence may be influential. This study indicated reasons why it often is difficult to predict who will become a good leader. To accurately characterize a leader, early established features need to be considered. This knowledge can be used to build better models for leadership research and to improve the recruitment and development of leaders.

Keywords
leadership, task-oriented, management, attachment avoidance, attachment anxiety

Introduction
An increasing number of findings indicate that there are connections between experiences early in life and the later performance as a leader or manager. The aim of this study was to further analyze the causes of such connections. Therefore, the focus of this study is best understood if we make two major divergencies when discussing the analysis of leadership:

1. There is a difference between characterizing a leader (1a) by using the traditional traits (which mainly categorize the current behaviors of a person today) and (1b) by analyzing the likely causal developmental background of the current behaviors of a person (which then enables us to predict other likely consequences of that background). This study dealt with (1b) the analysis of the developmental background.

2. There is, in leadership, a difference between (2a) the people-oriented part and (2b) the part that is not people oriented (e.g., analyzing and evaluating information, managing disturbances and change, managing creativity, making priorities, setting goals, planning and organizing operations). The developmental background of part (2a) has been investigated by other researchers. However, as part (2b) is equally important (Yukl, 2010), the focus of this study was on (2b), the part that is not people oriented. In this study, we will use the term “task-oriented” for this part. As the developmental background of the task-oriented part of leadership is not as intuitively evident as the people-oriented part, this background may require some special attention.

To the best of our knowledge, the results of such an analysis have not yet been published.

The empirical methods chosen in this study, and the moderate sample size (\(N = 79\)), were only intended to make a pilot study of the support for the theoretical model. For a careful verification, the desired sample size and research methods were too resource demanding for this small study.

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However, the theoretical part of the study and the experiences gained may be helpful for further research.

The practical applications that can be expected from this knowledge are more reliable analyses of leaders’ features and better prediction of their future performance.

**The Choice of Model to Study**

The model we choose to study in the above-mentioned Divergency 1 (between the traditional traits and an analysis of the developmental background) was based on the following arguments:

**The traditional traits.** The traditional traits that are often referred to in the literature in the context of leadership, management, and organizational development (e.g., Chmiel, 2008; Eysenck, 2006; French, Bell, & Zawacki, 2005; Yukl, 2010; Zaccaro, 2007) may characterize important aspects of leadership; however, they have not been proven to be sufficient criteria for predicting good leadership (Barrick & Mount, 1991; John, 1990; McCrae & Costa, 1996, 2013). The reason for this insufficiency may be that the traditional traits “emerged from the descriptive and lexical approaches to personality, which were aimed mainly at characterizing how people’s behaviour is described in everyday language” (Noffle & Shaver, 2006, p. 203). In other words, the traditional traits were based on what people considered to be important. However, a careful examination showed that there were important factors of which people were not aware. The traditional perception of leadership has also been questioned as lacking a deeper analysis (Bennis, 2007; Hogan & Kaiser, 2005). In this study we focused on the influences of a few basic factors in the development of a person, that most people were not aware of.

A basic construct. A concept that is grounded in findings from systematic research, and which concerns features that are important in the development of a person, is the attachment theory (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969; Main, 2000), which accordingly is a very basic construct. Some of the consequences of having a secure early attachment history include a few early founded cognitive abilities that insecurely attached persons only have minor portions of. These abilities may include the ability to distinguish between appearance and reality, to handle complexity and uncertainty, to understand other persons’ intentions, and to have an intrinsic sense of responsibility. If these abilities are important in leadership, then leadership qualities could be predicted using experiences from attachment research. This approach would signify a new way of thinking for the evaluation and recruitment of leaders.

This study examined whether there were connections between the early development of a person and leadership, with a focus on the task-oriented part of leadership.

**Connections to leadership.** Such connections have been indicated, not only by attachment researchers but also by several researchers in the leadership, management, and economy fields. For example, McCrae and Costa (2013) stated that relatively stable personality traits are formed early in life, Heckman (2008) reported that vocational as well as private life outcomes can be predicted early in life, and Argyris (1990) stated that most individuals learn Model I Theory-in-Use (i.e., defensive reasoning) early in life. However, these researchers did not analyze how this early development is established or which basic factors are involved.

**Environment versus leader control.** The outcome of leadership is partially dependent on the actions of the leader and partially dependent on the circumstances under which the leader is working (Hogan & Kaiser, 2005; Yukl, 2010). In different situations, either of these factors can have a more dominant influence. This article focused on the features and actions of the leader.

**The Theoretical Background**

The following theoretical background contains two parts. It starts with an account of how features are developed that we assume are important in leadership, particularly for the task-oriented part of leadership. Then, in Part 2, we discuss if there are indications documented in the management literature that justify such an assumption.

This study addresses overall child and adolescent development, which includes both sequential and parallel processes and contains many unknown factors. Hence, this account also highlights some of the complexity that would have to be mastered in such an analysis.

As we ventured into somewhat untouched grounds in this study, we discovered a few unexpected findings. These were findings that we could have left unexplored or that we could try to explore further. We preferred the latter approach.

**Theoretical Background**

**The Personal Development**

A major influential factor. A few examples of well-known and verified theories covering the human character development are the attachment theory (Bowlby, 1969, 1988), theory of mind (Flavell, Miller, & Miller, 2002), psycho-social development (Erikson, 1950), cognitive development (Piaget & Inhelder, 1969), identity statuses (Marcia, Waterman, & Matteson, 1993), and moral development (Kohlberg, 1973).

A common theme in these theories is that the caregivers (commonly the parents) are the most important persons in shaping the character of the child, particularly during the first few years of life (Bee & Boyd, 2010; Cassidy & Shaver, 2008). Moreover, the biochemical and neurobiological processes in the offspring, that are connected to the parental
interaction, are being mapped and verified today by several researchers (e.g., Feldman, Gordon, & Zagoory-Sharon, 2010; Gee et al., 2014).

Genetic predispositions are certainly of major importance—and are sometimes decisive—for when, in what order, and at what pace developmental stages occur. However, it is the interactions with the surrounding persons that determine the practical results of the child’s developmental stages (e.g., native language; religion, morals, and culture; trust in self and others; and so on; Baumrind, 2005; Bee & Boyd, 2010; Steinberg, 2011).

Paving the way for cognitive and social development. A very important developmental aspect is the early interaction with a caregiver—particularly, the early attachment—which shapes some very basic features of the child, such as trust (trust in self and trust in others), flexibility (including uncertainty avoidance), autonomy, and openness to experiences (Bowlby, 1969, 1988; Mikulincer, 1998). It is important to note that this development is paving the way not only for interaction with close persons but also for important parts of the cognitive and social development of the child (Bretherton & Munholland, 2008; Flavell et al., 2002; Fonagy, Gergely, & Target, 2007; Mikulincer & Shaver, 2007; Piaget & Inhelder, 1969; Sroufe, Coffino, & Carlson, 2010).

Measuring attachment. These early established features can be measured when the child is between 8 and 18 months with a test called the Strange Situation Procedure (SSP; Ainsworth et al., 1978). The outcome of an SSP test is the classification of the child as having either secure or insecure attachment. An insecure attachment is subclassified as either avoidant, ambivalent, or disorganized.

Later in life, there are more features and mental concepts (such as the attitude toward reality, cooperativeness, own unfavorable experiences, George, Kaplan, & Main, 1996; and reflective functioning, Fonagy, Target, Steele, & Steele, 1998) that we typically recognize as consequences of the early attachment (George et al., 1996; Mikulincer & Shaver, 2007) and the subsequent influence from the caregiver, and—as time goes by—also other ongoing life experiences. These qualities can be measured in adults by a survey or an interview (the analysis of which is not retrospective). The outcome of a test on adults is an adult attachment category that corresponds to one of the SSP categories but is not exactly the same: secure, dismissing, preoccupied, or disorganized (which are examples of the terminology used).

Causality, moderation, and mediation. Considered one of the major early influences on the child, the interaction with a primary caregiver that shapes the early attachment security (whether high or low) can be seen as having a causal influence on the development that follows, n.b., together with genetic, epigenetic, and environmental influences. (For short, we called effects of the early caregiver influences “attachment history” or “early attachment.”) However, as can be understood from the following account, the attachment history may also work as a moderating factor and even as a mediator, during development. (In this limited study, we did not investigate these rather complex influence patterns in the statistical processing.)

The following are a few examples of how the early attachment influences the future development of the child: regarding attitude toward difficulties (Bowlby, 1988; Mikulincer & Shaver, 2007, 2008; Weinfield, Sroufe, Egeland, & Carlson, 2008):

- The securely attached child meets difficulties with renewed efforts to achieve a goal, and the secure adult sees failures as experiences that enhance curiosity on how to solve the problem.
- The insecurely attached child meets difficulties with frustration and a refusal to continue (i.e., learns to avoid uncertainty), and the insecure adult sees failures as negative and signs of incompetence.

Regarding trust in others (Bowlby, 1988; Mikulincer & Shaver, 2005; Sroufe et al., 2010):

- The securely attached child trusts people and verifies time and time again that most people can be trusted.
- The insecurely attached child distrusts people and verifies time and time again that most people cannot be trusted.

It is important to note that these attitudes toward life events essentially covary within their attachment categories; therefore, when trust is high, flexibility, autonomy, and openness are also commonly high, as well as the corresponding measures of other mental states and concepts. Conversely, when trust is low, flexibility, autonomy, and openness are also low and so on (although applied in a bit more complex pattern; George et al., 1996).

Longitudinal studies have shown that between 70% and 80% of adults retain their infant attachment category as adults (George et al., 1996; Hesse, 2008; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000). Hence, these basic mental features are normally fairly stable during life. In a typical population, between 50% and 70% are securely attached persons (van IJzendoorn & Sagi, 1999).

With this theoretical background in mind, we believe that, if the personality features mentioned above (trust, flexibility, autonomy, openness, attitudes toward reality, and to unfavorable experiences) are of any significance in leadership, it may be possible that early life experiences influence the task-oriented part of leadership.

The following development. The development of a person comprises a wide range of experiences, and one may question whether the early history of a person can have any
notable effect on the performance of an adult as a leader. However, two facts indicate the importance of the attachment history: First, our early impressions remain in our minds throughout our entire lives (Fonagy et al., 2007; Ward, 2010), they do not disappear. Second, these impressions influence how new experiences are encountered and are accumulated as tacit knowledge during the rest of our lives (Bowlby, 1988; Mikulincer & Shaver, 2005, 2007, 2008; Sroufe et al., 2010; Weinfield et al., 2008). In addition, the caregiver is the same person during all of childhood and adolescence for most persons, and the influences from the caregiver are normally of the same type during these important years (Bee & Boyd, 2010; Sroufe, Egeland, Carlson, & Collins, 2005). It is, however, also well documented that permanent changes in security (positive or negative ones) may change the direction of this otherwise fairly “straight path” (Waters et al., 2000). Until children are approximately 6 or 7 years old, the attachment to the parents is of major importance for the security of the child. Until children are approximately 12 to 14 years old, the availability of an attachment person is still important (Kerns, Tomich, & Kim, 2006; Maccoby, 1984). During these years, when the growing brain is directed to taking in impressions from primarily the parents, many basic and important features of the person are shaped.

The development literature has suggested that after the commencement of adolescence, friends and school have a greater impact than the parents do (Harris, 1995; Plomin & Daniels, 2011). Although this may be true, the parents lay the foundation for what type of friends the adolescent chooses (and what friends he or she is accepted by; Bee & Boyd, 2010) as well as what schools are chosen and what voluntary undertakings are committed to. However, if the parents have not laid a useful foundation for such choices, then out-of-family factors may become more important (Steinberg, 2011).

A few well-documented examples of how early attachment history often influences the child (and adolescent) also in environments outside the family are as follows:

- Secure attachment promotes good relationships with peers, and an insecure attachment does the opposite (Grossman, Grossman, & Waters, 2005; Kobak & Scery, 1988; Zimmermann, 2004).
- The risk of school dropout can be predicted by the age of 3.5 years (Sroufe et al., 2005).
- The vast majority of clinical cases and people with records of severe criminal charges have an insecure attachment history (Dozier, Stovall-McClough, & Albus, 2008; George et al., 1996).

**The influences of the caregiver**

**Attachment-related influences.** When children and parents are communicating, the attachment system of the parent is often activated (George et al., 1996). This is normally the same parental state of mind that led to the early attachment history of the child. Accordingly, the attachment category of an adult tells us not only about some early shaped features but also something about how this person was probably raised.

A few attachment-related attitudes of parents are mentioned in the manual for the analysis of the Adult Attachment Interview (Main, Goldwyn, & Hesse, 2002). Drawing from these descriptions, three typical attitudes can be outlined:

- **Dismissing parent** exhibits shallowness, shows little interest in other persons, emphasizes normalcy, avoids unfavorable details.
- **Secure parent** exhibits flexibility, trusts others, has high coherence of mind, emphasizes truthfulness, has good appearance–reality distinction.
- **Preoccupied parent** exhibits entangled picture of reality, has little respect for other persons, “put yourself in focus.”

These different parental attitudes have different effects on the youngster (Bee & Boyd, 2010; Main et al., 2002; Steinberg, 2011) also in areas other than attachment, which may manifest in the adult personality and hence also in leadership. To characterize, in our study, what attitude was typical for the child’s (and adolescent’s) parents, we reduced the detailed descriptions mentioned above into three main areas: 1, shallowness and relationships with others; 2, flexibility; and 3, coherence of mind and appearance–reality distinction. Of these, the latter two (2 and 3) are difficult to assess with a few survey questions; therefore, in an effort to characterize the parents’ major attitude by simple means, we probed only area 1 in our study.

**Other family-related influences.** In the literature on child and adolescent development, there are not many references to consequences in adult professional functioning. In our study, we have focused on the following aspects:

- Working life-related family activities: Parental mentorship, the parent as a general role model, and as a parental leadership role model in particular (e.g., Yukl, 2010).
- Factors related to ethics and a sense of responsibility: The transmission of the parents’ values to their youngsters and the responsibility for minor tasks in the family (Steinberg, 2011).

The effects of these influences on the youngsters can be assumed to result in more knowledge about adulthood and the adult “culture” and a higher motivation to adapt to the requirements of a professional life. Our predictions were that positive influences from family life would have positive effects on the task-oriented part of leadership and that they could thereby “conceal” deficiencies that were effects of a poor early attachment history.
**Three stages of development, a summary.** An important implication of the theoretical background so far is that the personal development can be divided into three (overlapping) stages: infancy, childhood, and adolescence. During infancy, the structure of a basic system is shaped, by which much of the coming experiences will be managed. During childhood, much of the values, morals, and behaviors are imprinted that will guide us in our daily actions. During adolescence, the social attitudes and behaviors are acquired that we need to fit in the wider society where we will live.

**A remark regarding the preoccupied scale.** When studying personal features, we often assume that they have linear properties (e.g., when the stimulus is doubled, the effect is doubled) and they can often be treated as though they were linear. However, one of the attachment categories, the ambivalent/preoccupied category, has been documented to change character at the midpoint of the scale. This change is described in the manual for the analysis of the Adult Attachment Interview. The description of how to score the Involving/Role-Reversing/Preoccupied scale states the following: For a score below 5 (on this 9-point scale), the child was subject to involving behavior from the parent on a material level. For a score above 5, the involving behavior was no longer only on a material level; the child was increasingly more responsible for the parents psychological well-being (Main et al., 2002). The latter situation constitutes a violation of the child's integrity and may later have severe consequences on performance as an adult. One possible consequence of such a violation is that the child may learn how to skillfully manipulate the parent, to avoid integrity conflicts and to evade intrusive behavior from the parent.

An expected manifestation of such a violation may then be that the interaction with other persons will also be more manipulative. The clearest indication of this violation would therefore be in the people-oriented part of leadership. However, to the best of our knowledge, there is no theoretical or empirical knowledge on whether or how this violation affects the task-oriented part of leadership.

**Possible connections between insecure attachment and responsibility.** A typical feature of dismissing attachment is an idealized picture of reality, and a typical feature of preoccupied attachment is an entangled picture of reality (Hesse, 2008; Main et al., 2002). Both of these flawed pictures of reality suggest that the individual’s coherence of mind is low (Hesse, 2008; Main et al., 2002).

The idealizing that occurs in dismissing attachment implies that the concern for one’s own positive traits and prestige tends to be more important than the concern for, and collaboration with, others and the success of the organization.

A common consequence of preoccupied attachment may be that the efforts to ensure that one’s personal needs are met tend to be more important than the concern for, and collaboration with, others and the success of the organization.

The priorities in these two cases are in discrepancy with the Winter and Barenbaum (1985) scoring system for responsibility, descriptors 3, **Concern for others;** 4, **Concern about consequences;** and 5, **Self-judgment.** Hence, it may be reasonable to assume that the individual’s intrinsic sense of responsibility is impaired.

Unfortunately, to the best of our knowledge, studies on the relationship between early attachment security and intrinsic sense of responsibility have not been reported.

**Leadership**

**People-oriented leadership and early experiences.** Previously published research regarding the connection between leadership and early experiences have shown that certain leadership styles (Popper, 2002; Popper, Mayseless, & Castelnovo, 2000) or leadership potential (Mikulincer & Florian, 1995; Popper & Amit, 2009; Popper, Amit, Gal, Mishkal-Sinai, & Lisak, 2004) depend on the adult attachment category. This aspect can be seen as a people-oriented part of leadership.

**Task-oriented leadership and early experiences.** To this point, we have discussed the typical characteristics that adults in different attachment categories will have (without really knowing what results at work these properties entail). We will now approach the issue from the opposite perspective and investigate the basic features that are described in good (and in less good) leaders. Are there any features in leaders that we recognize as originating in the development of a person?

Leaders’ traits and personalities have been thoroughly investigated, although mostly as superficially observable, rather complex collections of features (Noffle & Shaver, 2006; Popper, 2002; Popper et al., 2000). However, there is a scarcity of scientific literature describing the basic features of leaders (Larsson et al., 2006). Examples of researchers who have expressed a link between the outcome of leaders or organizations and basic features of these leaders or organizations are as follows: Adorno, Frenkel-Brunswik, Levinson, and Sanford (1950) who described rigidity versus flexibility; Argyris (1990) who described theory-in-use and learning loops; Friedman and Rosenman (1974) who described Type A personality; Larsson et al. (2006) who described flexibility, cognitive complexity, openness, and tolerance for ambiguity; and Marcia et al. (1993) who described identity achiever, moratorium, foreclosure, and identity diffusion. Of these, we believe that Argyris has written the most detailed descriptions when he characterized and compared Model I versus Model II Theory-in-Use and Single- versus Double-Loop Learning.

A few important consequences of **Model I Theory-in-Use** governing values and the signification of Single-Loop Learning are deficient collaboration, inefficient communication, unsatisfactory decisions, resistance to change, and (unwittingly?) repeating the same mistakes (Argyris, 1990), which make the organization unsuccessful. The consequences
of Model II Theory-in-Use and Double-Loop Learning are the opposite. Assuming that the culture and performance of an organization is dependent on its leaders (e.g., Yukl, 2010), we infer that we often can draw conclusions about the leadership by looking at the performance of the organization.

When studying Argyris’s descriptions we found similarities between the attitudes and behaviors of individuals in unsuccessful organizations and the descriptions—from attachment researchers—of insecurely attached adults. In Table 1, we have listed the Argyris’s descriptions (in column 1) and common descriptions of insecurely attached adults (in column 2) to facilitate a row-by-row comparison.

We also found similarities between the descriptions of successful leaders and the descriptions of securely attached adults. Argyris (1990) described the mentality in an efficient organization with the Model II Theory-in-Use governing values and with the signification of Double-Loop Learning. In Table 2, we have listed the Argyris’s descriptions and common descriptions of securely attached adults.

The similarities between the words and expressions used by leadership researchers and attachment researchers are not evidence that their findings are similar; rather, they are a call for further investigation.

**Measuring leadership.** Argyris did not describe a quantitative method to measure the degree of Model I or Model II Theory-in-Use action strategies that a person possesses, nor did he describe how to quantitatively measure the signification of Single- or Double-Loop Learning. Argyris and Schön (1996) proposed to qualitatively map the governing values to predict individual attitudes in the workplace, to take proper action, not to make statistics based on surveys.

The statements that Argyris and Schön (1996) used to describe Theory-in-Use were mainly personal people-oriented but they also have implications for the task-oriented part of leadership (by way of prestigious projects, inefficient delegation, lack of flexibility, etc.). The statements describing learning loops regarded primarily the task-oriented part of leadership, with an emphasis on change orientation. To measure these parts of leadership with separate variables, we used the scales developed by Ekvall and Arvonen (1991). These scales were Employee-centered,
Production-centered, and Change-centered leadership styles.

**Early attachment, leadership, and the outcome.** From the above-mentioned theoretical background, we can assume that leaders with a secure early attachment often have prerequisites (by way of different basic features) for a different leadership style than leaders with an insecure early attachment do. Whether these styles are better or not depends on the circumstances and the expectations.

A significant part of leadership often concerns result-oriented activities, which depend on features developed during adolescence and as young adults. Therefore, we can also assume the following:

- Having the opportunities that a secure early attachment often provides does not automatically make a person a good leader, something more is often required.
- The limitations that an insecure attachment entails often make it more difficult to manage stressful or complex tasks; however, when such skills are not required, they do not necessarily limit the possibilities of a career.

**The traditional traits and leadership styles versus attachment.** The traits and leadership styles frequently referred to in traditional leadership and management literature are often rather complex combinations of different facets, attitudes, features, and behaviors (Noffle & Shaver, 2006; Popper, 2002; Popper et al., 2000). These traits and leadership styles can sometimes be derived from early attachment-related features (and other influences during childhood and adolescence); however, the early attachment-related features cannot be derived from traits and leadership styles (which scholars do occasionally seem to believe).

**Summary of the Theoretical Background and a Few Conclusions**

Certain personal features are usually stable throughout life, particularly those shaped by the early attachment to a caregiver, such as trust, autonomy, and flexibility. These features often influence how tacit knowledge is accumulated. Throughout the rest of childhood, the caregiver is still very important in shaping a child’s personality.

A few important consequences of this development are that the securely attached person often has a deeper understanding of other peoples’ thinking, has a better connection to reality, and is more capable of handling uncertainty, compared with an insecurely attached person. The insecurely attached adult person is often more prone to misunderstand other peoples’ intentions, avoid unpleasant experiences, have a looser boundary between truth and fiction, have a more short-term view of reality, and avoid situations of uncertainty.

During and after adolescence, much of what is added to the personality helps the person to adapt to the wider society where he or she is supposed to live. Although much of this development is controlled by influences from outside of the family, the previously shaped structures still control important underlying processes, such as which people and what experiences are considered positive and what is considered undesired.

In a leadership position, a person primarily displays what was acquired during adolescence and later. However, the guiding principles in decisions (and the boundaries that limit mental capacity) are usually influenced by the early shaped features of the person, particularly so when exposed to pressure. Hence, the outcomes of a leader (under the current circumstances) are roughly a product of early attachment experiences, influences from parents during childhood, and adaptations to society gained during adolescence. For each particular person, there are also many other additional, often minor, influences that contribute to— or limit—the development.

Therefore, the observation of the possible effects of important early experiences requires that we look through a layer of later social adaptations and other experiences.

The aim of this study was to identify fundamental issues regarding leaders’ properties, to show that early experiences may make systematic differences in leadership, and to provide a few examples indicating methods to measure these differences.

**Hypotheses**

A leader may manage the different aspects of leadership differently, at different satisfaction levels for the subordinates and the organization. Our prediction is that leaders with a secure early attachment will manage all three leadership styles well; however, this may not be the case. Therefore, we split our prediction into three hypotheses, two regarding the attachment influences on the different leadership parts (1, people oriented and 2, task oriented) and one regarding the family influences on leadership.

Based on the presented theoretical background, we state the following hypotheses:

**Hypothesis 1:** Leaders with an estimated insecure early attachment do not manage their people-oriented leadership as well as leaders with an estimated secure early attachment do.

This hypothesis is within the same area of leadership (the personal relationship between the leader and subordinates) in which previous studies (Mikulincer & Florian, 1995; Popper, 2002; Popper & Amit, 2009; Popper et al., 2004; Popper et al., 2000) have shown a connection.

**Hypothesis 2:** Leaders with an estimated insecure early attachment do not manage their task-oriented leadership (measured as 2.1 Production-centered and 2.2 Change-centered leadership; Ekvall & Arvonen, 1991) as well as leaders with an estimated secure early attachment do.
This hypothesis regards relationships that have not been published before, to the best of our knowledge.

**Hypothesis 3:** Experiences in the family during childhood and adolescence that are related to factors that are important in working life have a positive influence on leadership and may appear to conceal the effects of an insecure early attachment history.

This hypothesis regards relationships that have not been published before, to the best of our knowledge. To date, we do not have enough of an understanding of these relationships to make any predictions about whether or how these influences relate to the attachment history.

(An example of experiences that may conceal effects of early history is when an avoidantly attached child [who has limited interest in and knowledge about other persons’ minds] learns during adolescence that it is important for your career that people feel that you understand them, and how to make them believe that you do. Having a limited ability to really understand others, these later learned attitudes can only conceal the actual state of the person.)

### Method

This was a cross-sectional study. When designing the study, we underestimated some of the difficulties, primarily because we did not find similar studies reported previously. Accordingly there were no studies we could replicate and no indications of the nature of such difficulties. Therefore, in addition to the planned analyses, we decided to explore how these types of data could be examined more thoroughly.

In our study, there were a few difficulties that we had to address:

- It is not possible to measure the early attachment of an adult person retrospectively: either a historical measure, performed at 8 to 18 months, or an estimation based on the current adult state of mind must be used. We did not have historical data in this study.
- Many unknown factors influence the developmental process during childhood and adolescence. Therefore, the effects of early attachment may manifest themselves in different ways in different adults. The manifestations of early attachment that our methods could indicate are not the only ways that early attachment may influence task-oriented leadership.
- Experiences during adolescence can be expected to obscure (but not replace) the possible connections that we were studying.
- Some of the connections that we studied may be nonlinear and, therefore, more difficult to detect.

At this stage of research, we wanted to narrow the scope of this study and use simple validated surveys to answer questions regarding if and how we could predict differences between leaders with a secure and an insecure early attachment, rather than include all possible aspects of development and leadership. In addition, as the statistical qualities of the sample did not meet the requirement for an advanced statistic analyses, we refrained from most of the advanced statistical elaborations.

We did not have any previous measurements to use to assess the task-oriented part of leadership. Therefore, we needed to be more open to an exploratory approach. A first trial was to use a method similar to the one used for the verification of the people-oriented part of leadership. However, we had good reason to assume that the connections between early childhood and task-oriented leadership were more complex, in that other factors may be assumed to have influenced the appearance of the leaders. Hence, their measurement required more specific and more careful methods.

The results of two exploratory approaches are shown below, not to draw conclusions but to highlight aspects to study and to suggest methods that could be considered in future research.

For this study, we needed data describing (or estimating) the early attachment of leaders and data describing (or estimating) some relevant leadership qualities. We also needed data regarding the leaders’ adolescent family life.

### Participants

The focus of this study was leaders, who were selected by convenience sampling. The leaders had a wide range of leadership positions in differently sized and different types of organizations, in different business areas. The general sample characteristics are provided in Table 3. These leaders completed a survey and submitted the name of a subordinate employee, at their own choice, who completed an evaluation survey. The information about the survey contained a description of the general purpose of the study (to study a possible relationship between early life experiences and current leadership style), declarations of confidentiality, research ethics, and voluntary participation.

In total, 110 leaders (81 males, 29 females) were contacted, the majority by phone and the rest in person. Of the 104 leaders (77 males, 27 females) who agreed to participate in the survey, 87 leaders (68 males, 19 females) answered the survey; 82 of these submitted a subordinate for a subordinate survey, and 79 subordinates (48 males, 31 females) answered their survey. The subordinates had worked for the leader for a mean of $M = 6.1$ years, $SD = 6.6$, minimum $= 0.5$, maximum $= 32$. The desired minimum time was 1 year. Three subordinates had less than 1 year of experience working with the leader; however, we decided to keep them in the sample.

Our research was based on these 79 leader–subordinate dyads. The descriptive data of the dyads are shown in Table 3.

**Data collection.** Two sets of data were collected using surveys distributed over the Internet (hosted by Textalk Websurvey at
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Textalk AB, Mölndal, Sweden): One data set was from the leaders and included a self-report estimation of the adult attachment, a self-report on leadership style, and a few questions about family data. The other data set was from the subordinates and assessed opinions regarding the leadership style of the leader (using the same questions as the self-report section on leadership style that the leader completed).

**Instrument**

**Attachment-related variables: Avoidant and Anxiety.** Retrospectively assessing the early attachment security of adults is not possible. Therefore, the best we could do was to estimate the early attachment history by assessing the adults’ current state of mind with respect to attachment.

The leaders’ early attachments were estimated using the Experiences in Close Relationships (ECR) questionnaire (36 statements), developed by Brennan, Clark, and Shaver (1998), and translated to Swedish by Granqvist and Broberg (2003). The ECR assesses adult attachment but is considered to be one of the best available surveys for estimating the early attachment of adults (Crowell, Fraley, & Shaver, 1999; Fraley, Waller, & Brennan, 2000).

The results from the ECR were two attachment-related variables (Avoidant and Anxiety [corresponding to infant ambivalent attachment]) based on 18 statements for each variable using a Likert-type scale with values from 1 to 7, where a high value on either variable indicated an insecure attachment.

Examples of the statements were as follows: “I prefer not to show a partner how I feel deep down” (Avoidant) and “I’m afraid that I will lose my partner’s love” (Anxiety).

**Leadership style variables: Employee-centered, Production-centered, and Change-centered.** To measure a common conception of “good leadership”, we used a survey designed by Ekvall and Arvonen (1991) that was a further development of results from the 1940s and 1950s University of Michigan and the Ohio State University leadership studies (Ekvall & Arvonen, 1991; see also Yukl, Gordon, & Taber, 2002). The further development comprised an added leadership style (Change-centered), which allowed their survey to cover a wider range of leadership profiles. The survey was tested with multiple regression by Arvonen and Pettersson (2002), where survey results were related to the leaders’ estimated outcomes. These tests showed that cost-effectiveness was significantly predicted by Production-centered and Employee-centered leadership styles, explaining 29% of the variance in effectiveness ($n = 49, F = 6.21, p < .00$). Change effectiveness was predicted primarily by Change-centered and Employee-centered leadership styles, which explained 31% of the variance in effectiveness ($n = 49, F = 6.74, p < .00$). In our study, we used the result from Ekvall and Arvonen’s work to estimate the leadership styles of the leaders.

One subordinate of each participant leader answered this survey.

Based on the measurements made by Ekvall and Arvonen (1991), we only used in our survey the items that had the highest factors when rotated by varimax (for an explanation of varimax, see Field, 2013). Six statements for every leadership style were used. The results from this survey were three variables (Employee-centered, Production-centered, and Change-centered) with a numeric Likert-type scale with values from 1 to 5, where a high value indicated a more pronounced leadership style.

Examples of statements about the leader were as follows: “Is considerate” (Employee-centered), “Gives clear instructions” (Production-centered), and “Experiments with new ways of doing things” (Change-centered).

**Self-report of own leadership: Employee-centered, Production-centered, and Change-centered.** The leaders also answered a set of questions about their leadership style, which

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**Table 3. Descriptive Statistics Data About the Participants (N = 79).**

|                         | Total % | Ages (M) | Ages (SD) | Ages (minimum) | Ages (maximum) | Males % | Females % |
|-------------------------|---------|----------|-----------|---------------|----------------|---------|-----------|
| Participant leaders     | 100     | 54.2     | 8.6       | 31            | 69             | 77      | 23        |
| Leadership positions    |         |          |           |               |                |         |           |
| Project leaders, group leaders | 39 | 50.5     | 9.7       | 31            | 69             | 71      | 29        |
| Middle management leaders | 39 | 55.2     | 6.4       | 42            | 67             | 84      | 16        |
| Top management leaders  | 22      | 58.9     | 7.2       | 45            | 68             | 76      | 24        |
| Organization size       |         |          |           |               |                |         |           |
| Small companies (10-49 employees) | 15 | 56.2     | 10.0      | 38            | 67             | 83      | 17        |
| Medium size (50-249 employees) | 20 | 56.3     | 7.2       | 42            | 68             | 75      | 25        |
| Large companies (>250 employees) | 64 | 53.0     | 8.6       | 31            | 69             | 76      | 24        |
| Business area           |         |          |           |               |                |         |           |
| Trade, retail, service, and leisure | 27 | 57.6     | 7.0       | 42            | 67             | 86      | 14        |
| Industry                | 57      | 51.8     | 8.9       | 31            | 69             | 82      | 18        |
| Health care, church, and education | 16 | 56.5     | 7.9       | 39            | 68             | 46      | 54        |
corresponded to the ones used in the subordinate evaluation. (For more details, see the description of leadership style variables above.)

**Family life influences.** To explore the possible influences of family factors during adolescence, the leaders answered six questions in addition to the above-mentioned questions, regarding their parents and their preadult family life, called *Family Data Variables* in the text. To the best of our knowledge, these questions had not been tested before in a similar context. The questions were inspired by the sources mentioned below but were not tested for validity:

1. Was family appearance important to your parents?

   (This question was intended to explore indications of “shallowness” in the family [instrumental parents, idealization, normalizing, positive wrap-up, emphasis on “fun,” “activities,” or material objects; see Main et al., 2002].) This question was scored on a numeric Likert-type scale with values from 1 to 5.

2. Did your parents talk about their thoughts or their working life?

   (This question was intended to explore indications of whether transmission of the parents’ values and experiences had any impact on leadership; Steinberg, 2011.) This question was scored on a numeric Likert-type scale with values from 1 to 5.

3. Did a parent or another close person act as a mentor?

   (This question was intended to explore indications of whether parental mentorship had any impact on leadership; Yukl, 2010.) This question was scored on a numeric Likert-type scale with values from 1 to 5.

4. Did you see a parent at work (i.e., leading meetings, discussing problems, negotiate, or the other work-related activities)?

   (This question was intended to explore indications of whether observing a parent as a role model had any impact on leadership; Yukl, 2010.) This question was scored on a numeric Likert-type scale with values from 1 to 5.

5. Did any of your parents have a leadership position? If yes, which position?

   (This question was intended to explore indications of whether a leadership role model from any one of the parents had any impact on leadership; Yukl, 2010.) The responses to this question were classified as follows: no leadership position = 1, leadership in a noncorporate organization or first-line leadership = 2, middle management = 3, and executive leadership = 4. Two coders coded the replies, and intercoder reliability was 97.5%. The diverging codes were negotiated to agree on a final code.

6. Did you have any particular area of responsibility in your family? If yes, specify what.

   (This question was intended to explore indications of whether the responsibility for a minor task in the family [not including a responsibility for parents’ well-being or other non-healthy liabilities] had any impact on leadership; Steinberg, 2011.) The replies to this question were classified as follows: no commitment = 1, commitment with low responsibility (often a self-oriented responsibility) = 2, and commitment with evident responsibility (mainly other-oriented responsibility) = 3. Two coders coded the replies, and intercoder reliability was 92.5%. The diverging codes were negotiated to agree on a final code.

A high value on any of these variables was assumed to indicate that the participant had been markedly influenced by factors within the family during childhood or adolescence.

The six Family Data Variables were included in this study to indicate possible general influences from these types of experiences, not to make a detailed analysis (at this stage of research) of their influences.

**Data Analysis**

The statistical calculations were made using the IBM statistical software package SPSS.

The variables were not continuous variables, but they were treated as though they were continuous. We assumed that this treatment did not have any significant effects on the results of the study.

The results that were used for hypotheses testing. To test Hypotheses 1 and 2, the correlations between the two ECR variables (Avoidant and Anxiety) and the three leadership style variables (Employee-centered, Production-centered, and Change-centered) were calculated. A significant negative correlation was assumed to indicate a positive test.

To test Hypothesis 3, the regression statistics, correlations, and differences between means (ANOVA) for the six Family Data Variables and the three leadership style variables (Employee-centered, Production-centered, and Change-centered) were calculated. Significant regressions, positive correlations, or differences between means were assumed to indicate a positive test.

For significant correlations, the effect size $r^2$ was also calculated.

The attachment variable “Calculated Secure.” Low values on either the Avoidant or the Anxiety variables do not indicate
whether a leader is securely attached or not. Therefore, an estimation of a simulated “independent” variable called Calculated Secure was made (this was done only for pedagogic reasons) from the ECR variables Avoidant and Anxiety, by the following calculation:

\[
\text{Calculated Secure} = \frac{(8 - \text{Avoidant}) + (8 - \text{Anxiety})}{2}.
\]

As the variable Calculated Secure was only a composite of the two measured variables Avoidant and Anxiety, it was not focused on in the evaluation of results.

**Two leadership index variables: Index_Leadership and Index_Self_Report.** The three leadership styles (Employee-centered, Production-centered, and Change-centered) were added to an index variable: Index_Leadership. The self-reported leadership styles were also added to an index: Index_Self_Report. As a measure of reliability in the leadership style in-data, the differences between these variables were used for outlier detection.

**Detecting outliers.** In most cases, there seemed to be a fairly strong consensus between the leader and the subordinate regarding the leader’s leadership style (87% differed less than 0.82 points [16%] on a 5-point scale). However, in a few cases, the leader’s self-report differed uncommonly much (between 1.4 and 1.8 points) from the subordinate’s evaluation. In those cases, we assumed that something was wrong: Perhaps the subordinate was overestimating the leader’s abilities or perhaps there was dissatisfaction with the leader. We considered these to be unreliable cases that did not represent what we wanted to study. Cases in which the difference between Index_Self_Report (self-reported leadership style) and Index_Leadership (subordinate-reported leadership style) was outside the 95% confidence interval (Field, 2013; Miles & Shelvin, 2008)—that is, the z score was above 1.96 or below −1.96—were classified as outliers and were excluded.

**The six Family Data Variables (and Exploratory Trial 1).** An analysis of the connections between the three leadership style variables and the six Family Data Variables was performed using regression, correlation, and one-way ANOVA.

Based on the results of this analysis (almost no significant results) and considering the theoretical background, we decided to study the influences from the Family Data Variables in another way: We compared the correlations (between the three leadership styles and the Family Data Variables) from the cases subjected only to high influences from the Family Data Variables with the correlations from the cases not subjected to high influences.

We divided the population into two samples; 1a and 1b, which were compared. One sample (1a) consisted of the leaders who had answered with high values on the Family Data Variables and one sample (1b) comprised of the rest of the cases.

We also made confirming calculations, to decide where to divide the two samples, using stepwise model selection statistics (SMSS; Miles & Shelvin, 2008) with the Akaike information criterion (AIC; for a description of AIC, see Field, 2013), which was performed with the GNU-project statistical software package R. These calculations were performed by the division of mathematical statistics at the Chalmers University of Technology in Gothenburg.

**Nonlinearity (Exploratory Trial 2).** To examine whether there were nonlinear relationships between independent and dependent variables, we checked for curvilinearity, with the appropriate function in SPSS. The purpose of this procedure was to determine whether it would be meaningful to study the lower and the upper parts of the independent variable scale separately. If the quadratic function had a significant correlation to the dependent variable, studying a divided scale was considered meaningful.

A quadratic function has the following general expression (Miles & Shelvin, 2008):

\[
y = Ax^2 + Bx + C.
\]

When there was significant curvilinearity, the population was divided into two intervals with respect to the curvilinear variable, which formed two smaller groups. To find a dividing point, the inflexion point (either \(y = y_{\min}\) or \(y = y_{\max}\)) was calculated. This was performed by setting the derivate \(dy / dx\) equal to zero. The function \(y\) was derived, yielding

\[
\frac{dy}{dx} = 2Ax + B.
\]

To calculate the \(y_{\min}\) point, \(dy / dx\) was set equal to zero, yielding the result \(x_{\min} = -B/2A\).

**Results**

We make the following general remarks about our results and our tables:

- The dependent variables are listed in the left vertical column and the independent variables are located in the top horizontal row.
- One subordinate per leader is a very low number. The number of participating leaders is also a bit low. Therefore, we also observed correlations with \(p < .1\) (which we considered as having a tendency toward being significant).
- All correlations were two-tailed.

**Outliers Were Excluded**

Three cases had z scores above 1.96 or below −1.96 regarding the leadership variables and were excluded, and 76 cases remained.
Descriptives

The means, standard deviations, ranges, and Cronbach’s alpha for the attachment variables and the leadership style variables were as displayed in Table 4.

Consistency of the variables. The variables Avoidant and Anxiety were index variables (and the variable Calculated Secure was an inverse sum of these two variables). Cronbach’s alpha for the ECR variables Avoidant and Anxiety are usually >.9 (Mikulincer & Shaver, 2007). The leadership style variables (Employee-centered, Production-centered, and Change-centered) were also index variables. Expected Cronbach’s alpha values are >.7 (Sverke, Arvonen, & Lindell, 1999).

The internal correlation between the attachment variables Avoidant and Anxiety was \( r = .34, p < .01 \), and the internal correlations between the leadership style variables are displayed in Table 5.

Analysis of Data

The leadership styles versus the estimated attachment scales. A calculation was made (for the 76 remaining cases: 59 males, 17 females) of the Pearson correlations between the three leadership styles and the three attachment categories (see Table 6).

Table 6 shows one significant negative correlation: Employee-centered leadership style versus Avoidant (\( r^2 = .06 \)).

The leadership styles versus the Family Data Variables. The regression analyses of the leadership styles versus the Family Data Variables showed no significant correlations.

Calculations with one-way ANOVA showed no significant differences between group means.

Influences from the Family Data Variables on the leadership styles (Exploratory Trial 1). In an explorative attempt, we examined the differences between high and low influences from the Family Data Variables.

Assuming that the influences represented by the Family Data Variables would have a measurable effect on the leaders’ outcome, we wanted to examine whether we could detect differences between a high and a low influence. To examine this, we configured groups with different levels of influence and calculated the correlations between the leadership style variables and the attachment variables, for the different groups. These correlation results were compared between groups.

The groups were designed accordingly:

- Group 1.1 contained the cases that had the highest possible value (called the “topmost value” in the following text) on at least two of the Family Data Variables.
- Group 1.2 contained the cases that had the topmost value on one variable.
- Group 1.3 had the next-to-topmost value on at least two variables and no topmost values.
- Group 1.4 had the next-to-topmost value on one variable and no topmost values, and so forth.

This procedure revealed that the biggest difference between correlation results occurred when the groups of leaders who had answered with the topmost value on at least one variable (Group 1.1 and Group 1.2) was compared with a group containing the rest of the cases (i.e., those who had not answered with the topmost value on any variable).

Using SMSS with AIC, the same dividing point was obtained. However, the seemingly high accuracy of the values generated by SMSS is not justified by the low number of participants, the unknown validity of the Family data questions, and the exploratory approach. Therefore, we decided to content with only mentioning that SMSS may be a possible formal way to manage an analysis such as this, and we
only report the final results from SMSS, as unstandardized estimates of the coefficients (denoted as B_{SMSS} in Table 7).

Thus, for our Exploratory Trial 1, two groups of leaders were created: Group 1a (= Group 1.1 and Group 1.2) and Group 1b (= the cases that were not included in Group 1a), based on the result of this procedure. These groups represented two different levels of experiences of family interaction during childhood and adolescence.

When calculating the Pearson correlations between the three leadership styles and the Avoidant variable, we found that Group 1a (leaders who had answered with the topmost value on at least one of the Family Data Variables) did not show any significant correlations (see Table 7). The remaining group of leaders (45 cases: 34 males, 11 females) who had not answered with the topmost value on any of the Family Data Variables (Group 1b) had Pearson correlations according to Table 7. All correlations with the Anxiety variable were insignificant and were left out in Table 7.

Table 7, Group 1b, shows one significant negative correlation, Employee-centered leadership style versus Avoidant \( (r^2 = .25) \), and one tendency toward significant negative correlation, Change-centered leadership style versus Avoidant.

Curvilinear properties were explored (Exploratory Trial 2). When we tested for curvilinear properties with the Employee-centered variable (which was assumed to best indicate manipulative skills for high values of Anxiety, see the section “A Remark Regarding the Preoccupied Scale”), we found a significant correlation to a quadratic function of the Anxiety variable. The function to make the quadratic adaptation of the variable Anxiety with respect to the Employee-centered variable was

\[ y = f(\text{Anxiety}) = 0.19x^2 - 1.05x + 5.55, \]

where the \( y_{\text{min}} \) point is at \( x = 2.76 \).

The correlation between Employee-centered and \( y = f(\text{Anxiety}) \) was significant: \( r = .25, p = .03 \).

We made two groups to be studied: one group with Anxiety < 2.76 (42 cases: 34 males, 8 females), which we called Group 2a, and another group with Anxiety > 2.76 (34 cases), Group 2b.

Pearson correlations were calculated for the two groups, which for Group 2a (Anxiety < 2.76) yielded a tendency toward significant correlation between the Employee-centered variable and the Anxiety variable: \( r = -.30, p = .06 \) (and between the Employee-centered variable and the Calculated Secure variable: \( r = -.33, p = .03 \)).

For Group 2b (Anxiety > 2.76), there were no significant correlations or tendencies toward significant correlations.

Combining Exploratory Trial 1 with Exploratory Trial 2. When we combined the criteria for Exploratory Trial 1b (where influences were low) and Exploratory Trial 2a (where Anxiety < 2.76), there were 24 cases left (19 males, 5 females). The Pearson correlations between the three leadership styles and the three attachment categories are presented in Table 8.

### Our Hypotheses

**Hypothesis 1**

To test Hypothesis 1, the correlations between the two ECR variables (Avoidant and Anxiety) and the leadership style variable Employee-centered were calculated. A significant negative correlation was assumed to indicate a positive test. The result of this analysis was that only the Avoidant variable had a significant negative correlation with Employee-centered leadership style (Table 6).
Therefore, a part of Hypothesis 1 was verified for all of the 76 cases.

Based on the results from the combined Exploratory Trials 1 and 2 (which showed significant negative correlations between the leadership style Employee-centered and both attachment variables [Avoidant and Anxiety], $n = 24$), this indicated that insecurely attached leaders did not manage their people-oriented leadership as well as securely attached leaders do.

**Hypothesis 2**

To test Hypothesis 2, the correlations between the two ECR variables (Avoidant and Anxiety) and the two leadership style variables Production-centered and Change-centered were calculated. A negative significant correlation was assumed to indicate a positive test.

This hypothesis was not verified for the entire sample of 76 cases.

However, the results from the Exploratory Trials 1 and 2 indicated some interesting connections:

2.1 **Production-centered leadership style.** The results from the combined Exploratory Trials 1 and 2 (significant negative correlations between the Production-centered leadership style and both attachment variables Avoidant and Anxiety, $n = 24$) indicated that insecurely attached leaders did not manage their task-oriented leadership as well as securely attached leaders do (Table 8).

2.2 **Change-centered leadership style.** The result from Exploratory Trial 1 (a tendency toward a significant negative correlation between the Change-centered leadership style and the attachment variable Avoidant in Group 1b, $n = 45$) indicated that avoidantly attached leaders did not manage their change-oriented leadership as well as securely attached leaders do (Table 7).

**Hypothesis 3**

To test Hypothesis 3, the regressions, correlations, and differences between means (ANOVA) for the six Family Data Variables and the three leadership style variables (Employee-centered, Production-centered, and Change-centered) were calculated. Significant regressions, positive correlations, or differences between means were assumed to indicate a positive test. This hypothesis was not verified.

However, the results from Exploratory Trial 1 indicated that when the influences from the Family Data Variables were high (see Table 7, Group 1a), they had the potential to override the influences from the attachment variables.

**Discussion**

A part of Hypothesis 1 was verified and was consistent with the results from other researchers (Mikulincer & Florian, 1995; Popper, 2002; Popper & Amit, 2009; Popper et al., 2004; Popper et al., 2000), indicating that early attachment history is important for personal workplace relationships.
The results from the exploratory trials indicated that Hypotheses 2 and 3 were reasonable but that the connections to the task-oriented part of leadership were more complicated than expected. Moreover, the nature of the more complicated connections was indicated by the results from the exploratory trials.

The exploratory trials suggested there were two processes that appeared to eventually override the negative influences from an insecure attachment. The processes were as follows:

- Influences on youngsters regarding adulthood, work, and leadership, which were acquired in a family environment (the Family Data Variables), indicated by the results from Exploratory Trial 1.
- The experiences of a highly preoccupied parent indicated here by the results from Exploratory Trial 2.

These processes are discussed in more detail in the next two paragraphs. The effects of these processes indicated two reasons why it, in a practical situation, may be difficult to predict good leadership. A better understanding of these processes may make predicting leadership qualities easier.

**Influences From the Family Data Variables on the Leadership Styles.** There were no significant correlations or tendencies toward significant correlations between the Family Data Variables and the leadership styles. The reason for this may have been that the questions were too simple and unspecific. However, the results from Exploratory Trial 1 indicated that the experiences from the family environment are important.

**Exploratory Trial 1.** When analyzing the two groups of leaders that had experienced different levels of family influences—Group 1a (high level of influences) and Group 1b (lower level of influences)—we found marked differences in the correlation results with regard to the Avoidant variable between these groups (Table 7). The shift in correlations indicated that early attachment experiences had a strong influence on the leadership in Group 1b, but as it appeared to the subordinates, not so in Group 1a. A possible explanation is that the factors represented by the topmost values of the Family Data Variables (Group 1a) had strong influences on how leaders appeared to their subordinates. Without these influences (Group 1b), the attachment history had a more obvious impact on the apparent leadership style.

We know from previously published research that early attachment experiences influence everyone in a private context (George et al., 1996; Hesse, 2008; Waters et al., 2000) but we do not know much about its influences in a leadership context. The findings above imply that early experiences have an impact in a leadership context as well, but that the impact may be concealed to spectators by experiences during adolescence. As a natural process that replaces early influences with a new control framework during adolescence or later is not known, we assume that these early influences remain present, despite later influences, and affect all leaders in subtle, subconscious ways.

A second implication of this difference in correlations (Table 7) is that the Production-centered and Change-centered leadership styles seem to be more influenced by experiences during and after adolescence than the Employee-centered leadership style is. These results seem quite reasonable to us as the Production-centered and Change-centered leadership styles supposedly are more dependent on what is learned in school, at the university, or at work, which in turn is related to the family’s culture and parental support (Steinberg, 2011).

**Nonlinear relationships with the Anxiety variable (Exploratory Trial 2).** In our sample, a quadratic relationship was found between the Employee-centered variable and the Anxiety variable.

Although we do not have a verified theory that explains this nonlinear relation, it may be explained in part by the change in character at the midpoint of the Anxiety scale that was documented by Main et al. (2002). Hence, one possible explanation is that a child that has been subjected to high levels of preoccupation may have learned how to skillfully manipulate the parent, to avoid integrity conflicts and to evade intrusive behavior from the parent. These manipulative skills may also be used in the interaction with other persons and would markedly increase from the middle part of the Anxiety scale to the top part. When applied in a leadership context, these increased skills may lay behind the nonlinear relationship between the Anxiety variable and the leadership style variables. If so, the cases in Group 2b (Anxiety > 2.76) would require a more advanced analytical method that does not fit within the methods used in this study.

The correlation between Production-centered leadership style and the Anxiety variable became significant when the leaders with Anxiety > 2.76 were eliminated. This could be interpreted as though also the task-oriented part of leadership is affected by highly preoccupied attachment.

**Limitations in This Study**

- The recruitment of subordinates was conducted by the leaders and it may have been conducted in a subjective manner.
- There was only one subordinate recruited per leader. The opinions from more subordinates may have produced a more reliable measure of leadership styles.
- The leadership styles were at best a representation of the leadership outcome we wished to measure. The questions in the survey addressed attitudes and actions, not the actual outcomes of the leader.
- The ECR is a self-report survey. We believe that a more reliable method to measure the attachment category would have been preferable.
The Family Data Variables were broad and unspecific, retrospective, assessed from one source, and not validated.

We do not know exactly how the Family Data Variables influenced leadership. Parental support may have helped leaders perform better at work, or it may have done the opposite; for example, helped them know how to skillfully avoid well-grounded accusations.

The study limitations mentioned above most likely decrease the sensitivity of the measurements and may obscure the possible connections.

**Final Comments and Conclusions**

Although the exploratory approaches used in this study limited the number of cases that finally supported our hypotheses, we do not find that these limitations overthrow the general concept of possible important connections between early attachment experiences and the task-oriented aspect of leadership outcome. Our results indicate that the performance of a leader depends on a complex combination of a wide range of life experiences including very early experiences. Therefore, to accurately characterize a leader, some of the features mentioned above need to be analyzed.

The results of this study can be understood as in agreement with Argyris’s (1990) descriptions of Single-/Double-Loop Learning and Theory-in-Use governing values, as well as descriptions made by other leadership researchers mentioned earlier. In an organization, the typical personal features of securely attached people may generally be assumed to be more positive and productive than the typical features of insecurely attached people.

In addition, the results suggest reasons that some people in Group 1a (high level of influence from parents) and Group 2b (high level of Anxiety) may function well as leaders despite low attachment security, at least in less demanding environments.

These findings indicate that the processes that occur during the early development are more important than what has been reported in the traditional leadership literature (e.g., Yukl, 2010; Zaccaro, 2007). As outlined in the theoretical background, these early processes may be the fundamental causes of major differences in leadership. Hence, this knowledge could serve as the foundation for a general theory of leadership, in that we could better understand

- the wider consequences of apparent personal features (or properties) of a leader, consequences that are often not obvious at a first glance but are important in leadership; and
- which personal features are stable (e.g., those created very early) and which features are easier to change (such as those shaped by later processes).

The exploratory methods used in this study, to find and classify specific categories of participants in groups, have facilitated a more careful and accurate analysis. One challenge for future studies is to find methods to look through the concealing layer of later social adaptations and other experiences, and to accurately map the properties of leaders with high preoccupied attachment.

**Possible General Implications**

Many results from attachment research—some of which have been suggested in the above-mentioned theoretical background—could most likely be applied to the leadership field after verification. An advantage of attachment-related features over the traditional traits and leadership styles is that they are very general and are not as strongly coupled to a certain situation or environment, which makes it possible to better predict future outcomes.

**A General Suggestion**

In studies in which personality is part of the data, the results do not always correlate as expected. One explanation may be that there is no correlation to be found. Another explanation may be that participants who belong to different early attachment categories produce different patterns of answers, but without a way to distinguish between the attachment categories, these differences may appear random.

One suggestion would be to include an attachment-related variable whenever personality is an important part of the study.

**Suggested Future Research**

Because the features typical of a certain attachment category are often covariant and rather stable, future research could study whether it is possible to identify “concealed” leadership traits in a person only by mapping more easily detected stable features, such as those used in the adult attachment categorization (e.g., flexibility, trust, autonomy, and idealization of one’s own picture of reality). This would then be done without performing a full analysis of the attachment category of the person. The identified concealed leadership traits would then need to be verified by other means.

Concealed traits that can be expected to be identified are the ability to understand others’ intentions, the general attitude toward reality, a potential avoidance of uncertainty, and the intrinsic sense of responsibility.

A suitable specific research question may be as follows:

**A Future Research Question:** How covariant are the features that are used in the attachment categorization, in a workplace environment?
This type of investigation could lay the groundwork for new personality characters that are conceptually similar to the attachment categories but not exactly the same. These personality types would presumably be grounded in features that are dealt with in attachment theory, as present in the person today, but not based on an attachment category classification of the person. The new personality types would probably comprise four main types (corresponding to the four attachment categories) with additional subtypes.

**Suggested Improved Research Methods**

To avoid the uncertainty of insufficient research methods when studying the connections between preadult experiences and leadership, we would suggest the following improvements:

- A measure of leadership that is better related to the actual outcome of the leader, whether by financial measures, customer satisfaction, employee turnover, or what best applies to the current local leadership situation.
- A measure of family influences that is more specific and that is validated.
- A more reliable measure of adult attachment. The currently best suited method for this purpose is the Adult Attachment Interview (Hesse, 2008) designed by Main et al. (2002).

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**References**

Adorno, W., Frenkel-Brunswik, E., Levinson, D. J., & Sanford, R. (1950). *The authoritarian personality*. New York, NY: Harper.

Ainsworth, M., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Lawrence Erlbaum.

Argyris, C. (1990). *Overcoming organizational defenses: Facilitating organizational learning*. Upper Saddle River, NJ: Prentice Hall.

Argyris, C., & Schön, D. (1996). *Organizational learning II: Theory, method and practice*. New York, NY: Addison-Wesley.

Arvonen, J., & Pettersson, P. (2002). Leadership behaviours as predictors of cost and change effectiveness. *Scandinavian Journal of Management*, 18, 101-112.

Barrick, M., & Mount, M. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, 44, 1-26. doi:10.1037/0021-9010.78.1.111

Baumrind, D. (2005). Patterns of parental authority and adolescent autonomy. *New Directions for Child and Adolescent Development*, 108, 61-69.

Bee, H., & Boyd, D. (2010). *The developing child*. Boston, MA: Pearson Education.

Bennis, W. (2007). The challenges of leadership in the modern world. *American Psychologist*, 62, 2-5. doi:10.1037/0003-066X.62.1.2

Bowlby, J. (1969). *Attachment and loss, Vol. 1: Attachment*. London, England: Pitmilo.

Bowlby, J. (1988). *A secure base: Parent child attachment and healthy human development*. London, England: Routledge.

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult romantic attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York, NY: Guilford Press.

Breherton, I., & Munholland, K. (2008). Internal working models in attachment relationships: Elaborating a central construct in attachment theory. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (pp. 102-127). New York, NY: Guilford Press.

Cassidy, J., & Shaver, P. R. (2008). *Handbook of attachment: Theory, research and clinical applications* (pp. 434-465). New York, NY: Guilford Press.

Chmiel, N. (Ed.). (2008). *An introduction to work and organizational psychology: A European perspective*. Oxford, UK: Blackwell.

Crowell, J., Fraley, C., & Shaver, P. (1999). Measurement of individual differences in adolescent and adult attachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (pp. 718-744). New York, NY: Guilford Press.

Ekvall, G., & Arvonen, J. (1991). Change-centered leadership: An extension of the two-dimensional model. *Scandinavian Journal of Management*, 7, 17-26. doi:10.1016/0956-5221(91)90024-U

Erikson, E. H. (1950). *Childhood and society*. New York, NY: W.W. Norton.

Eyseenk, H. (2006). *The biological basis of personality*. New Brunswick, UK: Transaction Publishers.

Feldman, R., Gordon, I., & Zagoory-Sharon, O. (2010). The cross-generation transmission of oxytocin in humans. *Hormones and Behavior*, 58, 669-676. doi:10.1016/j.yhbeh.2010.06.005

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. London, England: SAGE.

Flavell, J., Miller, P., & Miller, S. (2002). *Cognitive development*. Upper Saddle River, NJ: Prentice Hall.

Fonagy, P., Gergely, G., & Target, M. (2007). The parent-infant dyad and the construction of the subjective self. *Journal of Child Psychology and Psychiatry*, 48, 288-328. doi:10.1111/j.1469-7610.2007.01727.x

Fonagy, P., Target, M., Steele, H., & Steele, M. (1998). *Reflective functioning manual, Version 5*. London, England: University College London.

Fonagy, P., & Target, M. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology*, 78, 350B365. doi:10.1037/0022-3514.78.2.350

Engelbert and Wallgren
French, W., Bell, C., & Zawacki, R. (2005). *Organization development and transformation: Managing effective change*. New York, NY: McGraw-Hill.

Friedman, M., & Rosenman, R. (1974). *Type A behavior and your heart*. New York, NY: Fawcett Crest.

Gee, D., Gabard-Durnam, L., Telzer, E., Humphreys, K., Goff, B., Schapio, M., . . . Tottenham, N. (2014). Maternal buffering of human amygdala-prefrontal circuitry during childhood but not during adolescence. *Psychological Science*, 25, 2067-2078. doi:10.1177/0956797614508787

George, C., Kaplan, N., & Main, M. (1996). *Adult attachment interview*. Unpublished manuscript, Department of Psychology, University of California, Berkeley.

Granqvist, P., & Broberg, A. (2003). *Erfarenheter i nära relationer* [Experiences in close relationships]. Unpublished manuscript, Department of Psychology, University of Gothenburg, Sweden.

Grossman, K. E., Grossman, K., & Waters, E. (2005). *Attachment from infancy to adulthood: The major longitudinal studies*. New York, NY: Guilford Press.

Harriss, J. R. (1995). Where is the child’s environment? A group socialization theory of development. *Psychological Review*, 102, 458-489. doi:10.1037/0033-295X.102.3.458

Heckman, J. (2008, June). *Schools, skills, and synapses* (IZA Discussion Paper No. 3515). Bonn, Germany: Forschungsinstitut zur Zukunft der Arbeit.

Hesse, E. (2008). Adult attachment interview: Protocol, method of analysis, and empirical studies. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (pp. 552-598). New York, NY: Guilford Press.

Hogan, R., & Kaiser, R. B. (2005). What we know about leadership. *Review of General Psychology*, 2, 169-218. doi:10.1037/1089-2680.9.2.169

John, O. (1990). The “big five” factor taxonomy: Dimensions of personality in the natural language and in questionnaires. In J. Oliver (Ed.), *Handbook of personality: Theory and research* (pp. 66-100). New York, NY: Guilford Press.

Kerns, K., Tomich, P., & Kim, P. (2006). Normative trends in children’s perceptions of availability and utilization of attachment figures in middle childhood. *Social Development*, 15, 1-22. doi:10.1111/j.1467-9507.2006.00327.x

Kobak, R., & Screey, A. (1988). Attachment in late adolescence: Working models, affect regulation, and representations of self and others. *Child Development*, 59, 135-146. doi:10.2307/1130395

Kohlberg, L. (1973). The claim to moral adequacy of a highest stage of moral judgment. *The Journal of Philosophy*, 70, 630-646. doi:10.2307/2025030

Larsson, G., Bartone, P., Bos-Balx, M., Danielsson, E., Jelsuc, L., Johansson, E., & Wachowiez, M. (2006). Leader development in natural context—A grounded theory approach to discovering how military leaders grow. *Military Psychology*, 18, 69-81.

Maccoby, E. (1984). Middle childhood in the context of the family. In A. Collins (Ed.), *Development during middle childhood: The years from six to twelve* (pp. 184-239). Washington, DC: National Academy Press.

Main, M. (2000). The organized categories of infant, child, and adult attachment: Flexible vs. inflexible attention under attachment-related stress. *Journal of the American Psychoanalytic Association*, 48, 1055-1096.

Main, M., Goldwyn, R., & Hesse, E. (2002). *Adult attachment scoring and classification systems*. Unpublished manuscript, Department of Psychology, University of California, Berkeley.

Marcia, J., Waterman, A., & Matteson, D. (1993). *Ego identity: A handbook for psychosocial research*. New York, NY: Springer-Verlag.

McCrae, R., & Costa, P. (1996). Towards a new generation of personality theories: Theoretical context for the Five-Factor Model. In J. Wiggins (Ed.), *The five factor model of personality—Theoretical perspectives* (pp. 51-87). New York, NY: Guilford Press.

McCrae, R., & Costa, P. (2013). *Personality in adulthood: A five-factor theory perspective*. New York, NY: Guilford Press.

Mikulincer, M. (1998). Attachment working models and the sense of trust: An exploration of interaction goals and affect regulation. *Journal of Personality and Social Psychology*, 74, 1209-1224.

Mikulincer, M., & Florian, V. (1995). Appraisal of and coping with a real-life stressful situation: The contribution of attachment styles. *Personality and Social Psychology Bulletin*, 21, 406-414.

Mikulincer, M., & Shaver, P. (2005). Mental representations of attachment security: Theoretical foundations for a positive social psychology. In M. W. Baldwin (Ed.), *Interpersonal cognition* (pp. 233-266). New York, NY: Guilford Press.

Mikulincer, M., & Shaver, P. (2007). *Attachment in adulthood*. New York, NY: Guilford Press.

Mikulincer, M., & Shaver, P. (2008). Adult attachment and affect regulation. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (pp. 503-551). New York, NY: Guilford Press.

Miles, J., & Shelvin, M. (2008). *Applying regression and correlation*. London, England: SAGE.

Moffle, E., & Shaver, P. (2006). Attachment dimensions and the big five personality traits: Associations and comparative ability to predict relationship quality. *Journal of Research in Personality*, 40, 179-208.

Piaget, J., & Inhelder, B. (1969). *The psychology of the child*. New York, NY: Basic Books.

Plomin, R., & Daniels, D. (2011). Why are children in the same family so different from one another? *International Journal of Epidemiology*, 40, 563-582.

Popper, M. (2002). Narcissism and attachment patterns of personalized and socialized charismatic leaders. *Journal of Social and Personal Relationships*, 19, 797-809.

Popper, M., & Amit, K. (2009). Attachment and leaders development via experiences. *The Leadership Quarterly*, 20, 749-763.

Popper, M., Amit, K., Gal, R., Mishkal-Sina, M., & Lisak, A. (2004). The capacity to lead: Major psychological differences between “leaders” and “non-leaders.” *Military Psychology*, 16, 245-263.

Popper, M., Mayseless, O., & Castelnov, O. M. (2000). Transformational leadership and attachment. *Leadership Quarterly*, 11, 267-289.

Sroufe, A., Caffino, B., & Carlson, E. (2010). Conceptualizing the role of early experience: Lessons from the Minnesota longitudinal study. *Developmental Review*, 30, 36-51.

Sroufe, A., Egeland, B., Carlson, E., & Collins, A. (2005). *The development of the person—The Minnesota study of risk and adaption from birth to adulthood*. New York, NY: Guilford Press.
Steinberg, L. (2011). *You and your adolescent: The essential guide for ages 10-25*. New York, NY: Simon & Schuster.

Sverke, M., Arvonen, J., & Lindell, M. (1999). Assessing change-, production-, and employee-oriented leadership: Cross-cultural comparisons of measurement properties. In J. Arvonen (Ed.), *Change, production and employees: An integrated model of leadership. Study II* (pp. 82-98). Stockholm, Sweden: Department of Psychology, Stockholm University.

van IJzendoorn, M., & Sagi, A. (1999). Cross-cultural patterns of attachment: Universal and contextual dimensions. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (pp. 713-734). New York, NY: Guilford Press.

Ward, J. (2010). *The student’s guide to cognitive neuroscience*. Hove, UK: Psychology Press.

Waters, E., Merrick, S., Treboux, D., Crowell, J., & Albersheim, L. (2000). Attachment security in infancy and early adulthood: A twenty-year longitudinal study. *Child Development*, 71, 684-689.

Weinfield, N., Sroufe, A., Egeland, B., & Carlson, E. (2008). Individual differences in infant-caregiver attachment: Conceptual and empirical aspects of security. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (pp. 78-101). New York, NY: Guilford Press.

Winter, D., & Barenbaum, N. (1985). Responsibility and the power motive in women and men. *Journal of Personality*, 53, 335-355.

Yukl, G. (2010). *Leadership in organizations*. Upper Saddle River, NJ: Pearson.

Yukl, G., Gordon, A., & Taber, T. (2002). A hierarchical taxonomy of leadership behavior—Integrating a half century of behavior research. *Journal of Leadership and Organizational Studies*, 9, 15-32.

Zaccaro, S. J. (2007). Trait-based perspectives of leadership. *American Psychologist*, 62, 6-16.

Zimmermann, P. (2004). Attachment representations and characteristics of friendship relations during adolescence. *Journal of Experimental Child Psychology*, 88, 83-101.

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