
Personalities in Sync:

The Covariation of Psychological Resources in Leader-Follower Dyads

Abstract

Based on a two-week daily diary study of 31 leader-follower dyads, this article demonstrates that within-person variation in the leader’s level of state core self-evaluations is associated with within-person variation in the follower’s level of state core self-evaluations. Moreover, we provide tentative evidence that this crossover effect might be mediated by transformational leadership behavior. Our study contributes to personality and leadership research by exploring within-leader, within-follower and within-dyad personality processes. By showing that the personality states of leader and follower fluctuate in sync, we shed light on a new way in which leaders and followers connect.

Keywords: core self-evaluations; leader-member dyad; crossover of resources; psychological resources
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Personality dynamics are an increasing focus of study in both the personality (e.g., Sosnowska, Kuppens, De Fruyt, & Hofmans, 2019) and work (e.g., Lievens, Lang, De Fruyt, Corstjens, Van de Vijver, & Bledow, 2018) psychology literatures. Within both realms of research, early efforts have clearly documented that there is significant within-individual variation in personality states (e.g., Beckmann, Wood, & Minbashian, 2010; Huang & Ryan, 2011). As noted by Fleeson and Jayawickreme (2015), however, more research is needed on the factors that explain such dynamic (within-individual) variation in state personality. Some work has focused on situational factors that underlie personality dynamics, such as work pressure (Hofmans, Debusscher, Dóci, Spanouli, & De Fruyt, 2015) and interpersonal conflict at work (Judge, Simon, Hurst, & Kelley, 2014). Yet, the literature is mute on how relational dynamics may explain personality dynamics. This is odd given that many of our behaviors are interpersonal in nature (Rauthmann, Sherman, & Funder, 2015). In the present paper, we address this gap in the literature by studying how within-individual personality variation in one actor might covary with within-individual variation in another actor, in the context of leader-follower relationships.

While most personality dynamics literature has focused on the Big Five framework, we focus on core self-evaluations. Core self-evaluations—being a higher-order dimension composed of self-esteem, self-efficacy, locus of control, and emotional stability—is a cognitive-evaluative personality dimension that expresses a person’s fundamental appraisals of their worth, abilities, and capacities to cope with life’s challenges (Judge, Erez, Bono & Thoresen, 2003). Research has shown that people with high core self-evaluations are healthier both physically and psychologically (Tsaousis, Nikolaou, Serdaris, & Judge, 2007), experience higher levels of well-being (Liu, Li, Ling, & Cai, 2016; Smedema, 2014),
experience less stress (Kammeyer-Mueller, Judge, & Scott, 2009), experience higher life and job satisfaction (Judge & Bono 2001) and lead more constructively (Dóci & Hofmans, 2015). These examples illustrate that core self-evaluations is a concept of broad importance to explaining well-being in organizations.

Researchers have recently demonstrated that the level of core self-evaluations varies within the individual across situations (Debusscher et al., 2016a; Dóci & Hofmans, 2015; Hofmans, Debusscher, Dóci, Spanouli, & De Fruyt, 2015). *State core-self evaluations* represent one’s momentary level of psychological resources (Dóci & Hofmans, 2015). Because individuals’ core self-evaluations impact their life satisfaction, job satisfaction, income, career success, and mental and physical health (Best, Stapleton, & Downey, 2005; Judge, Bono, Erez, & Locke, 2005; Judge & Hurst, 2008; Tsaousis, Nikolaou, Serdaris, & Judge, 2007), the notion that it fluctuates across situations is meaningful. Employees appear to feel and function better when their core self-evaluations are high and therefore it is critical to understand the various influences that impact their core self-evaluations (beyond the typical trait-based paradigm). Thus, widening our understanding of the role that the context and relationships with others may play in the fluctuation of core self-evaluations is important both for theory and for practice. Nevertheless, until now little research attention has been paid to contextual features related to changes in state core self-evaluations.

The paucity of research that has examined state core self-evaluations to date has shown that within-person fluctuations in core self-evaluations can be predicted from within-person fluctuations in environmental stressors such as task complexity (Dóci & Hofmans, 2015), time pressure (Dóci, Hofmans, Nijs, & Judge, 2020) or work pressure (Hofmans et al., 2015). In this paper, we will further our understanding of features that predict fluctuations in employees’ core self-evaluations by introducing a social-relational dimension as yet another mechanism that accompanies within-person variation in core self-evaluations. Drawing on
conservation of resources theory (Hobfoll, 1989), we suggest that during dyadic interactions leaders and followers transmit their psychological resources to each other, and that because of those mutual influences, their state core-self evaluations covary within the dyad across interactions.

**Conceptual Model and Theoretical Concepts**

*The Social-Relational Approach*

Core self-evaluations is an evaluative personality dimension that concerns one’s overall self-concept. Theories on the relational self (Andersen & Chen, 2002; Brewer & Gardner, 1996), relational identity (Sluss & Ashforth, 2007), relational self-construal (Cross, Bacon, & Morris, 2000), and relational self-worth (Harter, Waters, & Whitesell, 1998) suggest that the working self-concept is shaped by the relation in which the individual momentarily partakes (Andersen & Chen, 2002). When interacting with different individuals, different self-expectations, self-definitions, self-ideals, and self-evaluations are activated, which in turn drive one’s cognitions, affects and behavior (Andersen & Chen, 2002; Andersen & Glassman, 1996; Brewer & Gardner, 1996). Building on the relational premise that others play a crucial role in the evaluation of the self (Chen, Boucher, & Tapias, 2006), we suggest that an important factor that may predict variation in one’s core self-evaluations is the presence and behavior of others.

In our employment of the relational approach, we theorize that there are not only between-dyad differences in one’s working self-concepts (meaning that one feels different about oneself when interacting with, for example, one’s friend as compared to one’s supervisor), but also within-dyad differences (meaning that, for example, one feels different about oneself when interacting with their supervisor on Monday, when the supervisor is recharged and therefore considerate, as compared to Friday when the supervisor is exhausted and therefore irritable). We suggest that changing circumstances are related to cognitive,
affective and behavioral changes in one dyad member (alias state personality), thereby altering the relational dynamics between the dyad members and, by doing so, affecting the cognitive, affective and behavioral functioning of the other dyad member (and vice versa).

In particular, we suggest that the state core self-evaluations of leader and follower covary when the leader and follower interact. To explain the mechanism underlying the suggested covariation of state core self-evaluations, we use Conservation of Resources Theory (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014; Hobfoll, 1989) as a theoretical framework.

**Core Self-Evaluations as Psychological Resources**

Conservation of Resources Theory (Hobfoll, 1989) holds that individuals’ fundamental drive is to maintain and enhance their valued resources. The theory defines resources ‘as those objects, personal characteristics, conditions, or energies that are valued by the individual or that serve as a means for attainment of these objects, personal characteristics, conditions, or energies (Hobfoll, 1989, p. 516). Relevant to our study is that Hobfoll (2002) introduced self-esteem as an example of resources that are “centrally valued for their own right” (p. 307) and identified self-efficacy and internal locus of control as two of the mostly studied psychological resources. Core self-evaluations can thus be viewed as a construct that represents a person’s pool of psychological resources, as it constitutes of one’s level of self-esteem, self-efficacy, locus of control and emotional stability (Judge et al., 1998).

Similar to its lower-level facets (Bandura, 2006; Beckmann, Beckmann, Minbashian & Birney, 2013; Debusscher et al., 2014; 2016b; Heatherton & Polivy, 1991; Kernis & Waschull, 1995; McNiel & Fleeson, 2006), core self-evaluations has been shown to fluctuate within an individual across situations (Debusscher et al., 2016a; Dóci & Hofmans, 2015; Ferris, Rosen, Johnson, Brown, Risavy, & Heller, 2011; Hofmans et al., 2015; Schinkel, van
State core self-evaluations can therefore be seen as the momentary level of psychological resources available to a person to cope with life’s challenges (Dóci & Hofmans, 2015). High state core self-evaluations is defined as “a state of personal agency characterized by positive evaluations of one's current capability and worthiness (self-esteem), one's current effectiveness (self-efficacy), one's current feelings of being confident, stable, calm, and relaxed (low neuroticism) and one's ability to control a given event (internal locus of control)” (Nübold, Muck, & Maier, 2012; p. 3). Thus, high state core-self evaluations is a state rich in psychological resources, and within-person variation in core self-evaluations represents the intra-individual fluctuations in these psychological resources.

**Intra-Personal Resource Spirals**

Conservation of Resources Theory (Hobfoll, 1989) suggests that when people are rich in resources and feel that their resources are safe, they act in ways that attempt to generate more resources. They take risks to acquire further resources and engage in constructive, approach behaviors. Furthermore, such behaviors are likely to lead to the onset of a positive resource spiral, whereby one’s behaviors generate resources, which inclines one to engage in constructive behaviors that further augment these resources. On the other hand, when people feel that their resources are threatened, they act in ways that are aimed at preventing further degradation of valued resources. They may try to overly control situations to prevent loss of resources or avoid uncertain situations altogether. However, these behaviors often backfire as they consume already scarce resources in ways that do not allow the accumulation of new resources. Therefore, they may cause the onset of a negative spiral, in which one feels less and less secure and acts in ways that cause further declines in resources.
Inter-Personal Resource Spirals

Research in the work-family interface domain suggests that personal resources do not only live a dynamic life within the individual, but also cross over between individuals (Bakker, & Demerouti, 2009; Bakker, Demerouti, & Burke, 2009; Demerouti, Bakker, & Schaufeli, 2005; Hammer, Allen, & Grigsby, 1997; Shimazu, Bakker, & Demerouti, 2009; Westman, 2006). Such crossover is often mediated by behavior; for example, by positive or negative interpersonal exchanges and interactions (Westman, Etzion, & Chen, 2009). From the perspective of Conservation of Resources Theory, these findings can be interpreted such that when an individual is rich in resources, the constructive, approach behaviors in which s/he engages generate resources for others, in addition to oneself. For example, individuals who have access to sufficient resources at work behave in supportive ways toward their partners at home, and such behaviors, in turn, enhance the partner’s resource and energy level (Demerouti, 2012). Similarly, when people feel that their resources are threatened, the ensuing behaviors also deplete the resources of others. For example, depression has been shown to cross over between partners by means of social undermining behaviors (Westman & Vinokur, 1998).

The idea that relationships are critical for personal resources is not new. For example, according to sociometer theory, self-esteem is the output of a system that monitors other’s reactions to the self, allowing one to register and respond to interpersonal rejection and acceptance (Leary, Tambor, Terdal, & Downs, 1995). Similarly, reflected appraisals theory (Mead, 1934) suggests that one’s self-concept is affected by the appraisals others make of one. Empirical support for this premise has been provided by the meta-analysis by Harris and Orth (2019), which demonstrated that relationships impact one’s self-esteem development and that self-esteem in turn impacts one’s relationships. Of course, the fact that relationships matter to one’s personal resources does not imply that every relationship is equally relevant.
In line with the relational approaches to the self (Andersen & Chen, 2002; Andersen & Glassman, 1996; Brewer & Gardner, 1996), primarily significant others are expected to have a strong effect on how one feels about oneself and evaluates one’s capacities. Therefore, we expect the (psychological) resource-crossover effect to be especially meaningful in relationships where a person has a significant role in the other person’s life. In the private domain, this may be a partner, a family member, or a close friend. At work, this may be a colleague that one works closely together with. For these reasons, when studying the crossover of psychological resources, it is particularly meaningful to focus on the leader-follower relationship.

Drawing on the idea that psychological resources do not only fluctuate within an individual, but also cross over between individuals, we expect the psychological resources of leaders and followers to covary during dyadic interactions. In support of this idea, Jayamaha and Overall (2019) pointed towards the central role of esteem-related support processes. In their study among romantic couples, they showed that people who are confident in their own worth are more likely to invest in providing esteem-related support to their partner, which in turn promotes positive self-evaluations in the other. Such esteem-related support can take many forms, including positive encouragements and comments regarding the other’s efforts and progress, complimenting the other’s abilities, validating and agreeing with the other’s perspective, and reducing self-blame and feelings of failure in the other (Jayamaha & Overall, 2019). Because in dyadic interactions, such behaviors can be shown by the leader to the follower but also vice versa, we expect the relationship to be a recursive one. This bidirectional thinking aligns well with the idea that both leader and follower are formative and agentic actors in the leader-follower relationship (Hofmans, Dóci, Solinger, Choi, & Judge, 2019).
Hypothesis 1: Within-person fluctuations in leader and follower state core self-evaluations covary across shared situations

Resource Crossover Through Leadership Behavior

Because leader and follower mutually influence each other and depend on one another (Collinson, 2014), we expect psychological resources to cross-over in both directions in leader-follower dyads, from leader to follower and from follower to leader. At the same time, these relationships are typically characterized by an important power and status difference between leader and follower (Collinson, 2008). Because power and status have the potential to induce asymmetries in interpersonal behaviors (Talaifar, Buhrmester, Ayduk, & Swann, 2020), leaders might have an enhanced impact on their followers due to their power position and related capacity to control followers’ resources, and their greater freedom to express their moods and emotions (Sy, Côté, & Saavedra, 2005). Being in the dependent position in the leader-follower relationship, research shows that followers are indeed particularly affected by leaders’ moods (Sy, Côté, & Saavedra, 2005), as they are expected to accommodate them and adapt to them (Keltner, Gruenfeld, & Anderson, 2003; Van Kleef, Oveis, Van Der Löwe, LuoKogan, Goetz, & Keltner, 2008). Moreover, studies have shown that one’s self-rating gets more strongly affected by the affective messages of their supervisors than of peers (Baldwin et al., 1990), and that leaders can have a transformative effect on their followers’ self-efficacy (Pillai & Williams, 2004), self-expectations (Eden, 1993), and overall self-concept (Shamir, House, Arthur, 1993). Thus, while the crossover of resources is undoubtedly a two-directional process between leader and follower, the leader’s impact on the follower’s resources may be more salient because of the leader’s greater position of influence within the dyad. In line with this idea, we turn our attention toward one particular mechanism that may, in part, explain the covariation between leader and follower state core
self-evaluations, namely, the crossover of psychological resources through leadership behavior.

From the perspective of Conservation of Resources Theory, when the supervisor is rich in resources, s/he will be likely to engage in constructive and resource building behaviors. In leadership literature, the leadership style that is particularly recognized for generating resources for followers is transformational leadership (Burns, 1978). Therefore we will focus our attention on this specific leadership style. Transformational leadership means motivating followers by supportive and empowering behaviors aimed at follower development, by offering an inspiring vision and innovative ideas, and by being charismatic and leading by example. While these behaviors generate resources for followers, they also require psychological resources on the part of the leader. One needs to feel confident about work challenges to make followers feel the same (inspirational motivation). One needs to feel sufficiently ‘in control’ about tasks to embolden followers to think innovatively and solicit their ideas (intellectual stimulation). One needs to feel balanced and grounded to actively care for others (individualized consideration). On the contrary, when the supervisor experiences threat to their valued resources, they may be inclined to engage in avoidance behaviors (laissez-faire leadership), or to monitor and control followers to prevent further loss of resources (e.g. management by exception behaviors).

A broad range of studies support the assumption for a positive relationship between the leader’s psychological resources and transformational leadership. Transformational leadership has been found to be positively associated with each facet of core self-evaluations: internal locus of control (Howell & Avolio, 1993), self-efficacy (Fitzgerald & Schutte, 2010), self-esteem (Matzler, Bauer, & Mooradian, 2015) and emotional stability (Bono & Judge, 2004). Feeling in control of work events (locus of control) enables the leader to convey a convincing and achievable vision to employees (Howel & Avolio, 1993). Feeling confident
that one’s efforts lead to desired goals (self-efficacy) allows the leader to instill confidence in others (Fitzgerald & Schutte, 2010; Peterson, Walumbwa, Byron, & Myrowitz, 2009).

Having a strong sense of self-worth provides the necessary confidence to act charismatically as a leader (House, 1976). And finally, having a positive outlook (low neuroticism) provides the psychological fuel it takes to inspire others (Bono & Judge, 2004; Peterson et al., 2009; Seo, Jin, & Shapiro, 2008). Furthermore, researchers also found the higher order trait—core self-evaluations—to be positively related to transformational leadership. Using historiometric analyses, Resick and colleagues (2009) found that leaders with high core self-evaluations were more likely to be transformational leaders than those with low core self-evaluations. They argued that the positive association between core self-evaluations and transformational leadership can be explained by the self-confidence it takes to successfully engage in transformational leadership behaviors. In a later study, Hu and colleagues (2012) arrived at similar results, only that in their case followers rated leaders’ transformational leadership. Furthermore, research in an experimental setting has found that the higher leaders’ (self-rated) state core self-evaluations are, the more likely they will engage in transformational leadership behaviors (as rated by followers) (Dóci & Hofmans, 2015).

**Transforming psychological resources**

The ‘transformational’ label in transformational leadership stands for leaders’ capacity to inspire positive change in followers (Burns, 1978). By caring for their followers, attending to their needs and coaching them to bring the best out of them, supervisors enhance their followers’ sense of self-worth and their positive affective well-being (Arnold et al., 2007). By making them believe that they can overcome obstacles, supervisors boost their followers’ self-confidence, self-efficacy and sense of control (Fitzgerald & Schutte 2010; Gong, Huang & Farh, 2009; Liu, Siu & Shi 2010). In other words, acting in ‘transformational’ ways often boils down to providing esteem-related support (see Jayamaha
& Overall, 2019), which implies that, by acting in ‘transformational’ ways supervisors can enhance their followers’ psychological resources (Densten, 2005; Dvir, Eden, Avolio & Shamir, 2002; Sivanathan, Arnold, Turner, Barling, Kelloway & McKee, 2007). Indeed, transformational leadership has been widely acknowledged for its positive effects on followers, such as employee well-being and constructive work attitudes (Dvir, Avolio & Shamir, 2002; Liu, Shiu, & Si, 2010; Tsai, Chen & Cheng, 2009). Studying the transfer of psychological resources between leader and follower is particularly important because this process may be one of the main mechanisms through which transformational leadership exerts its positive effects on employees.

In sum, we hypothesize that within-person fluctuations in leaders’ and followers’ state core self-evaluations covary and that one potential mechanism that is partially responsible for this covariation is resource transfer via transformational leadership behaviors from leader to follower. This means that, at times when the supervisors’ core self-evaluations are increased, the supervisor will be more likely to engage in transformational leadership behaviors, and those leadership behaviors will in turn increase the followers’ state core self-evaluations.

Hypothesis 2: The relationship between the leader’s and the follower’s state core self-evaluations is mediated by transformational leadership behaviors.

Method

Procedure

We conducted a two-week daily diary study with the participation of thirty-one leader-follower dyads. The data was collected in 2015 in different Belgian organizations, both from the private and the public sector. The researchers contacted leaders and followers within their network to participate in the study, who in turn asked some of their colleagues to participate as well. The inclusion criteria was having regular one-to-one meetings between leader and follower. The participants received a demographics survey a few days before the
start of the daily diary data collection. Next, a short questionnaire was sent to the leaders one hour before the end of each working day, asking them first to identify a situation where they worked together with their designated follower on that particular day. Then, questions about the leaders’ state core self-evaluations as experienced within this particular situation followed. The morning(s) after, we sent a short questionnaire to the follower. In the beginning of this questionnaire, the follower was introduced to the situation the leader described on the previous day. Then, questions regarding the follower’s state core self-evaluations and about the leader’s transformational leadership behavior within that particular situation followed. As we were interested in within-person, within-dyad fluctuations, observations were required of at least two different days from every dyad. From the initial fourty-four dyads, thirteen dyads failed to provide data on more than one day and were therefore excluded from further analyses. The remaining 31 dyads yielded 108 full observations, corresponding to an average of 3.48 observations per dyad.

The data and syntax can be found at https://osf.io/vkdeg/?view_only=5ff872d7c4204ba6b6117a094f6ef411 The study and our hypotheses were not pre-registered. Moreover, we followed the general guidelines of our institution at the time of data collection, which did not require formal permission from an ethical committee. Nevertheless, both leaders and followers were informed about the purpose and duration of the study, the confidentiality of their answers, and they were given the opportunity to contact us in case of questions or problems. Moreover, every day an opt out link was included in our emails, which allowed participants to opt out of the study whenever they wanted to.

Sample

The final sample consisted of 31 leader-follower dyads. One follower and four leaders did not fill in the demographic survey; therefore we do not have their demographic data. The
average age of the followers who filled in the survey was 37 years ($SD = 9.51$) and 71% of them were women. 3.2% of them had no high school degree, 25.8% attained a high school degree, 12.9% attained a college degree, 6.5% attained a bachelor degree, 48.4% attained a master degree and 3.2% attained a doctoral degree. On average, followers had been working in their respective companies for 11.28 years ($SD = 10.63$) of which 2.38 years ($SD = 1.91$) they worked under their current leader. The average age among leaders who filled in the demographics survey was 42.57 ($SD = 7.83$) and 32.1% of them were women. 3.6% of them attained a high school degree, 17.9% attained a college degree, 17.9% attained a bachelor degree, 53.6% attained a master degree and 7.1% attained a doctoral degree. On average, leaders had been working in their respective companies for 11.29 years ($SD = 8.58$) of which 7.36 years ($SD = 8.39$) in a leadership position. On average, they supervised 10.54 followers ($SD = 12.13$).

**Measures**

*State core self-evaluations.* To measure state core self-evaluations in the leaders and followers, we used a short, four-item measure (Dóci & Hofmans, 2015) that has been shown to correlate with a longer core self-evaluations scale of Judge and colleagues (2003). Each item in this measure represents one of the four dimensions of core self-evaluations. The item ‘to what extent did you experience negative emotions?’ represents the neuroticism dimension; the item ‘to what extent did you feel good about yourself?’ represents the self-esteem dimension; the item ‘to what extent did you feel confident in your abilities?’ represents the self-efficacy dimension and the item ‘to what extent did you feel in control of the situation?’ represents the locus of control dimension. The participants had to indicate their response on a 1 to 7 scale, ranging from *not at all* to *absolutely*. Internal consistency reliability was tested using the multilevel confirmatory factor analysis approach of Geldhof, Preacher, and Zyphur (2014), which allows separating the internal consistency reliability at
the within- and at the between-person level. Since our hypotheses pertain to the within-person level only, we do only report the within-person omega reliability coefficient, which was .65 for the leaders and .73 for the followers.

*Transformational leadership.* To measure state transformational leadership, we used the Global Transformational Leadership (GTL) scale, a short, seven-item measure of Carless, Wearing, and Mann (2000). This measure has already been used in experience sampling studies (Dóci & Hofmans, 2020; Nielsen & Cleal, 2011) and allowed us to capture momentary leadership behavior in a particular situation (unlike the Multifactor Leadership Questionnaire [MLQ] by Bass and Avolio [2000] that was designed to measure behavioral tendencies). Examples items include: ‘To what degree was your leader encouraging you to think about problems in new ways and question assumptions?’ and ‘To what degree was your leader giving you encouragement and recognition?’ The GTL items measure vision, staff development, supportive leadership, empowerment, innovative thinking, leading by example, and charisma. These items show substantial overlap with the subdimensions of the MLQ (Carless, Wearing & Mann, 2000), which is why convergent validity with the MLQ is high (Nielsen & Cleal, 2011). The leaders had to indicate their answer on a 1=not at all to 7=absolutely scale. In our study, the within-person omega reliability coefficient equaled .84.

**Results**

*Descriptive statistics and correlations*

Table 1 shows the means, standard deviations, within- and between-person correlations and intra-class correlation coefficients (ICCs) for all study variables. The ICCs show for each variable the percentage of variance that is accounted for by between-person differences. As can be seen in Table 1, these percentages vary from .63 for transformational leadership behavior to .21 for leader state core self-evaluations, implying that, for each of the study variables, a substantial part of their variation lies within the individual.
Turning to the correlations, our results show that the leader’s state core self-evaluations, the follower’s state core self-evaluations, and transformational leadership behavior are positively correlated, both at the within- and at the between-person level. Regarding the within-person correlations, our findings suggest that, during encounters when leaders report to experience increased levels of state CSE, their followers also experience increased levels of state CSE ($r(106) = .26; p = .007$) and rate the leader’s behaviors as more transformational in nature ($r(104) = .27; p = .005$). Moreover, on occasions when followers perceive their leader to engage in more transformational leadership behaviors, they experience higher levels of state CSE ($r(104) = .27; p = .005$). The between-person correlations suggest that leaders who on average report higher levels of state CSE have followers who perceive their leader to be more transformational on average ($r(29) = .73; p < .001$) and have higher average levels of state CSE themselves ($r(29) = .40; p = .025$). Finally, there is a positive association between the followers’ average ratings of transformational leadership behavior and their average level of state CSE ($r(29) = .44; p = .013$).

Hypotheses tests

Because of the hierarchical nature of the data — with repeated measurements being nested within dyads — we tested our hypotheses using multilevel modeling. Although multilevel structural equation modeling is getting increasingly popular for testing mediation models on multilevel data (Preacher, Zhang, & Zyphur, 2011), recent research shows that multilevel regression models yield less biased parameter estimates when the number of higher-level units is small (McNeish, 2017a). Because the number of dyads in our study is fairly small ($N = 31$), we adopted this approach and tested our hypotheses using a system of
multilevel models (MLMs). To minimize small sample bias and to prevent inflation of Type-1 error rates, we followed the recommendations by McNeish (2017b), estimating the multilevel regression models with restricted maximum likelihood (REML) and applying a Kenward-Roger correction. REML, by separating the estimation of the fixed effects from the estimation of the variance components, yields improved estimates of the variance components in small samples, thereby also improving the standard error estimates of the fixed effects (McNeish, 2017b). The Kenward-Roger correction in a first step corrects the standard error estimates of the fixed effects to no longer rely on asymptotic assumptions, and in a second step calculates the degrees of freedom in such way that inferential decisions are improved (McNeish, 2017b). Simulation studies have shown that MLMs that are fitted using REML and that apply a Kenward-Roger correction are well equipped to handle multilevel mediation models with small numbers of Level 2 units (McNeish, 2017a).

To test our first hypothesis, we predicted follower state CSE using the leader’s state CSE (see Model 1 in Table 2). Because the focus in our study is on within-person associations, in each model we person-centered the predictor variable(s) (i.e., leader’s state CSE in this case) and reintroduced the person mean(s) as a Level 2 predictor(s). In line with Hypothesis 1, we found that within-person fluctuations in leader state CSE were positively associated with within-person fluctuations in follower state CSE ($\gamma = .21; SE = .09; p = .023$). Moreover, between-person differences in leader state CSE related positively to between-person differences in follower state CSE ($\gamma = .48; SE = .21; p = .030$).

Subsequently, we tested the mediating effect of transformational leadership behaviors using a system of multilevel models. First, we predicted transformational leadership behaviors from leader state CSE (see Model 2 in Table 2). Next, follower state CSE was predicted from leader state CSE and transformational leadership behaviors (see Model 3 in Table 2). Hypothesis 2 (i.e., the mediating role of transformational leadership behavior in the
relationship between leaders and followers state core self-evaluations) was formally tested by assessing whether the product of the coefficients from leader state core self-evaluations to transformational leadership behavior (in Model 2) and from transformational leadership behavior to follower state core self-evaluations (in Model 3) was statistically significant (see Preacher, Zhang, & Zyphur, 2011; Preacher, Zyphur, & Zhang, 2010). The indirect effect was tested for significance using the Monte Carlo method of Selig and Preacher (2008), using 20,000 repetitions.

The results of Model 2 (see Table 2) revealed that within-person fluctuations in transformational leadership behaviors were indeed positively predicted by within-person fluctuations in leader state CSE ($\gamma = .19; SE = .08; p = .016$), a relationship that was also found at the between-person level ($\gamma = .55; SE = .21; p = .015$). In the third model (see Table 2), within-person fluctuations in both leader state CSE ($\gamma = .16; SE = .10; p = .094$) and transformational leadership behaviors ($\gamma = .26; SE = .14; p = .059$) marginally predicted within-person fluctuations in follower state CSE. At the between-person level, follower state CSE was predicted by transformational leadership behaviors ($\gamma = .67; SE = .13; p < .001$), but not by leader state CSE ($\gamma = .11; SE = .17; p = .522$). To formally test for mediation, the product of coefficients was tested using the Monte Carlo method (Selig & Preacher, 2008). This test revealed that the 95% confidence interval ([-.003, .113]) did include zero, whereas the 90% confidence interval ([.005, .099]) did not.

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TABLE 2

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Discussion

*Theoretical Implications and Future Research*

The main goal of this study was to examine covariation of core self-evaluations within the leader-follower dyad. In line with our expectations, we found that leaders and followers state core self-evaluations fluctuate ‘in sync’, revealing the existence of a social-relational dimension accompanying within-person variation in core self-evaluations. Moreover, we found tentative evidence for the mediating role of transformational leadership behaviors, meaning that one mechanism underlying this within-dyad association is that leaders high in state core self-evaluations engage more in transformational, esteem-related support behaviors, and that those behaviors are positively related to state core self-evaluations of the follower. The fact that we found tentative support for this mediation chain, however, does not imply that covariation in state core self-evaluations within the leader-follower dyad can be reduced to this unidirectional effect. The dyadic crossover of psychological resources is a bi-directional phenomenon, and the mediation through leadership behavior is one of the many ways through which leaders’ and followers’ state core self-evaluations become synchronized.

Our study contributes to the field of personality psychology literature by identifying within-dyad relational dynamics as a predictor of within-person variation in core self-evaluations. Previous studies have documented within-person variation in various personality dimensions in the work context, for example in neuroticism (Debusscher et al., 2014; 2016b), conscientiousness (Debusscher et al., 2016c; 2016d), and recently core self-evaluations (Debusscher et al., 2016a; Dóci & Hofmans, 2015; Dóci, Hofmans, Nijs, & Judge, 2020; Heller, Komar, & Lee, 2007). Our research extends these findings by showing that within-person fluctuations in core self-evaluations can also be predicted by a considerably different mechanism. Regarding the situational factor in the person-situation interaction, to date
researchers have mainly studied features of the work environment to predict variations in personality states, such as task complexity or work pressure (Debusscher et al., 2014; Dóci & Hofmans, 2015; Dóci et al., 2020). We contribute to this area of research by bringing the relational dimension of the situation into focus. This dimension has been undeservedly overlooked when studying person-situation interaction, as pointed out in the Cambridge Handbook of Personality: ‘One particularly relevant source of person-situation interaction has been surprisingly often ignored in discussions of cross-situational consistency within personality psychology: variation of dyadic social interaction in terms of who the interaction partners are. This question has been discussed much more by social psychologists but is obviously of great importance for personality psychology, because many of our daily situations are dyadic interactions. In this case, person-situation interactions are by and large person-person interactions because the interaction partner largely defines the situation’ (Asendorpf, 2009, p. 49).

Our study also contributes to the relational leadership research domain by exploring associations within the leader-follower dyad, in addition to the classical focus of relational leadership research on between-dyad differences (Brower, Schoorman & Tan, 2000; Liden, 2009; Uhl-Bien, 2006). Leader-member exchange theory (Graen & Uhl-Bien, 1995), supported by a vast amount of empirical research (for a review, see Gerstner & Day, 1997; Liden, 2009), suggests that leaders engage in constructive leadership behaviors to differing extents toward different followers. Our study extends these findings by showing that the same leader engages in constructive leadership behaviors to differing extents towards the same follower across situations as well (Hofmans et al., 2019).

Practical Implications

Our results suggest that, if organizations want to have healthy and balanced employees, they need to create conditions that allow employees from all levels to feel
resourceful (that is, effective, in control and valuable). Sufficient job resources (e.g., time, rewards and recognition, autonomy, feedback) need to be available (Scanlan & Still, 2019), while hindrance stress (e.g., red tape, hassles) need to be reduced to a manageable level (Cavanaugh, Boswell, Roehling, & Boudreau, 2000; Crane & Searle, 2016). Research on challenge stress (e.g., time pressure, task complexity) suggests that this type of stress shall be neither too low, nor too high, as both extremes have a depleting effect (De Jonge & Schaufeli, 1998; Hofmans, DeBusscher, Dóci, Spanouli, & De Fruyt, 2015; Xie & Johns, 1995). Our findings suggest that if organizations want to promote transformational leadership and employee well-being, employees across all hierarchical levels may benefit from training on how to manage their psychological resources effectively (Luthans, Avey, Avolio & Peterson, 2010). Workplace interventions with a relational (in place of individual) focus, aiming at improving interpersonal relationships and relational skills, and raising awareness of the impact of esteem-related support behaviors on others, may also increase the psychological resources of the organizational community.

Limitations and Future Research

A distinct advantage of our study is the multi-source nature of our repeated measurements data. Beyond the fact that this practice is rather unique in the context of a dyadic daily diary study, it has the important implication that the association between leader and follower state core self-evaluations cannot be explained by same-source biases. At the same time, this way of collecting data brings a number of limitations as well.

First, the sample size in our study is relatively small. As leaders are a ‘hard-to-get’ population that is the least inclined to spend its scarce time filling out surveys, doing empirical research among leaders is challenging. On top of the usual challenges of a daily diary design that requires participants to fill in surveys repeatedly, responses of this particular study were only valid if the leader and follower were in contact on any given day and if for
that day both leaders and their followers filled in the questionnaire. This further diminished the response rate. Despite these challenges, we acquired 108 observations from 31 dyads, which is fair provided that all of our hypotheses are situated at the lowest, within-person level. Of particular relevance here is that, using simulation research, Maas and Hox (2005) demonstrated that even with small sample sizes (i.e., samples as small as 30 groups), the obtained Level 1 regression coefficients in a multilevel model are estimated fairly unbiased. Moreover, we took additional precautions by using a method that performs well when the Level 2 sample size is small (McNeish, 2017b). With this method (i.e., REML along with a Kenward-Roger correction), only 15 Level 2 units are required for parameter estimates to be stable and trustworthy (Hox & McNeish, 2020). Of course, whereas such precautions help reducing bias in the estimated parameters, they do not alleviate concerns about statistical power. To address these concerns, we calculated observed power using the method of Bliese and Wang (2020). This method gives an indication about the percentage of studies with similar measures and a similar design (e.g., sample size) that would result in statistically significant results. As such, it helps interpreting the findings by being explicit about the level of uncertainty associated with one’s findings. For our particular study, the cumulative probability of finding statistically significant effects ($p < .05$) was 63% for the association between leader and follower core self-evaluations, 68% for the association between leader core self-evaluations and transformational leadership behavior, and 68% for the association between transformational leadership behavior and follower core self-evaluations. Although those numbers are fair provided the moderate sample size, they indicate a clear need for further empirical scrutiny. It would be good if initially this scrutiny takes the form of direct or conceptual replication research because apart from the power issues associated with the moderate sample size, the finding of within-dyad covariation of leader and follower core self-evaluations is quite novel. In direct replication research, future research might then mimic our
study as closely as possible with a large(r) sample size, while in a conceptual replication, the
covariation of psychological resources in leader-follower dyads can be tested using different
methods and/or on other samples.

Second, having asked the leaders to identify the situation that needed to be rated by
both leaders and followers may have led to some compromises. We asked the leaders to
identify the situations because we assumed that, due to their dependent position, followers
may have dared less to identify sensitive or conflictual situations. However, this way we may
have missed out on situations that were relevant from the followers’ perspective, and thereby
made room for situation-selection bias. Moreover, because leaders and followers reported on
their state core-self evaluations and the leaders’ behavior in particular situations, we cannot
establish temporal precedence in our mediation model. Thus, whereas we tested the model at
the appropriate (within-person and within-dyad) level, our findings are still correlational in
nature. This is an important limitation because the crossover effects probably result from
leaders and followers influencing each other’s state core self-evaluations in a ‘loop’. We
would like to stress at this point that leadership behavior as an explanatory mechanism is just
one of the many ways through which leaders’ and followers’ state core self-evaluations
covary. Indeed, we did not take into account mechanisms other than leadership behavior
when explaining the observed convergence between leader and follower state core self-
evaluations. For example, emphatic processes or shared stressors (Westman, 2006) may be
other important factors responsible for the synchronicity in the dyad-members personality
state variations. To acquire a fuller picture of the relational personality dynamics, such
mechanisms would also need to be unraveled, also because the mediation effect through
transformational leadership behavior approached conventional levels of statistical
significance. Finally, the framework of a ‘real-life study’ did not allow us to control for
potential confounding variables. To address these issues, future studies may want to study the
recursiveness of the crossover effect by breaking up the interaction episode in smaller episodes, which allows looking at time-lagged relations between leader and follower state core self-evaluations. In addition, future research might want to include or control for other mediating variables and use experimental designs to show the casual nature of the relationships.

Exploring the moderating effect of trait personality in the relational process may be another worthwhile future research endeavor. For example, as people with a positive self-image are typically less influenced by external events and feedback (Judge et al., 2005), employees with high trait core self-evaluations may be less susceptible to behaviors of the other dyad member. For example, self-confident followers may depend less on the recognition of the supervisor to maintain their positive self-regard. The research finding that core self-evaluations can act as a substitute for transformational leadership points indeed in this direction (Nübold et al., 2013). Individual differences in differentiation (Bowen, 1976) or relational interdependent self-construal (Cross, Gore, & Morris, 2003) may also play a role in the extent to which one’s self-regard is affected by the reactions of the important other. As people who are less differentiated have a stronger tendency to converge with others (Bowen, 1976), they may be more likely to get affected by, internalize and mirror their colleagues’ and supervisors’ state core self-evaluations.

Our study may also inspire future research that aims at unraveling the everyday mechanisms through which one’s trait level of core self-evaluations changes over large time periods. Personalities get shaped throughout the lifetime (Mroczek & Spiro, 2007; Srivastava, John, Gosling, & Potter; 2003; Terracciano, McCrae, Brant, & Costa, 2005), and the life course approach suggests that our life experiences and social roles are responsible for this (Roberts, Wood, & Smith, 2005). Even though it has been acknowledged that relationship experiences affect adult personality development (Roberts, Caspi, & Moffitt, 2003), the
mechanisms through which relational experiences shape personality, and personalities shape each other remains largely uncharted territory. While major life and relational events can certainly cause a sudden shift in personality (Roberts, Helson, & Klohnen 2002), change is more often slow-paced, resulting from recurrent experiences (Roberts & Jackson, 2008). If one is immersed in certain relational dynamics for an extended period of time, these dynamics may ultimately lead to the adaptation of one’s personality traits, as ‘long-term exposure to specific contingencies may produce lasting personality changes’ (Donnellan & Robins, 2009, p. 199). Our results reveal one of the every-day mechanisms, that may, if regularly repeated over long time periods, result in changes in one’s trait core self-evaluations. As frequently experienced states can alter traits over a long time period (Roberts & Jackson, 2008), the trait core self-evaluations of dyad partners who for years work closely (or live) together, may, to some extent, also converge. This prediction is in line with research that has demonstrated that people’s personality gets shaped by the work conditions to which they are continuously exposed (Wille, Hofmans, Feys, & De Fruyt, 2014).

**Conclusion**

This study showed the importance of relational dynamics in the variation in leader and follower personality states. Our results demonstrated that within-person fluctuations in leader and follower state core self-evaluations covary across situations, and they tentatively suggest that one reason for this association might be the mediational mechanism through transformational leadership behavior. By doing so, our findings show that personality states of dyad members show covariation, thereby providing an impetus for future research in this domain.

**References**


doi: 10.1111/1467-6494.00179


Development of leader-member exchange (LMX) theory of leadership over 25 years:


### Table 1

**Means, Standard Deviations, Intra-Class Correlation Coefficients and Correlations for All Study Variables.**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>ICC</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CSE leader</td>
<td>5.50</td>
<td>.82</td>
<td>.21</td>
<td>-</td>
<td>.44*</td>
<td>.40*</td>
</tr>
<tr>
<td>2. TFL</td>
<td>5.39</td>
<td>.45</td>
<td>.63</td>
<td>.27**</td>
<td>-</td>
<td>.73***</td>
</tr>
<tr>
<td>3. CSE follower</td>
<td>5.37</td>
<td>.74</td>
<td>.50</td>
<td>.26**</td>
<td>.27**</td>
<td>-</td>
</tr>
</tbody>
</table>

**Note:** Within-Person Correlations are Below and Between-Person Correlations are Above the Diagonal; CSE leader = core self-evaluations of the leader; TFL = transformational leadership behavior; CSE follower = core self-evaluations of the follower

***p<.001 (two-tailed); **p<.01 (two-tailed); *p<.05 (two-tailed)
Table 2

Results of Multilevel Regression Analyses Predicting Core Self-Evaluations of the Follower (Model 1 and 3) and Transformational Leadership Behavior (Model 2)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSEfollower</td>
<td>2.77*</td>
<td>2.35†</td>
<td>1.16</td>
</tr>
<tr>
<td>CSEleader - within</td>
<td>.21*</td>
<td>.19*</td>
<td>.16†</td>
</tr>
<tr>
<td>CSEleader - between</td>
<td>.48*</td>
<td>.55*</td>
<td>.11</td>
</tr>
<tr>
<td>TFLwithin</td>
<td>-</td>
<td>-</td>
<td>.26†</td>
</tr>
<tr>
<td>TFLbetween</td>
<td>-</td>
<td>-</td>
<td>.67***</td>
</tr>
<tr>
<td>Random intercept variance</td>
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<td>.58</td>
<td>.20</td>
</tr>
<tr>
<td>$R^2_{within}$</td>
<td>.056</td>
<td>.064</td>
<td>.064</td>
</tr>
<tr>
<td>$R^2_{between}$</td>
<td>.138</td>
<td>.175</td>
<td>.663</td>
</tr>
</tbody>
</table>

***p<.001 (two-tailed); **p<.01 (two-tailed); *p<.05 (two-tailed); † p < .10 (two-tailed)