



Review

A systematic review and critique of research on “healthy leadership”

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ARTICLE INFO

Keywords:

Health
Wellbeing
Healthy leadership
Health-oriented leadership
Health-promoting leadership
Systematic review

ABSTRACT

Employee health and wellbeing are important concerns for organizations, and it has long been known that social support from leaders has a salutogenic influence on their followers. Over the past decade, several models of “healthy leadership” have been introduced, with the aim of theoretically integrating leadership research with scholarship on occupational health and wellbeing. We present a systematic review and critique of the literature on these models of “healthy leadership” and associated evidence from empirical studies ($k = 35$). In addition, we compare various models of “healthy leadership” and critically evaluate evidence for their incremental predictive validity above and beyond established leadership constructs (e.g., individualized consideration). We conclude with a discussion of problems in the “healthy leadership” literature (e.g., construct proliferation, confounding of leader behavior and its desired outcomes) and outline a “new agenda” of prescriptive recommendations for “healthy leadership” theory (re)development, research, and practice.

Introduction

Ensuring high levels of employee health and wellbeing is an important concern for organizations. Healthier employees perform work tasks more efficiently (Wright & Cropanzano, 2000), are less likely to quit their jobs (Kramer & Son, 2016), are more likely to perform extra-role behaviors (Ford, Cerasoli, Higgins, & De Cesare, 2011), and are more satisfied with their jobs (Faragher, Cass, & Cooper, 2013). Additionally, it has long been known that social support has a salutogenic influence on health and wellbeing (Halbesleben, 2006; Viswesvaran, Sanchez, & Fisher, 1999), and this especially includes social support from leaders (e.g., positive leader-member relations, see Harms, Credé, Tynan, Leon, & Jeung, 2017; Kuoppala, Lamminpää, Liira, & Vainio, 2008; Montano, Reeske, Franke, & Hüffmeier, 2017). Until recently, however, there have not been explicit theoretical models and empirical studies that posit the influence of “healthy leadership” attitudes, values, and behaviors on employee health and wellbeing.

To account for the health-specific influence of leaders on employee health and wellbeing, scholars have introduced various models of “healthy leadership” over the past decade (see Table 1). Health and wellbeing are typically understood here, and within the “healthy leadership” literature, to encompass physical, mental, and social wellbeing, and not just the absence of disease (WHO, 2006). We use the term “healthy leadership” broadly to refer to these health-related leadership models and associated constructs, including health- and

wellbeing-specific leader attitudes (e.g., beliefs about the “value” of health), values (e.g., prioritizing employee health), and/or behaviors (e.g., communicating the importance of exercise or recovery).

In this article, we present a systematic review and critique of the literature on “healthy leadership.” Although we review the entirety of this literature, we particularly focus on health-promoting and health-oriented leadership, as these concepts have received substantial attention, both empirically (see Table 2) and in terms of conceptual development (e.g., Böhm, Baumgärtner, & Kreissner, 2016; Spiess & Stadler, 2016). Until now, such an effort has not been undertaken, particularly one that contrasts these various models against one-another and critically evaluates evidence for their incremental predictive validity above and beyond established leadership constructs (see also Akerjordet, Furunes, & Haver, 2018).

Importantly, our review focuses specifically on “healthy leadership” models, and not on research that has considered associations between established leadership constructs (e.g., leader-member exchange [LMX], transformational leadership) and employee health and wellbeing (for reviews and meta-analyses, see Harms et al., 2017; Kuoppala et al., 2008; Montano et al., 2017). We also do not consider relationships between established leadership constructs and leader health and wellbeing (for a meta-analysis, see Kaluza, Boer, Buengeler, & van Dick, 2019). However, to better understand the positioning of “healthy leadership” among these established leadership frameworks, we do draw conceptual parallels where relevant.

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Table 1
“Healthy leadership” constructs, definitions, and relevant citations.

Construct	Definition	Citation
Health-promoting leadership	“...creating a culture for health-promoting workplaces and values that inspire and motivate employees to participate in such a development.” (p. 17)	Eriksson (2011)
Health-oriented leadership	Leader's values toward and awareness of their follower's health, and behaviors such as effective health-related communication and the design of health-promoting working conditions.	Franke and Felfe (2011)
Health- and development-promoting leadership	“...leaders' direct impact on the demands, task requirements and resources of their employees.” (p. 42)	Vincent (2012a, 2012b)
Health-specific leadership	“Health-specific leadership is conceptualized as the leader's explicit consideration of and engagement in employee health.” (p. 108)	Gurt et al. (2011)
Healthy leadership	“...a style of humane and relationship-oriented leading with focus on the subjective well-being of employees and managers” (p. 1)	Jiménez et al. (2013)
Leadership support for health promotion	“Business alignment with health promotion objectives, awareness of the health-productivity link, worksite support for health promotion, and leadership support for health promotion.” (p. 359)	Della et al. (2008)
Organizational leadership for health promotion	“A multidimensional process in which members, across multiple levels, exert influence on: 1. The development of health promotion (HP) objectives and action strategies for the improvement of community health, 2. the implementation of action strategies to achieve community heart health objectives, 3. organizational practices that strengthen group involvement and commitment to ongoing HP efforts, and 4. the development of a learning culture that sustains up-to-date HP actions and effective community interaction by the organization.” (pp. 197–198)	Barrett et al. (2005)
Salutogenic leadership	Leadership behavior that involves building trust, managing problems, and reducing work-related pressure faced by subordinates	Eberz and Antoni (2018)
Health-promoting managerial work	“...managers' evidence-based knowledge of health-promoting psychosocial work conditions, as well as their capability to apply, adapt, and craft sustainable managerial work practices.” (p. 1)	Dellve and Eriksson (2017)
Health-promoting leadership conditions	“...the provision of feedback about the leaders' efforts to create health-promoting working conditions in seven key aspects: health awareness, workload, control, reward, community, fairness and value-fit” (p. 1)	Jiménez, Winkler, and Bregenzer (2017)
Individual leadership for health promotion	“...individual leadership behaviours as well as individuals' perceptions of different aspects of organizational leadership, but in relation to themselves only.” (p. 4) Including: “individual actions characteristic of ongoing learning and reflection, and characteristic of leaders (i.e. reflective practices and professional development); and organizational practices and characteristics which foster individual leadership for health promotion (i.e. opportunity for change, skills and work conditions).” (p.4)	Anderson et al. (2005)
Health leadership	“Healthy leadership is usually understood as direct leadership behavior and less as a general controlling function of structural leadership. Thus, healthy leadership focusses on personal leadership, which is practiced and lived by executives - or not. Healthy leadership does not focus solely on employee leadership: Healthy leadership starts with one's own self in the form of self-management.”	Möltner et al. (2016)
Health-focused leadership	Leader's behavior that protects, enhances and restores the health of employees.	Böhm and Baumgärtner (2016)

The central arguments and contributions we offer are three-fold. First, our review argues that because various “healthy leadership” models have emerged in parallel, there is a great deal of theoretical and empirical overlap between them to be noted and critically examined. This observation raises questions about the possibility of construct proliferation (Shaffer, DeGeest, & Li, 2016), and we suggest ways to address this issue in future research. Second, consistent with recent criticisms of the transformational leadership literature (see Van Knippenberg & Sitkin, 2013), we propose that research on “healthy leadership” confounds actual leadership behavior with its intended outcomes of employee health and wellbeing. Defining and measuring “healthy leadership” in terms of its beneficial effects on these outcomes is problematic, because it does not allow valid conclusions regarding the effectiveness of this form of leadership behavior. Finally, we question and critically examine whether theoretical and empirical research has sufficiently addressed the issue of the incremental validity (see Antonakis, 2017) of “healthy leadership” for predicting employee health and wellbeing.

To frame these arguments, our paper is organized around four specific and interrelated goals. First, we begin by introducing the background and potential importance of “healthy leadership,” and by describing various “healthy leadership” constructs that can be found in the literature. Second, we further explore “healthy leadership” conceptualizations by comparing and contrasting common and unique predictions made by these various models. Third, we present a systematic and critical literature review of empirical (quantitative and qualitative) studies on “healthy leadership.” Finally, we outline an integrative research agenda that offers prescriptive recommendations for “healthy leadership” theory development, future research, and practice.

Review of “healthy leadership” models and constructs

There is evidence that work environments are increasingly experienced as stressful by employees. For example, job demands have increased over time, particularly cognitive demands associated with knowledge jobs (National Academy of Sciences, 1999). To address this issue, organizations have dedicated quite a bit of attention toward systems that support employee health and wellbeing (e.g., Richardson, 2017; Tetrick & Winslow, 2015). Such systems can take many forms, from more tangible formal policies and benefits to less tangible forms of social support. One particularly important source of such support is one's immediate supervisor. The imperative of organizations and leaders to support their employees' health and wellbeing is a key component of their “duty of care.” For employees, maintaining high levels of health and wellbeing is an important factor in their long-term employability (Berntson & Marklund, 2007).

Often citing the shortcomings of established leadership models with regard to these trends, “healthy leadership” models seek to add to our ability to explain and make predictions about how leaders influence the health and wellbeing of their followers. For example, Franke, Vincent, and Felfe (2011) motivate the development of their health-oriented leadership measure by suggesting that established models of leadership, such as transformational leadership, are “too vague about specific health-related actions of leaders” (p. 140). Next, we describe health-promoting and health-oriented leadership, two dominant “healthy leadership” concepts found in the literature. We additionally describe a number of related conceptualizations that appear less frequently in this literature, but that also address core themes of “healthy leadership.” Table 1 summarizes these various “healthy leadership” constructs, their

Table 2Summary of the $k = 35$ studies of “healthy leadership” included in the literature review.

Citation	Method	Design	Measure	Incremental?	Study context (country; industry)	Sample description (sample size; position description)	Relevant outcome(s)
Health-promoting leadership							
Gurt and Elke (2009)	Quant	2-wave CP survey	OHSQ	No	Germany; Government	$n = 265$ tax administration employees	Follower strain
Törnblom (2012)	Quant	CS survey	HDPLA	Yes	Sweden; government	$n = 346$ county council employees	Follower self-reported health
Andersson and Dafteke (2014)	Quant	CS survey	CPQ	No	Sweden; healthcare	$n = 63$ healthcare employees	Follower self-reported health
Winkler et al. (2014)	Quant	CS survey	Ad-hoc	Yes	Germany; low-skilled industries	$n = 474$ foodservice and manufacturing employees; $n = 35$ leaders	Follower wellbeing, job satisfaction, emotional exhaustion, & psychosomatic complaints
Adler et al. (2017)	Quant	CS survey	Adapted	Yes	United States; military	$n = 344$ active duty and reserve U.S. service members deployed in Afghanistan	Follower burnout, PTSD symptoms, & perceived stressors
Jiménez and Dunkl (2015)	Quant	CS survey	HPLC	No	Study 1: unclear country, convenience sample; study 2: Austria, convenience sample	Study 1: $n = 430$, various positions; study 2: $n = 233$, various positions	Follower stress-related recovery & work engagement
Dunkl et al. (2015)	Quant	CS survey	HPLC	No	Slovenia; convenience sample	$n = 212$ employees; various positions	Follower perceived stress & recovery
Bregenzer et al. (2015)	Quant	2-wave IP survey	HPLC	No	Unclear country; convenience sample	$n = 98$ employees; various positions	Follower perceived stress, recovery, & burnout
Jiménez, Winkler, and Dunkl (2017)	Quant	CS survey	HPLC; HoL	No	Austria; government	$n = 299$ leaders from the Austrian economic chamber	Leader recovery, perceived stress, & burnout
Jiménez, Winkler, and Bregenzer (2017)	Quant	CS survey	HPLC; HoL	No	Austria; multiple industries and a convenience sample	$n = 430$ employees from commerce and education organizations, and others with no position description provided	Follower perceived stress, recovery, & burnout
Jiménez, Bregenzer, Kallus, et al. (2017)	Quant	CS survey	HPLC	No	Austria; convenience sample	Two samples ($n = 228$ employees; $n = 263$ employees); Various positions	Follower perceived stress, recovery, & burnout
Eriksson et al. (2010)	Qual	INT	N/A	No	Sweden; government	$n = 15$ municipal leaders	Leader plans to analyze sickness rates and work attendance
Juhlin (2012)	Qual	INT	N/A	No	Unclear country; unclear organizational sample	$n = 4$ leaders; No position description provided	Leader's recognition that their actions have health-related consequences for their followers
Winkler et al. (2013)	Qual	INT	N/A	No	Various countries; various low-skilled industries	$n = 53$ employees from low-skilled industries (e.g., cleaning staff; workers in a poultry production facility)	Follower's understanding of the connection between their leader's behavior and their own health
Pärlemyr (2017)	Qual	INT	N/A	No	Unclear country; service, manufacturing, and development industries	$n = 5$ private sector leaders	Leader's recognition that their actions have health-related consequences for their followers
Furunes et al. (2018)	Qual	INT	N/A	No	Unclear country; healthcare	$n = 12$ community homecare nurses	Follower's understanding of the connection between their leader's behavior and their own health
Health-oriented leadership							
Franke and Felfe (2011)	Quant	2-wave IP survey	HoL	No	Unclear country; financial services, administration, education and health care industries	$n = 74$ leaders and $n = 459$ followers; no position description provided	Follower irritation & somatic complaints
Franke et al. (2014)	Quant	2-wave IP survey	HoL	Yes	Study 1: Germany, various industries; study 2: Germany, various industries	Study 1: $n = 535$, no position description provided; study 2: $n = 383$, no position description provided	Follower health status, irritation, & health complaints
Kranabetter and Niessen (2017)	Quant	CS survey	HoL	Yes	Unclear country; financial & healthcare industries	$n = 87$ leaders and $n = 453$ followers from two organizations; no position description provided	Follower exhaustion & cynicism
Santa Maria et al. (2018)	Quant	CS survey	HoL	No	Germany; public safety	$n = 811$ police officers	Follower physical complaints, burnout, depression, & wellbeing
Köppel et al. (2018)	Quant	2-wave IP survey	HoL	No	Germany; convenience sample	$n = 106$ leaders and followers; various positions	Follower somatic health complaints
Kranabetter and Niessen (2016)	Qual	INT	N/A	No	Unclear country; convenience sample	$n = 50$ leaders; various positions	Follower exhaustion
Health- and development-promoting leadership							
Vincent (2011)	Quant	CS survey	HDPLA	Yes	Unclear country; convenience sample	$n = 1278$ employees; various positions	Follower irritation, emotional exhaustion, psychosomatic complaints, & work ability

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Table 2 (continued)

Citation	Method	Design	Measure	Incremental?	Study context (country; industry)	Sample description (sample size; position description)	Relevant outcome(s)
Vincent (2012a)	Quant	CS survey	HDPLA	No	Germany; convenience sample	<i>n</i> = 1322 followers; various positions	Follower work engagement, irritation, & emotional exhaustion
Vincent (2012b)	Quant	CS survey	HDPLA	Yes	Germany; convenience sample	<i>n</i> = 822; various positions	Follower irritation, emotional exhaustion, & psychosomatic health complaints
Rigotti et al. (2014)	Quant	2-wave IP survey	HDPLA	Yes	Germany, Sweden, & Finland; various industries	Study 1: <i>n</i> = 119 followers, various positions; study 2: <i>n</i> = 131 leaders and <i>n</i> = 1006 followers, various positions	Follower wellbeing, job satisfaction, emotional exhaustion, & psychosomatic complaints
Additional “healthy leadership” models							
Gurt et al. (2011)	Quant	CS survey	OHSQ	No	Germany; government	<i>n</i> = 1027 tax administration employees	Follower job satisfaction & strain
Horstmann (2018)	Quant	CS survey	HoL	Yes	Study 1: Germany, healthcare; study 2: Germany, healthcare	Study 1: <i>n</i> = 861 employees of geriatric nursing homes; study 2: <i>n</i> = 524 employees of geriatric nursing homes	Follower health complaints & burnout
Möltner et al. (2016)	Quant	CS survey	HoL	No	Unclear country; convenience sample	<i>n</i> = 211 leaders; various positions	Leader mindfulness & positive health cultures
Milner et al. (2013)	Quant	CS survey	LBE	No	South Africa; various industries	<i>n</i> = 11,472 employees; various positions	Follower stress-related recovery & work engagement
Hoert (2014)	Quant	CS survey	LBE	No	United States; financial service, higher education, & retail	<i>n</i> = 621; various positions	Follower job satisfaction, job stress, employee engagement, health-related behaviors, & participation in wellness programs
Barrett et al. (2007)	Quant	CS survey	OLHP	No	Canada; healthcare	<i>n</i> = 158; various positions	Follower physiological, behavioral, and psychosocial risk factors, environmental conditions, nutrition, tobacco reduction, & physical activity
Axewill (2013)	Qual	INT	N/A	No	Unclear country; primary education	<i>n</i> = 6 preschool managers	Follower attendance rates
Eberz and Antoni (2018)	Quant	CS survey	TIMP	Yes	Unclear country; criminal justice & human services	Two samples: <i>n</i> = 333 & <i>n</i> = 384; various positions	Follower sense of coherence
Dellve and Eriksson (2017)	Mixed	INT & CS survey	N/A	No	Unclear country; healthcare	<i>n</i> = 64 leaders; various positions	Follower job satisfaction & vitality

Note. Quant = quantitative; Qual = qualitative; Mixed = mixed methods; CP = complete panel; IP = incomplete panel; CS = cross sectional; INT = interview; Measure = measure of “healthy leadership”; Incremental = Does study provide evidence for incremental validity?; HDPLA = Health and Development Promoting Leadership Analysis (Vincent, 2010, 2012a, 2012b); HoL = Health Oriented Leadership Scale (Franke et al., 2014; Franke & Felfe, 2011); OHSQ = Organizational Health and Safety Questionnaire (Gurt et al., 2010); CPQ = Copenhagen Psychosocial Questionnaire (Kristensen, Hannerz, Hogh, & Borg, 2005); HPLC = Health-Promoting Leadership Conditions (Jiménez & Dunkl, 2015); LBE = Leading by Example (Della et al., 2008); OLHP = Organizational Leadership for Health Promotion (Barrett et al., 2005); TIMP = Trust, Incident Management and Pressure Inventory (Eberz & Antoni, 2018); Ad-Hoc = ad-hoc battery of measures, created for this study (i.e., which do not readily map onto other “healthy leadership” measures considered here); Adapted = adapted measure (i.e., which does not readily map onto other “healthy leadership” measures considered here).

Table 3

Summary of various “healthy leadership” measures considered in our literature review.

Measure	Citation(s)	Construct(s)	Description & relevant example item(s)	Validity	Reliability	Dimensionality	Perspective
Copenhagen Psychosocial Questionnaire (CPQ)	Kristensen et al. (2005)	Health promoting leadership	A measure comprised of 30 different subscales assessing features of the psychosocial work environment, including “quality of leadership” <i>Example item - quality of leadership:</i> “To what extent would you say that your immediate superior is good at work planning?”	Correlations among CPQ sub-scales are provided; no external criteria are considered	Internal Consistency ($\alpha = 0.61$ to 0.93)	Factor analytic evidence suggests overlap between certain sub-scales and measures of functional health	Follower Reports
Health and development promoting leadership Analysis (HDPLA)	Vincent (2010) Vincent (2012a, 2012b)	Health and development promoting leadership Health promoting leadership	Measure designed to assess three underlying higher-order dimensions of health and development promoting leadership (i.e., demanding, development-oriented and support-oriented leadership) <i>Example item - clarity:</i> “My leader takes care of clear task assignments and responsibilities” <i>Example item - feedback:</i> “My leader gives me regular feedback on my work results”	Evidence for convergent/divergent and criterion-related validity are provided in the form of zero-order correlations and multiple regression models	Internal Consistency ($\alpha = 0.77$ to 0.92)	Factor analytic evidence supports the three-factor dimensionality of this index	Follower Reports
Health oriented leadership scale (HoL)	Franke and Felfe (2011) Franke et al. (2014) Franke et al. (2015)	Health oriented leadership Health promoting leadership Health specific leadership Healthy leadership	Measures designed to capture three dimensions of health oriented leadership (i.e., awareness, value, and behaviors) in terms of both “self care” and “staff care” <i>Example item - leader “self care”:</i> “I notice immediately if something is wrong with my health” <i>Example item - leader “staff care”:</i> “I notice immediately when something is wrong with my employees” <i>Example item - follower perceived “staff care”:</i> “My supervisor will know immediately if something is wrong with me”	Correlations between HoL and external measures of job characteristics criteria (e.g., task content) are reported	Internal Consistency ($\alpha = 0.68$ to 0.88)	Factor analytic evidence supports the six-factor dimensionality of this index	Leader & follower reports
Health-promoting leadership conditions (HPLC)	Jiménez & Dunkl et al. (2015)	Health promoting leadership	A measure designed to capture health promoting leadership strategies that support healthy working conditions <i>Example item - health awareness:</i> “As a leader I take care that the health of all employees is promoted”	Correlations between HPLC and external measures of stress and recovery are reported	No reliability information provided	No factor analytic evidence provided	Follower Reports
Leading by example (LBE)	Della et al. (2008)	Leadership support for health promotion	A measure designed to assess dimensions of management support for worksite health promotion <i>Example item:</i> “Our leaders view the level of employee health and wellbeing as one important indicator of the site’s business success”	Content validity assessed via SMEs	Internal consistency ($\alpha = 0.61$ to 0.82)	Factor analytic evidence supports the four-factor dimensionality of this index	Follower reports
Organizational Health and Safety Questionnaire (OHSQ)	Gurt et al. (2010)	Health promoting leadership Health specific leadership	A measure designed to assess general healthy leadership behaviors and the engagement in health promotion of the leader. <i>Example item - task related:</i> “My supervisor routinely discusses with me which objectives are to be accomplished concerning workplace health promotion” <i>Example item - relationship related:</i> “My	Correlations between OHSQ external measures of irritation, complaints, and job satisfaction are reported	Internal Consistency ($\alpha = 0.32$ to 0.88); test-retest ($r_{xy} = 0.38$ to 0.92)	No factor analytic evidence provided	Leader & Follower reports

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Table 3 (continued)

Measure	Citation(s)	Construct(s)	Description & relevant example item(s)	Validity	Reliability	Dimensionality	Perspective
Organizational Leadership for Health Promotion (OLHP)	Barrett et al. (2005)	Organizational leadership for health promotion	supervisor assumes responsibility for my health" A measure designed to assess four dimensions of organizational leadership for health promotion (i.e., practices for organizational learning, wellness planning, workplace milieu, and organizational member development) <i>Example item - wellness planning:</i> "Policies, programs, and budgets reflect the values and principles of the wellness model"	Content validity assessed via SMEs	Internal consistency ($\alpha = 0.79$ to 0.91)	Dimensionality explored through principal components analysis	Follower reports
Trust, Incident Management and Pressure Inventory (TIMP)	Eberz and Antoni (2018)	Salutogenic leadership	A measure designed to assess three dimensions of salutogenic leadership (i.e., trust, incident management and pressure) <i>Example item - trust:</i> "My direct supervisor leaves a great deal of room for decision-making and design"	Evidence for convergent/divergent and criterion-related validity are provided in the form of zero-order correlations and multiple regression models	Internal Consistency ($\alpha = 0.72$ to 0.90)	Factor analytic evidence supports the three-factor dimensionality of this index	Follower Reports

Note. Although other measures of "healthy leadership" exist (e.g., [Anderson et al., 2005](#)), this table summarizes those used in studies included in our review. Citation(s) = citation(s) associated with initial scale development. Construct(s) = constructs operationalized by scales in reviewed studies. Validity = evidence offered for validity, Reliability = evidence offered for reliability, Dimensionality = evidence offered for dimensionality, Perspective = measure taken from leader- or follower-reported perspective. All scales were originally designed purposefully as measures of "healthy leadership," with the exception of the CPQ.

definitions, and relevant citations. We trace the development of these models and constructs and critically discuss attempts to quantify them via the development of measurement instruments (see Table 3).

Health-promoting leadership

Much of the early work on “healthy leadership” emerged from the public health and health-promotion literatures from Scandinavian/Nordic Countries. An early conceptualization termed *health-promoting leadership* is attributed to Hanson (2004), who identified three core dimensions: personal leadership (i.e., leaders’ provision of support, recognition, and feedback), pedagogical leadership (i.e., balancing the promotion of follower wellbeing against organizational goals), and strategic health-promoting leadership (i.e., leaders’ actions toward developing and implementing strategies to foster a “healthy workplace”).

Integrating Hanson’s (2004) ideas, Eriksson (2011, p.17) refined and clarified the definition of health-promoting leadership, suggesting that it “... concerns itself with creating a culture for health-promoting workplaces and values that inspire and motivate employees to participate in such a development.” Eriksson et al. (2011) identified three components of health-promoting leadership, including having a supportive leadership style, organizing health-promoting activities, and developing a health-promoting workplace, which could be roughly mapped onto the three aspects of health-promoting leadership proposed by Hanson (2004). Eriksson et al. (2011) also suggests various motives for the development of health-promoting leadership (e.g., improved health, reducing costs). A number of “critical conditions” for the successful enactment of health-promoting leadership were also proposed, including organizational conditions (e.g., financial resources), leader-specific characteristics (e.g., attitudes about health, skills in health promotion), and support afforded to leaders themselves (e.g., structural conditions that free leaders’ time to promote follower wellbeing).

Research concerning health-promoting leadership has frequently adopted qualitative methods. That said, there have been various attempts to develop psychometric instruments to quantify aspects of health-promoting leadership (e.g. Jiménez, Winkler, & Dunkl, 2017). Arguing that previous models have adopted an approach that is too leader-centric (i.e., they focus too much attention on the “individual level of leadership,” p. 7), Jiménez, Bregenzer, Kallus, Fruhwirth, and Wagner-Hartl (2017) sought to expand the concept to include leadership strategies that support and enhance healthy workplaces. Jiménez, Bregenzer, Kallus, et al. (2017) further suggests that this is important, because healthy working environments are optimally understood by the interaction of individual and organizational factors. According to this model, there are seven unique elements that comprise a healthy workplace culture (i.e., health awareness, value-fit, fairness, community, reward, control, and low workload). It is suggested that these seven elements are organized as a circumplex, with health-promoting leadership as its “core.” Of note, this model has not, to our knowledge, ever been operationalized with this circumplex structure.

In developing their measure of health-promoting leadership, Jiménez, Bregenzer, Kallus, et al. (2017) translated this model into six dimensions of “work life” borrowed from previous work by Maslach and Leiter (2008). Additionally, one dimension that maps onto “health awareness” is said to reflect “health-promoting leadership conditions.” Considering item content, only this “health awareness” dimension really captures leader behavior specific to health promotion. Somewhat consistent with the motivation to “balance” individual and organizational factors, the other six dimensions more readily capture elements of the perceived work environment (e.g., fairness) or elements of job design (e.g., perceived control). Although it would be hard to argue that such elements are not important for health and wellbeing at work in general, only the three items of this scale from the “health awareness” dimension map specifically to leaders’ actions. Moreover, although Jiménez, Bregenzer, Kallus, et al. (2017) argue that healthy working environments are best conceptualized as the interaction of the

individual (i.e., leader) and these organizational factors captured by this scale, no specific guidance is given for how to use this scale to account for such interactions, and no studies that we identified in our review have explicitly modeled such interactive relationships.

Taking a broader view, the important thing to note about this scale, particularly when contrasting its implied dimensionality and item content against the models of health-promoting leadership described above (i.e., Eriksson, 2011; Hanson, 2004), is the absence of overlap between the theoretical models and the way that health-promoting leadership is measured. Drawing parallels between these scales and their (implied) underlying theory requires a large inferential leap in many cases. For example, it is hard to rationalize the argument that a theory designed to explain leaders’ behavior is too leader-centric (Jiménez, Bregenzer, Kallus, et al., 2017). This is actually a symptom of a larger concern, in that to some extent, the status of “health-promoting leadership” suffers from confusion over construct labeling. Indeed, many models and operationalizations share this common label, but their underlying content is far less aligned than their similar names would suggest (Kelley, 1927).

Health-oriented leadership

At the same time that the model of health-promoting leadership was emerging, the concept of *health-oriented leadership* was explored empirically by Franke and Felfe (2011). In contrast to the model of health-promoting leadership described above, the model of health-oriented leadership was developed by a largely deductive process. According to Franke and Felfe (2011), health-oriented leadership deviates from established and more general leadership models in that it addresses specific aspects of leaders’ communication and the health-promoting design of working conditions, as well as leaders’ values and their awareness of followers’ health. The measure of health-oriented leadership also serves to assess followers’ health-oriented values, awareness, and behavior, with components of health-oriented leadership representing health-oriented leadership behavior, health-related awareness, self-efficacy, attitudes, and values.

Unpacking this definition further, health-oriented leadership behaviors can be described both in terms of those related to communication or direct interaction between leaders and followers, from the followers’ perspective, and in terms of behaviors that consider the health-conscious design of working processes and maintenance of healthy working conditions. A heuristic model of the process by which health-oriented leadership influences follower health and wellbeing was developed by Franke, Ducki, and Felfe (2015) (see also Franke, 2012). This model is pseudo-ecological in its nature, describing the influence of health-oriented leadership across different levels of analysis, between leaders’ and subordinates’ perceptions and behaviors. It depicts a “house of health-promoting leadership.” The “foundation” of this house is comprised of leaders’ “self care,” or the way leaders deal with their own health, including how they think, feel, and act in relation to their own health. Moving up one level, leaders’ “self care” influences how they role model health to their followers (i.e., “staff care”). “Staff care” involves the perceived manifestation of leaders’ values, awareness, and behaviors as recognized by their followers; for example, followers’ perceptions that it is important to their leader to actively reduce health risks and that their leader notices when something is wrong with their health. “Staff care,” in turn, influences how followers manage their own health (i.e., “self care”). Health and wellbeing are depicted on the “top floor” of the house, with the assumption that leaders’ “self care” positively influences followers’ “self care” through “staff care.”

Franke and Felfe (2011) developed a measure of health-oriented leadership in German. An English version of this scale is provided by Franke, Felfe, and Pundt (2014). Adding ambiguity, Franke et al. (2014) inexplicably relabeled their translated version of this measure as an index of health-promoting leadership. To avoid confusion in our review, we characterize all studies using either version of this scale as

health-oriented leadership. The scale captures the components of health-oriented leadership described above, as well as health-related attitudes and values. The health-oriented leadership scale can capture either leader-reported self-assessments (i.e., "self care" and "staff care" from the leader's perspective) or external assessments completed by followers (i.e., "staff care," as described above, from the follower's perspective); often, however, only one of these forms is used in research. Feasibly, for any given component of health-oriented leadership (e.g., health-related awareness) one could obtain scores on leaders' "self care," leaders' "staff care," and their followers' perceived "staff care."

Because the health-oriented leadership model and its associated measurement instrument potentially account for perceived leader *and* follower values, awareness, and behaviors, it is feasible to hypothesize and test reciprocal dyadic leader-follower relationships. Despite this, because the model only specifies simple (i.e., unconditional) associations (e.g., association between "staff care" and follower health and wellbeing), it is unclear how such dyadic effects would emerge or develop over time. This is especially true given that single time point, common source methodologies (i.e., typically follower reports of "staff care") are most typically used to study associations between health-oriented leadership and follower outcomes.

Additional "healthy leadership" models

Although the models of health-promoting and health-oriented leadership are by far the most commonly cited models of "healthy leadership," there are a number of related models that appear less frequently within this literature. Despite their relatively low prevalence, these models are important to note because they have served as a basis for the empirical study of "healthy leadership," and because they exemplify the proliferation of constructs in this space. Table 1 provides definitions of each of these constructs, and we next review them each briefly.

One early construct, *organizational leadership for health promotion* (Barrett, Plotnikoff, Raine, & Anderson, 2005), should not be confused with the similarly-named, yet less often studied *individual leadership for health promotion* construct (i.e., Anderson, Plotnikoff, Raine, & Barrett, 2005, see Table 1). Described as a multidimensional and ecological system of actions, organizational leadership for health promotion involves various processes of health promotion, from goal setting to implementation, with an emphasis on continuous development. Barrett et al. (2005) developed a measure of organizational leadership for health promotion, which assesses four dimensions, including "practices for organizational learning," "wellness planning," "workplace milieu," and "organizational member development." Importantly, none of the items that reflect these dimensions address leadership behaviors or styles per se. Confusing matters further, this construct is often interchangeably labeled as "leadership for heart health promotion;" however, no references to cardiovascular functioning are explicitly made (see Barrett et al., 2005).

Della, DeJoy, Goetzel, Ozminkowski, and Wilson (2008) introduced the concept of *management support for worksite health promotion*, which includes, among other aspects, leadership support for health promotion. The "leading by example" instrument, an index designed to capture different aspects of management support for worksite health promotion, includes three items that purport to capture leadership support for health promotion from the followers' perspective. This index has by-and-large been used descriptively, for example, to document changes to workplace health promotion efforts over time (e.g., Della et al., 2010).

Beyond follower perceptions, the concept of *health-specific leadership* (Gurt, Schwennen, & Elke, 2011) is described as a distinct set of leadership behaviors that influence employee health. These behaviors include responsibility for employee health, communication about health-related topics, or setting agendas for workplace health promotion. The logic is that, by highlighting the importance of health, leaders are able to influence their followers' health. To operationalize health-specific

leadership, Gurt et al. (2011) use the organizational health and safety questionnaire (Gurt, Uhle, & Schwennen, 2010), which assesses both general and health-specific forms of leadership from the follower's perspective, in terms of both task and relationship-related leadership behaviors.

Vincent (2012a, 2012b) offers a model of *health- and development-promoting leadership*, which is defined by high levels of support and development-related leadership behaviors, and low levels of demanding leadership behaviors (i.e., leadership behaviors that overwhelm followers). To help explain the mechanisms through which leaders affect followers' wellbeing, Vincent (2012b) developed a measure of health- and development-promoting leadership behavior, the health- and development-friendly leadership analysis, which assesses followers' perceptions of leader behavior that have an influence on follower job demands, task requirements, and resources.

Jiménez and colleagues have developed a measure of health-promoting leadership behaviors (i.e., health-promoting leadership conditions; Jiménez, Bregenzer, Kallus, et al., 2017). In addition to this, earlier work by Jiménez has conceptualized a "healthy leadership" style, which refers to "... humane and relationship-oriented leading with [sic] focus on the subjective well-being of employees and managers" (Jiménez, Dunkl, Hofer, & Vogrincic, 2013, p. 1). Although conceptualized as a unique style of leadership, "healthy leadership" is measured by Jiménez et al. (2013) with a scale of attitudes and behaviors regarding "healthy leadership" (i.e., health-relevant leadership dimensions; Jiménez & Winkler, 2011).

More recently, Dellve and Eriksson (2017) offered a model of *health-promoting managerial work*, defined as evidence-based knowledge of health-promoting psychosocial work conditions, as well as the capability to apply, adapt, and craft sustainable work practices. This systems-based model was developed to support the design and implementation of training programs to support leaders' enactment of workplace health promotion programs.

Finally, the concept of *salutogenic leadership* derives from the systemic salutogenic interaction model (SSIM; Eberz & Antoni, 2016). The SSIM aims to extend earlier work on health-oriented leadership by developing a holistic framework in which health-promoting interactions are the focus, and where dynamics in such interactions are affected both by leaders and followers. Eberz and Antoni (2016) argue that such interactions are neglected by health-oriented leadership models, and that the reciprocal influences between follower health and leader health must be accounted for. Additionally, the SSIM suggests that a sense of coherence (i.e., the comprehensibility, manageability, and significance placed on the experience of stressors; see Antonovsky, 1987) is the mechanism by which health-supportive leadership exerts its positive influence, and that the effect of such leadership is bound by contextual factors and the health-promoting interactions between leaders and their subordinates. To complement the SSIM, Eberz and Antoni (2018) developed the trust, incident management, and pressure (TIMP) inventory as an index of the core facets of salutogenic leadership.

Comparison of different "healthy leadership" theoretical frameworks

Given the number and diversity of "healthy leadership" models, it is difficult to make absolute comparisons. These models have each been developed using different methods, and for different reasons and purposes. That said, there are some common, either explicit or implicit, assumptions present across these models. In terms of explicit assumptions, each of these models of "healthy leadership" claims that there are observable differences in leaders' values, attitudes, and/or behaviors that support follower health and wellbeing. Across models it is assumed that it is possible to improve these values, attitudes, and behaviors. Corollary to this, it is assumed that developing "healthy leadership" is important for workplace health promotion. Finally, "healthy leadership" is assumed to be a meso-level component of health promotion, which serves as a "bridge" between organizational-level health

promotion policies and practices and individual-level (i.e., follower) health and wellbeing. Although some models of “healthy leadership” posit a reciprocal relationship between leaders and followers that is mutually beneficial (see Eberz & Antoni, 2016; Franke & Felfe, 2011), this idea is less universal across models, and as we will see from our review, is rarely if ever rigorously tested.

Considering these common explicit assumptions, it should be clear that there is a great deal of conceptual overlap between models of “healthy leadership.” The co-occurrence of so many similar models within this literature is concerning, particularly if they are assumed to operate independently of one-another (Kelley, 1927). We would argue that there is a great deal of commonality between these various models, perhaps more so than there are differences. That said, only a few studies have measured multiple “healthy leadership” constructs simultaneously; however, those few studies find notable overlaps, suggesting the possibility of redundancy (e.g., Eberz & Antoni, 2018, report correlations between their TIMP measure and health-oriented leadership behaviors measured by the Franke & Felfe, 2011 instrument as high as $r_{xy} = 0.56$).

Models of “healthy leadership” likewise make two implicit assumptions. Owing to their unstated nature, two related issues emerge when considering these implicit assumptions. First, these two assumptions are rarely tested in primary research. Second, if these assumptions did not hold up to empirical scrutiny, then the utility of these models for explaining occupational health and wellbeing would be quite limited. The first assumption is that the various conceptualizations of “healthy leadership” serve as stand-alone constructs. That is, “healthy leadership” is assumed to operate independently and incrementally to other forms of leadership, and particularly to the benefit of employee health and wellbeing. For example, one argument for the development of “healthy leadership” models, is that established and general models of leadership behavior or leader-follower relations (e.g., transformational leadership, LMX) are too broad and do not tap specific health-related actions of leaders (see Franke et al., 2011; Franke et al., 2014). Although offered as justification, this proposition remains largely untested in the literature, as models of “healthy leadership” are rarely compared to established leadership theories, and when such tests are offered, they are rarely conducted with sufficient rigor to rule out other plausible explanations. In contrast, researchers have argued that new leadership models need to demonstrate incremental validity in predicting outcomes, above and beyond established leadership constructs (Antonakis, 2017). To this end, Eberz and Antoni (2018) report zero-order correlations between their TIMP inventory and individualized consideration as high as $r_{xy} = 0.75$.

The second assumption of these models is that “healthy leadership” is separable from the outcomes that it purports to influence. In other words, “healthy leadership” behaviors are assumed to be distinct and un-confounded with their intended consequences (i.e., follower health and wellbeing; see Van Knippenberg & Sitkin, 2013). Raising questions regarding this assumption is perhaps an artifact of the fact that early models of “healthy leadership” were inductively developed (e.g., Eriksson, 2011; Vincent, 2012a, 2012b). However, the idea that there is a reciprocity between leader and follower health is likewise symptomatic of this confounding. For example, the “self care” and “staff care” distinction made by Franke and Felfe’s (2011) model of health-oriented leadership conflates leaders’ health behaviors (i.e., leader-report “self care,” e.g., “I actively care for my health”) with followers’ perceptions of their leader’s health behaviors directed toward them (i.e., follower-reported staff care, e.g., “My supervisors actively cares for my health”), and with followers’ self-reports of their health behaviors (i.e., follower-reported “self care,” e.g., “I notice immediately if something is wrong with my health”).

Further examples of such confounding can be seen in the SSIM model by Eberz and Antoni (2016) and in the conceptualization of health- and development-promoting leadership behavior by Vincent (2012b). The SSIM depicts a complex, cyclical process, wherein leader

and follower health are dynamically intertwined with health-related cognitions, goals, and emotions of both leaders and followers, with consequent effects on leader and follower sense of coherence. Although the SSIM model conflates leader and follower outcomes in its conceptualization, the operationalization of “healthy leadership” via the TIMP measure focuses on general leader behaviors surrounding trust, error management, and work pressure, without reference to health. The “health” component of this model is conceived as leader and follower sense of coherence. Thus, the consequence of “healthy leadership” is understood by the influence that these general leadership behaviors have on sense of coherence. Similarly, the Vincent (2012b) scale of health- and development-promoting leadership behavior measures 20 general leader behaviors that are not health-specific per se (e.g., clarity, feedback). Evidence for “healthy leadership” is informed by the relationship of these variables with follower-reported health outcomes (i.e., irritation, emotional exhaustion, psychosomatic complaints). As with the SSIM, the consequence of “healthy leadership” is taken as evidence for its existence.

In a broader sense, there is a mismatch between the way these constructs are defined and their specific operationalizations. Fundamentally, this is a content validity issue that has clear bearing on the construct validity of operationalizations of “healthy leadership,” and the models that construe them. Also contributing to these concerns about confounding, a majority of studies that purport to study “healthy leadership” in one form or another rely on single time point, single-source (i.e., follower report) methodologies (for two exceptions, see Kranabetter & Niessen, 2017; Köppe, Kammerhoff, & Schütz, 2018). As we will see from our review, prototypically, such studies survey followers about their perceptions of their leader’s capacity for “healthy leadership” concurrently with self-reported health and wellbeing. This raises concerns about common source/common method bias, a statistical artifact which can unduly inflate such relationships (Williams & McGonagle, 2016).

Review of empirical studies on “healthy leadership”

Our literature review focuses on empirical, quantitative and qualitative studies of “healthy leadership” and health-related outcomes for employees (e.g., physical and mental health symptoms, subjective and psychological wellbeing). We undertook a systematic approach to literature searching (e.g., Rudolph, Rauvola, & Zacher, 2018). We next describe the methods and results of this review effort; Fig. 1 summarizes the process undertaken here.

Method

We set a number of *a priori* inclusion/exclusion criteria. The primary inclusion criterion for quantitative studies is that the studies must have considered *both* an explicit operationalization of at least one “healthy leadership” construct (or a clear grounding in one such construct, in the case of qualitative studies) and at least one relevant somatic (e.g., diagnosed illness, chronic health condition), subjective health (e.g., self-reported physical/mental health, burnout), and/or psychological health/wellbeing (e.g., life satisfaction) outcome. Applying this criterion means that studies that only considered relationships between established and more general leadership constructs (e.g., LMX, aspects of transformational or transactional leadership; Winkler, Busch, Clasen, & Vowinkel, 2014, 2015) and such health and wellbeing outcomes were excluded, unless the joint influence of “healthy leadership” was assessed concurrently with these constructs, such that comparisons in predictive validity could be made directly (e.g., comparing the relative predictive validity of aspects of transformational leadership versus “healthy leadership”; e.g., Franke et al., 2014). To be comprehensive, we also considered qualitative studies of “healthy leadership” (e.g., Kranabetter & Niessen, 2016) that clearly delineate the influence of “healthy leadership” on follower health

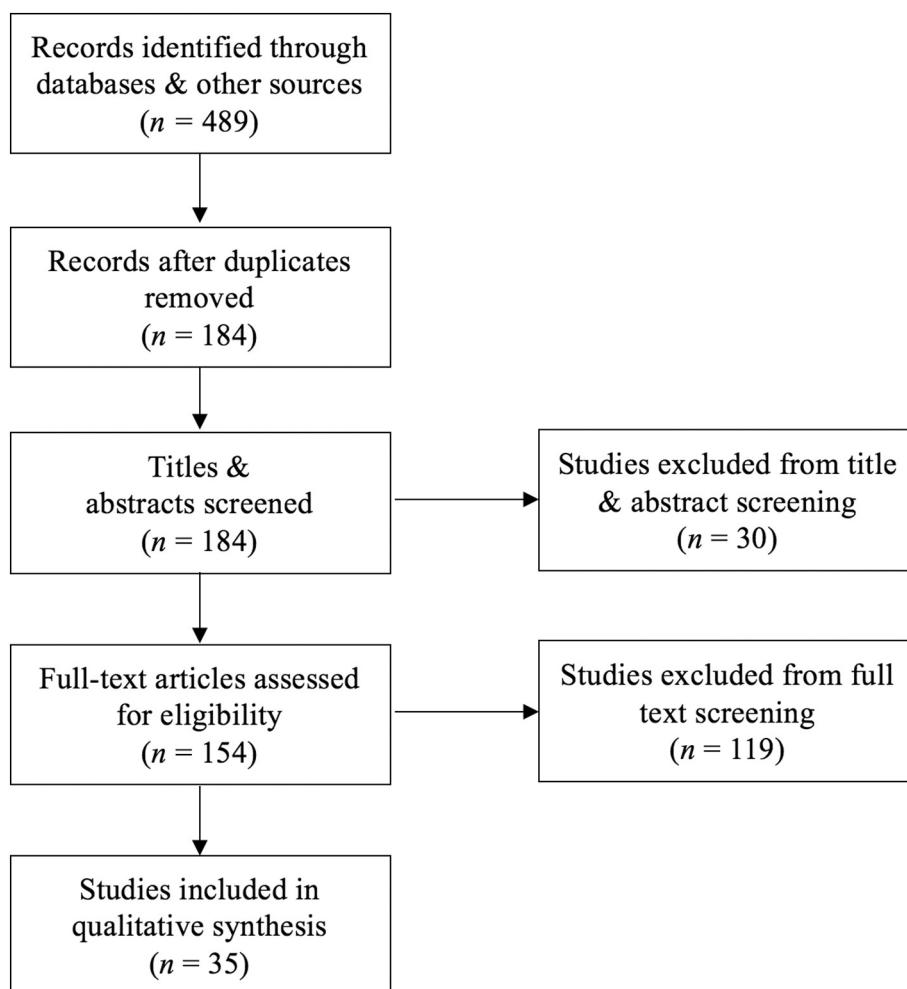


Fig. 1. Flowchart of literature search process.

outcomes, as well as studies that focus on “healthy leadership” (e.g., either in terms of leader or follower reports) and its associations with health and wellbeing outcomes for leaders themselves (e.g., Jiménez, Winkler, & Dunkl, 2017).

To obtain studies that met these criteria, we conducted comprehensive literature searches using several strategies. First, we searched PsycInfo, Web of Science, Google Scholar, and PubMed, using a series of iterative and structured keyword searches corresponding to the constructs discussed above (e.g., “health promoting leadership,” “health oriented leadership,” “health promoting managerial work,” “health specific leadership,” “health and development promoting leadership,” “salutogenic leadership,” “healthy leadership,” “management support for worksite health promotion,” “organizational leadership for health promotion”).

Beyond keyword searches via search engines and databases, we conducted forward and backward searches of highly-cited sources already identified by our primary literature review. We also skimmed the reference sections of relevant review papers (e.g., Akerjordet et al., 2018) and forward searched early theory development papers (e.g., Hanson, 2004). We took additional steps to obtain unpublished studies for consideration in our review, including searching for and considering relevant theses/dissertations and conference papers. Of note, when both published and unpublished versions of a study were identified, we retained only the version which reported more information (e.g., the dissertation by Horstmann, 2018, reports an expanded version of that reported in the published version by Horstmann & Remdisch, 2016).

This process resulted in $k = 489$ sources for potential inclusion in

our literature review; for each search, we exported all records and saved them to a database. After removing duplicate references, our database included $k = 184$ non-redundant sources. The first and second authors then met and screened titles and abstracts of these sources for obvious exclusions (e.g., those that were clearly not focused on “healthy leadership”); this process resulted in the exclusion of $k = 30$ studies from our database. The remaining $k = 154$ studies were then subjected to a more in-depth full-text screening for inclusion in our review. To accomplish this, the first and second author met again and collaboratively screened full-texts for each of these sources, applying the aforementioned inclusion/exclusion criteria. Ultimately, these combined efforts resulted in $k = 35$ studies that were retained for our review. Fig. 1 presents a flowchart of this literature search process and Table 2 summarizes the studies included in our review.

Results

In this section, we present the results of our review of the $k = 35$ studies that we identified through our systematic search of the “healthy leadership” literature (see Table 2). We organize our review around the various “healthy leadership” constructs under investigation in these studies. Moreover, within each construct grouping, we present studies in chronological order (i.e., by year), unless otherwise noted. As we have already stated, a great deal of ambiguity emerges when considering the labeling of “healthy leadership” constructs in this literature. For example, we often observed that studies claim to investigate one particular form of “healthy leadership,” but measure a different

form. In organizing our review, we have characterized these constructs in line with the authors' original intentions and point out any confusion that may arise from such decisions. Also, our review found several studies that considered multiple measures of different "healthy leadership" constructs (e.g., Jiménez, Winkler, & Dunkl, 2017). To account for such studies, we focus our review on the primary construct of interest within each study. When a secondary "healthy leadership" construct was also measured (e.g., as a covariate, or to demonstrate evidence for incremental or convergent validity), we only review the study once, and within the section that corresponds to the primary "healthy leadership" construct of interest.

Health-promoting leadership

By far, the most frequently studied "healthy leadership" construct identified in our literature review was health-promoting leadership. We identified 11 studies adopting a quantitative approach to studying health-promoting leadership, and five studies adopting a qualitative approach.

Quantitative studies of health-promoting leadership. In a conference paper, Gurt and Elke (2009) used a two-wave complete panel survey design to study the relationship between employee-reported health-promoting leadership and strain across a six-month interval. Considering zero-order relationships, health-promoting leadership was negatively, albeit weakly, related to strain at both Time 1 ($r_{xy} = -0.19$) and Time 2 ($r_{xy} = -0.14$). Moreover, a structural equation model was specified to test the concurrent and time-lagged indirect effect of health-promoting leadership on follower strain through a measure of subjective health culture. Only the results of a fully mediated model are reported, and estimates of indirect effects and associated inferential tests are not offered. Thus, it is difficult to understand the nature of the indirect relationship modeled here.

In an unpublished thesis, Törnblom (2012) investigated relationships between employee-reported health-promoting leadership and health status using a cross-sectional design. The zero-order relationship between health-promoting leadership and self-reported health status suggests a small, positive relationship ($r_{xy} = 0.13$). However, when construed together with transformational leadership in a multiple regression model, the partial regression coefficient representing this relationship is negative ($\beta = -0.43$). This can be explained by the observation that transformational leadership and health-promoting leadership were correlated with each other at $r_{xy} = 0.94$, making these largely redundant (i.e., collinear) predictors.

In an unpublished work, Andersson and Dafteke (2014) report the results of a cross-sectional survey study. A significant zero-order relationship between employee-reported health-promoting leadership and an index composed of job satisfaction, development opportunities, health, wellbeing, and emotional requirements was reported ($r_{xy} = 0.67$).

Winkler et al. (2014) conducted a cross-sectional study with surveys collected from followers and their leaders. Given the nested structure of the data, four separate mixed effects models were considered for each health outcome. Main effect relationships between the four employee-reported health-promoting leadership measures and follower health outcomes were inconsistent, with several relationships evaluated at the $p < .10$ level of statistical significance.

In a cross-sectional survey study, Adler et al. (2017) investigated work-related factors, including both "general" and health-promoting leadership, that are associated with burnout among U.S. military medical personnel. Considering zero-order relationships, follower-reported health-promoting leadership was negatively associated with burnout, PTSD symptoms, and perceived stressors. Dimensions of burnout were considered further in two hierarchical multiple regression models, wherein health-promoting leadership was found to explain incremental variance of $\Delta R^2 = 1.5\%$ and 2.3% in emotional exhaustion and depersonalization, respectively, above and beyond covariates,

general leadership, PTSD symptoms, and stressors.

Additionally, we identified six studies of health-promoting leadership by Jiménez and colleagues. Given similarities across these studies, we review them as a set. First, in an unpublished conference paper, Jiménez and Dunkl (2015) report two studies linking their measure of health-promoting leadership conditions to follower health outcomes. Both studies adopt cross-sectional survey designs. Considering zero-order correlations, the first study suggests that health-promoting leadership is positively associated with stress-related recovery; the results of the second study suggest a similar positive relationship with work engagement.

Dunkl, Jiménez, Žižek, Milfelner, and Kallus (2015) investigated relationships among health-promoting leadership, transformational leadership, and followers' recovery and perceived stress. The results of a structural equation model indicate that health-promoting leadership and transformational leadership are moderately correlated with one-another ($r_{xy} = 0.45$). Moreover, both health-promoting leadership and transformational leadership had independent, positive relationships with recovery, but not with perceived stress. Variance explained (R^2) estimates were not provided, so it is difficult to gauge the relative explanatory capacity of health-promoting leadership versus transformational leadership from this study.

In an unpublished conference paper, Bregenzer, Jiménez, and Kallus (2015) present the results of a two-wave incomplete panel study across a six-month interval that investigated effects of health-promoting leadership on follower burnout, perceived stress, and recovery. At Time 1, employees rated their supervisors' health-promoting leadership conditions. At Time 2, they reported their burnout, perceived stress, and recovery. Separate multiple regression models were specified for each health outcome. The models suggested that, of the seven dimensions assessed by the health-promoting leadership conditions scale, only the "control" dimension was consistently related to outcomes (i.e., negatively associated with burnout and perceived stress, and positively associated with recovery). Inconsistent and, for the most part, non-significant relationships were observed for the other dimensions. Additionally, because an incomplete panel design was used, these data are essentially cross-sectional in nature. Thus, it is unclear from this study whether health-promoting leadership affects changes in follower health over time.

Jiménez, Winkler, and Dunkl (2017) considered leaders' self-assessment of their own health-promoting leadership conditions. Leaders rated their own health-promoting leadership (i.e. workload, control, reward, community, fairness, value-fit, and health awareness) and health-oriented leadership using Franke et al.'s (2014) measure. Leaders also self-reported their own levels of recovery, perceived stress, and burnout. Of note, only zero-order correlations are reported, so it is difficult to compare the relative operation of the two "healthy leadership" scales against one another. However, these correlations suggest a degree of overlapping variance between these two different scales (i.e., with correlations among dimensions as high as $r_{xy} = 0.65$). That said, a general pattern across correlations suggests that health-promoting leadership is associated positively with recovery and negatively with perceived stress and burnout.

Similarly, but among followers, Jiménez, Winkler, and Bregenzer (2017) investigated relationships between health-promoting leadership conditions, health-oriented leadership, and health outcomes, including perceived stress, recovery, and burnout. Only zero-order correlations are reported for this study, so it is not possible to compare the relative operation of the two "healthy leadership" scales. However, the correlations presented suggest a degree of overlapping variance between these two different scales (i.e., with correlations among these dimensions as high as $r_{xy} = 0.84$). The general pattern again suggests that health-promoting leadership is associated positively with recovery and negatively with perceived stress and burnout.

Lastly, Jiménez, Bregenzer, Kallus, et al. (2017) examined the relationship between health-promoting leadership and follower recovery,

perceived stress, and burnout in two samples of workers who were surveyed as part of a cross-sectional research design. As before, the pattern of zero-order relationships reported suggests that health-promoting leadership is associated positively with recovery, and negatively with perceived stress and burnout. Despite the limitations of the cross-sectional design adopted here, complex structural equation models were tested, specifying causal linkages between health-promoting leadership, recovery, stress, and burnout. Such models were fit separately in both samples. Direct relationships between health-promoting leadership and recovery and stress were simultaneously specified in both models. In each, health-promoting leadership was positively associated with recovery, but not associated with stress. In contrast, direct relationships between health-promoting leadership and burnout were not explicitly modeled here.

Qualitative studies of health-promoting leadership. Eriksson, Axelsson, and Axelsson (2010) report the evaluation results of a leadership development program. The immediate goal of the intervention was to support the development of health-promoting leadership, with a longer-term goal to reduce sickness absence rates among followers. Follower health outcomes were only indirectly inferred, on the basis of leaders' responses to semi-structured interviews, which represented the evaluation of the intervention's effectiveness. One of the products of the intervention was that leaders were tasked with developing "action plans" for initiating, structuring, and monitoring health promotion efforts in their workgroups; some leaders' plans included provisions to analyze sickness rates and work attendance together with their followers.

Juhlin (2012) conducted semi-structured interviews with leaders in a "major organization." The interview asked these leaders to describe various ways in which they had enacted health-promoting leadership, generally organized around themes of accessibility, commitment, context, and control in their role and specifically in relation to followers' health. The influence of health-promoting leadership on follower health was inferred from leaders' responses to such questions. For example, leaders variously mentioned that they consciously rotate employees across job duties, particularly those which are strenuous, as a means of reducing workload and mitigating fatigue associated with repetitive and/or strenuous tasks.

Winkler, Busch, and Duresso (2013) investigated health-promoting leadership behavior through semi-structured interviews with employees and managers. The interviews asked questions surrounding general leadership behaviors, resource- and development-promoting aspects of leadership, the role of leaders in stress management, and the role of leadership for influencing health. An interesting observation from this study is that followers often did not see the connection between their leader's behavior and their own health, or did not necessarily desire for such a link to exist.

In an unpublished thesis, Pärlemyr (2017) describes the results of a qualitative investigation of health-promoting leadership, conducted via semi-structured interviews with private sector leaders. Responses to these interviews were subjected to a manifest content analysis, from which various themes emerged representing leaders' perceptions of the importance of their behavior for their followers' health. The influence of health-promoting leadership on follower health outcomes was inferred from leaders' responses (e.g., leaders suggested that they recognize that their behavior affects their followers' health and wellbeing).

Finally, Furunes, Kaltveit, and Akerjordet (2018) conducted a qualitative study with nurses to study the attributes of health-promoting leaders that are associated with health outcomes for followers. The influence of health-promoting leadership was inferred from responses to semi-structured interviews. The results suggest that certain actions on the part of leaders influence indicators of follower wellbeing. In particular, nurses reported that behaviors of leaders that convey the meaningfulness of their work were particularly health promoting.

Health-oriented leadership

Six studies were identified that conceptualized "healthy leadership" in terms of health-oriented leadership. Five such studies adopt a quantitative methodology, relying on the health-oriented leadership scale developed by Franke and colleagues (e.g., Franke et al., 2014; Franke & Felfe, 2011). The final study identified used a qualitative methodology, grounded within the broader idea of health-oriented leadership.

First, a book chapter by Franke and Felfe (2011) provides an overview of the development of their health-oriented leadership scale. In addition, they offer the results of a two-wave incomplete panel study conducted across four months, with data collected from both leaders and followers. From the description, it is not clear whether these leaders and followers were matched with one-another, however, the single-level analyses presented seem to suggest they are not. Along with health-oriented leadership, a measure of followers' health-promoting behaviors, and two follower health outcomes – irritation and somatic complaints – were collected. Ambiguities regarding levels of analysis notwithstanding, a time lagged mediation model is presented and evidence is provided to suggest that followers' health-promoting behavior mediates the relationship between health-oriented leadership and health outcomes.

Franke et al. (2014) present further evidence for the usefulness of their measure of health-oriented leadership in two studies. The first study is based upon a slightly larger sample of employees that predominantly overlaps with Franke and Felfe's (2011) construct validation effort, reported above; no follower health outcomes were reported in this first study, however. The second study used an incomplete panel survey design, with health-oriented leadership (i.e., "self care" and "staff care" measures) collected at Time 1, and follower health outcomes (i.e., health status, irritation, and health complaints) collected at Time 2. At Time 1, a measure of transformational leadership was also collected. In a series of hierarchical regression models, health-oriented leadership dimensions accounted for incremental variance in follower health outcomes above-and-beyond transformational leadership, explaining between $\Delta R^2 = 4\%$ to 5% additional variance.

In one of the few multi-level/multi-source studies identified, Kranabetter and Niessen (2017) surveyed leaders and their followers from two different organizations using a cross-sectional research design. Cross-level correlations suggest that leaders' health-oriented leadership was not related to their followers' exhaustion or cynicism. However, in a series of hierarchical mixed effects models, health-oriented leadership was found to moderate the relationship between transformational leadership and both of these follower health outcomes, such that "higher" health-oriented leadership augmented the otherwise negative relationship between transformational leadership and both exhaustion and cynicism. Regarding incremental effects, health-oriented leadership was only found to be incrementally related to exhaustion, and only in one company. Estimates of the variance explained by these models are not provided, so it is difficult to ascertain the magnitude of these relationships.

A study by Santa Maria, Wolter, Gusy, Kleiber, and Renneberg (2018) examined health-oriented leadership in the context of police work. Using a cross-sectional survey design, this study investigated relationships between health-oriented leadership, work-related health behaviors, and health outcomes, including physical complaints, burnout, depression, and wellbeing. Zero-order results and a structural equation model suggest that health-oriented leadership is positively associated with work-related health behaviors and wellbeing, and negatively associated with physical complaints, burnout, and depression.

In another multi-wave/multi-source study, Köppe et al. (2018) investigated how health-oriented leadership behavior serves as a mechanism linking the crossover effects of leaders' exhaustion to followers' somatic complaints. The study used an incomplete two-wave panel design, and a sample of leaders paired with one or two of their followers. Leaders reported their exhaustion at Time 1. Three months

later, at Time 2, followers rated their leaders' health-oriented leadership behavior (i.e., "staff care") and their own somatic health complaints. No direct effect of leaders' exhaustion on employees' somatic complaints was observed; however, there was a significant indirect effect, in that leaders' exhaustion influenced somatic complaints through employees' assessments of leaders' "staff care" behavior.

Finally, a qualitative study by Kranabetter and Niessen (2016) investigated leaders' behavioral responses to exhausted employees, and perceptions of how these responses contribute to reductions in exhaustion in a sample of managers. Grounded in the concept of health-oriented leadership, 27 leadership behaviors that represent how managers engage with exhausted employees were identified through structured interviews. Interviewees were also asked to report, in their opinion, which of these behaviors contributed most toward reducing exhaustion. Among these behaviors, task (re)design and emotional support were reported as being most efficacious in this regard. With respect to other models of leadership, Kranabetter and Niessen also report that 21 of these behaviors could be mapped onto similar behaviors that define either transformational leadership or individualized consideration and initiating structure.

Health- and development-promoting leadership

We identified four studies that conceptualized "healthy leadership" as health- and development-promoting leadership. First, Vincent (2011) present the results of scale development efforts surrounding the "health- and development-friendly leadership analysis." Unfortunately, incomplete results are presented, however, a brief summary of multiple regression analyses is provided, wherein follower health outcomes were individually regressed onto the health- and development-friendly leadership analysis and transformational leadership, simultaneously. From this summary, health- and development-promoting leadership seem to explain variance in these outcomes incremental to transformational leadership, accounting for between $\Delta R^2 = 5\%$ to 12% additional variance across the outcomes considered.

Vincent (2012a) adopted a similar approach to Vincent (2011), by considering a cross-sectional sample collected from employees working in a variety of sectors. Only zero-order relationships are reported; thus, it is not possible to directly evaluate the relative contributions of different leadership measures collected for explaining variation in follower health. That said, there was an expected pattern of zero-order relationships present in these data, such that health- and development-promoting leadership was positively associated with work engagement, and negatively associated with irritation and emotional exhaustion. It should also be noted that a similar pattern of relationships was observed for support-oriented leadership.

Adopting a similar design, measurement, and analysis strategy to the preceding two studies, Vincent (2012b), collected a cross-sectional sample of employees. Considering incremental effects, health- and development-promoting leadership explained variance in irritation, emotional exhaustion, and psychosomatic health complaints above and beyond transformational leadership and support-oriented leadership, explaining between $\Delta R^2 = 1\%$ to 12% additional variance.

Finally, a report by Rigotti et al. (2014) presents results of the "rewarding and sustainable health-promoting leadership" project. First, in a cross-sectional pilot study, only zero-order relationships are reported, so it is not possible to ascertain the relative contributions of health- and development-promoting leadership against these other leadership constructs. That said, these relationships suggest that health- and development-promoting leadership is associated with follower health in the expected direction for all outcomes, with the exception of somatic problems for which no association was observed. Second, the "main study" reported by Rigotti et al. (2014) presents the results of both a three-wave incomplete panel survey study of leaders and their followers, and an intervention study. The intervention, in which a subset of the total sample participated, was a leadership development program designed to enhance rewarding and health-supporting

leadership behavior. The intervention took place during multiple sessions over two years, and involved a combination of lectures, team-based workshops, coaching, and diary writing. The results of this intervention provided weak and mixed results for its capacity to enhance health- and development-promoting leadership behaviors and follower health, with several relationships gauged against a $p < .10$ standard.

Regarding results from the survey component of this study, only responses from "control group" followers (i.e., those who did not participate in the intervention) were considered. Regression models are reported for a subset of the available health outcomes noted above, considering Time 1 to Time 3 relationships, constituting a lag of 22-months. Health- and development-promoting leadership accounted for a significant amount of variance in work engagement, exhaustion, irritation, somatic stress, and depression. Incremental models were also tested, for certain combinations of other leadership variables (i.e., transformational, authentic, and fair leadership, and abusive supervision). However, such predictors were only included in these models if they exhibited statistically significant zero-order correlations with the outcome. Accordingly, the most comprehensive (i.e., with respect to ruling out alternative leadership mechanisms) conclusion to be drawn here is that health- and development-promoting leadership accounts for incremental variance in work engagement, exhaustion, and depressive symptoms, above and beyond transformational and authentic leadership. These incremental relationships are observed without controlling for baseline (Time 1) levels of corresponding outcomes, so these otherwise longitudinal relationships are understood to be essentially cross-sectional in nature.

Additional "healthy leadership" models

Although most studies identified as part of our literature search efforts could be classified as examining health-promoting, health-oriented, or health- and development-promoting leadership, we identified a number of other, related conceptualizations of "healthy leadership."

Health-specific leadership

Two studies we identified focus on health-specific leadership. First, Gurt et al. (2010) surveyed a sample of employees, and report zero-order correlations that suggest that both "general" and health-specific leadership are positively related to job satisfaction, and negatively related to strain. Moreover, a complex partial mediation model was tested using cross-sectional data. Complete parameter estimates are not reported; thus, it is not possible to make direct comparisons between the relative predictive capacities of "general" and health-specific leadership. That said, the zero-order effects of "general" leadership appear to be of a higher magnitude than those of health-specific leadership.

Second, Horstmann (2018) presents two studies as part of a dissertation that investigated relationships between health-specific leadership and follower health. In the first study, zero-order results suggest that health-specific leadership is negatively associated with health complaints. Additionally, even though a cross-sectional design was employed, a complex multiple-mediator model was tested, wherein health-specific leadership was associated with health complaints through social resources and demands. Despite the limitations of inferences from such a model, at the very least, these results suggest that health-specific leadership has an incremental relationship with health complaints, insomuch as it explains variance above and beyond social resources and demands. However, ΔR^2 estimates are not reported herein, making it difficult to judge the strength of this incremental effect.

In the second study, another cross-sectional survey design was employed. Zero-order relationships suggest that health-specific leadership is positively associated with "self care," and negatively with burnout. Despite the cross-sectional design, a multilevel moderated-mediation model was also tested, accounting for the nesting of respondents within participating geriatric care facilities. This model specifically tested whether personal initiative (i.e., a form of proactive

behavior) moderates the indirect effect of health-specific leadership on burnout through "self care." Moderation results suggest that higher levels of personal initiative enhance the positive relationship between health-specific leadership and "self care." Moreover, from the parameters considered in this mediation model, we can infer that health-specific leadership predicts (lower) burnout incremental to the influence of "self care." However, because estimates of ΔR^2 are not provided, it is challenging to ascertain the strength of this effect.

Healthy leadership

Although we have used the phrase "healthy leadership" to generally characterize this entire literature, we did identify one study that conceptualized healthy leadership as a distinct construct using this label. Specifically, an unpublished conference paper by Moltner, Benkhofer, and Hulsbeck (2016) studied healthy leadership, and its health-related correlates. In terms of leader health outcomes, this study reports that leaders with higher levels of both health-promoting employee leadership and self-management reported higher levels of "mindfulness" and more positive health cultures in their organizations.

Leadership support for health promotion

We identified two studies that conceptualized "healthy leadership" in terms of leadership support for health promotion. First, in a multi-source study, Milner et al. (2013) investigated the relationship between leadership support for health promotion and employee wellbeing outcomes. Despite the cross-sectional nature of these data, a serially mediated multilevel structural equation model was specified, with leadership support for health promotion indirectly affecting follower wellbeing through workplace health promotion programs and policies at the company level (i.e., the presence or absence of discrete health promotion programs and policies) and perceptions of company commitment to workplace health promotion at the follower level. Although this model did not specify the direct relationship between leadership support for health promotion and employee wellbeing, the zero-order cross-level correlations between these variables suggests that they are not statistically significant.

Second, an unpublished dissertation by Hoert (2014) used a cross-sectional survey across four different organizations. In terms of zero-order relationships, leadership support for health promotion was correlated in the expected directions with each of these health outcomes (e.g., it was associated with higher job satisfaction and lower job stress). However, in a series of multiple regression models where each health outcome was regressed onto leadership support for health promotion and perceived organizational health climate simultaneously, different patterns of relationships were observed. For example, perceived organizational health climate, but not leadership support for health promotion, was associated with higher job satisfaction, lower job stress, and higher work engagement. Of note, the non-independence that resulted from the nesting of employees within the four organizations that were surveyed was not addressed.

Individual/organizational leadership for health promotion

Our literature searches found one study that operationalized individual/organizational leadership for health promotion. Specifically, Barrett, Plotnikoff, and Raine (2007) report on the results of a program evaluation effort surrounding a large-scale, multi-year health promotion program. Only statistically significant predictors of each outcome are reported, however those that are reported indicate that certain facets of organizational leadership for health promotion are associated with "better" follower health (e.g., reduced tobacco use and increased physical activity).

Salutogenic leadership

We identified two studies of salutogenic leadership. Of note, these studies adopt quite different conceptualizations of the idea of salutogenic leadership. First, Axewill (2013) describes salutogenic leadership

in line with the general concept of salutogenesis (Antonovsky, 2005; Hanson, 2010). A sample of managers were purposefully recruited to participate in structured interviews on the basis of having different levels of "healthy attendance." The degree of salutogenic leadership engaged in by each manager was ascertained from their responses, and compared to their healthy attendance rates; findings suggest that managers generally balanced production-oriented versus salutogenic leadership styles. However, the manager deemed to have the "most" production-oriented (i.e., as opposed to salutogenic) leadership style also had the lowest rate of healthy attendance.

Second, Eberz and Antoni (2018) report on the validation of the trust, incident management, and pressure (TIMP) inventory in two samples of working adults. The TIMP inventory was found to relate to sense of coherence. Moreover, the predictive capacity of the TIMP inventory for explaining sense of coherence was found to be incremental to transformational leadership in the first sample and other "healthy leadership" constructs (i.e., health-oriented leadership) in the second sample. In both samples, adding salutogenic leadership explained an additional $\Delta R^2 = 19\%$ of the variance in sense of coherence.

Health-promoting managerial work

One study identified through our literature searches, Dellve and Eriksson (2017), operationalized "healthy leadership" as health-promoting managerial work. This study reports cumulative results from six separate leadership training programs, and a mixed-methods analysis of these program's. Following a thematic analysis of responses to interviews, results suggested that the training had a positive influence on leaders, broadening their perspectives and affording tangible tools for encouraging health promotion. Regarding leader health outcomes, leaders also reported significant increases in the quality of their psychosocial work environments and increases in job satisfaction following their participation in the training program. These results came from a larger project, more fully elaborated on in an earlier unpublished report (i.e., Eriksson, Dellve, Strömberg, & Edström Bard, 2016). Of note, this report provides more complete details of the influence of the training program on follower health outcomes, taken from follow-up surveys distributed to followers. Regarding such outcomes, job satisfaction and vitality increased among those followers whose leaders were more engaged in the training program. Likewise, the number of sickness absences increased in workplaces where leaders were more engaged in the program.

Descriptive qualitative studies

Finally, of note, our review suggests that most qualitative studies of "healthy leadership" adopt a phenomenological perspective, which is to say that they presuppose the existence of, and seek to understand, people's experiences with "healthy leadership" (e.g., Furunes et al., 2018). The qualitative studies identified through our literature searches largely represent descriptive efforts, and tend to be represented by very small samples (i.e., n s range from 5 to 12 participants/interviewees), including a number of unpublished, primarily Swedish, theses and dissertations (e.g., Axnér, 2015; Gustavsson, 2014; Jansson, 2016). These studies are descriptive of "healthy leadership" in general, and primarily aim to describe what "healthy leadership" means to leaders themselves, without regard to its influence on followers (i.e., either because it is not assessed, or because it is assumed through purely anecdotal accounts). Given that no ascertainable follower health outcomes are obtained or reported in such studies, they were otherwise disqualified from our main literature review.

Discussion

In this final section of the paper, we summarize the most important points of criticism regarding the research we reviewed above.

Table 4

Summary of critiques levied against the “healthy leadership” literature.

Criticism of “healthy leadership” research & theory	Description of criticism & relevant examples from existing literature	Means of addressing criticism in future research
Jingle fallacies	The incorrect assumptions that two constructs are the same because they have the same label	- Empirically differentiate “healthy leadership” constructs from one another via content analyses and factor analysis models
Jangle fallacies & construct proliferation	The incorrect assumptions that two very similar constructs are distinct because they have different labels (e.g., “health-promoting leadership” and “health- and development-promoting leadership”).	- Empirically consolidate “healthy leadership” constructs from one another via content analyses and factor analysis models
Unclear construct definitions and operationalizations	Ambiguities in defining (e.g., Möltner, Benkhofer, & Hülsbeck, 2016) and operationalizing (e.g., Vincent, 2012a) healthy leadership constructs	- Adopt more rigorous definitions of “healthy leadership” that do not rely on inductive inferences - Clearly define “rules” for operationalizing “healthy leadership” - Clearly differentiate those attitudes, values, and behaviors that are classified as “healthy leadership” - Separate the measurement of “healthy leadership” from its intended outcomes by collecting multi-source data - Design observational studies that collect fully-crossed and lagged, multi-wave, and multisource data - Design intervention studies that implement RCT or RD designs - Follow “best practices” for the reporting of statistical models (e.g., APA JARS standards)
Confounding of “healthy leadership” behavior and its intended outcomes	The behaviors that defined “healthy leadership” are conflated with their intended influences on health and wellbeing outcomes (e.g., the “self care” and “staff care” distinction made by Franke & Felfe's, 2011 model of health-oriented leadership)	
Poor methodology	Use of sub-optimal research designs, that do not allow for unambiguous conclusions to be drawn (e.g., cross-sectional designs; Winkler et al., 2014)	
Incomplete reporting of statistical models	Failing to report all necessary information to gauge the appropriateness of statistical conclusions (e.g., Jiménez and Dunkl (2015) do not report variance explained effect size metrics)	
Imprecise predictions derived from “healthy leadership” frameworks	Existing “healthy leadership” frameworks do not lend themselves well to precise predictions	- Unify and integrated “healthy leadership” frameworks, and make specific provisions for testable assumptions to be gleaned therefrom
“Healthy leadership” measurement suffers from “phantom validation”	An unsystematic approach to the development of measures of “healthy leadership” is apparent in this literature (e.g., Jiménez & Dunkl, 2015; “Health-Promoting Leadership Conditions”)	- Adopt rigorous “best practices” for the development and construct validation of “healthy leadership” measures - Conduct re-validation studies of existing “healthy leadership” measures
Risks associated with viewing “healthy leadership” as a panacea	Overemphasizing the importance of “healthy leadership” risks neglecting structural impediments to health and wellbeing which could be more directly acted upon (e.g., work and job design)	- Adopt a critical perspective on the relative utility of “healthy leadership” against other systems, policies, and practices that may more directly influence health and wellbeing

Subsequently, we address the final goal of this paper by outlining an integrative research agenda including recommendations for “healthy leadership” theory development, empirical research, and practical applications.

Summary of criticisms of research on “healthy leadership”

Our review of the “healthy leadership” literature, suggests numerous problems that limit the validity of conclusions that can be drawn from this research. We discuss these critiques here and summarize them in **Table 4**. First, the literature on “healthy leadership” is prone to “jingle” and “jangle” fallacies, which entail the wrong assumptions that two constructs are the same because they have the same label (jingle fallacy), or that two very similar constructs are distinct because they have different labels (jangle fallacy; Kelley, 1927). There are jingle fallacies in that a number of constructs in this literature have been labeled health-promoting leadership (or very similarly, such as health- and development-promoting leadership), even though the content of the measures used to operationalize these constructs is far less aligned than their similar names would suggest. At the same time, there are jangle fallacies in that several “healthy leadership” constructs do not include health- and even leadership-specific items but, for example, items on fairness and control (Jiménez, Bregenzer, Kallus, et al., 2017). Other scales, such as salutogenic leadership (Eberz & Antoni, 2018), include items (e.g., building trust) that are very similar to those included in established leadership measures (e.g., LMX quality). Thus, the positive effects of many “healthy leadership” constructs on follower health and wellbeing may be confounded by effects of beneficial job design characteristics and leadership constructs such as LMX quality and individualized consideration. The existence of similar “healthy leadership” conceptualizations also represents a case of construct proliferation (i.e., “the accumulation of ostensibly different but potentially identical constructs representing organizational phenomena,” Shaffer et al., 2016, p. 89), already a noted concern in the broader leadership

literature (Avolio, 2007; Derue, Nahrgang, Wellman, & Humphrey, 2011).

Second, the inductive development of many “healthy leadership” measures leads to ambiguity in terms of what they actually capture. For example, Möltner, Benkhofer, and Hülsbeck (2016) asked leaders what “healthy leadership” means to them personally, and the leaders themselves identified attitudes, values, and behaviors that cut across several different “healthy leadership” models. Related concerns include unclear procedures for scoring measures (e.g., Vincent, 2012a) and the open question of whether multidimensional measures should be included as separate main effects or as overall aggregate scores in statistical analyses.

Third, much of the empirical research on “healthy leadership” suffers from methodological problems that are not unique to this area, but have been lamented in the broader literature on organizational behavior (e.g., Aguinis & Vandenberg, 2014). Most studies use single time point/cross-sectional and single-source designs (i.e., self-reports by only leaders or followers), raising concerns about common method bias and the confounding of leadership behaviors with their intended outcomes. Additionally, most studies do not control for established leadership constructs, thus leaving open the question of whether “healthy leadership” constructs explain incremental variance in follower health and wellbeing.

Fourth, the reporting of results of empirical studies on “healthy leadership” often is cumbersome. For example, although several studies assessed control variables, they did not report unique variance explained by “healthy leadership” constructs in follower outcomes. Finally, we note that most conceptual and empirical works on “healthy leadership” have not adopted a critical approach when introducing new concepts or discussing research findings. Researchers in this area seem to be rather convinced that “healthy leadership” is a distinct, more specific, and important construct that has unique and beneficial effects. Compared to the goal of demonstrating the relevance of “healthy leadership,” critical tests of theory often seem to take a backseat in this

literature. Like other leadership constructs, the promise of “healthy leadership” has an appealing “hook” that has drawn researchers in (Van Knippenberg & Sitkin, 2013). There is an intuitive, appealing message underlying this literature – leaders can do “things” which directly influence their followers’ health and wellbeing. Despite this enthusiasm, the state of this literature is too scattered and underdeveloped to warrant all of the attention that this concept has received. That said, we see a variety of opportunities to improve research in this area.

A “new agenda” for theory development, research, and practice

Based on the critiques outlined above, we offer a number of actionable recommendations for future theoretical, empirical, and practical work on “healthy leadership.”

Recommendations for theory (re)development

First and foremost, this area would benefit from enhanced theorizing regarding the nature of “healthy leadership” and clearer guidance regarding its (assumed) influences. In terms of theory (re)development, it is therefore important that scholars stop introducing additional, new and unique “healthy leadership” constructs and associated labels and instead focus on better understanding, (re)developing, and integrating those that already exist (see Table 1) into a broader and unified “healthy leadership” theoretical framework. Such a framework should clearly distinguish between leader attitudes, values, and behaviors related to health and wellbeing. Moreover, it would seem necessary to include multiple measurable dimensions within each of these categories (e.g., behavior related to sickness presenteeism, behavior related to follower physical and mental health, attitudes about health and wellbeing).

Efforts at (re)developing a more unified “healthy leadership” theory must also take steps to ensure that the predictions that follow from it are specific and testable. One general criticism against existing “healthy leadership” frameworks is that they do not offer precise predictions about the linkage between leaders’ attitudes, values, and behaviors on the one hand, and associated favorable health and wellbeing outcomes on the other. Moreover, such theories generally do not make predictions about the conditions that give rise to “healthy leadership.” As suggested, the basic premise underlying the idea of “healthy leadership” is that “doing more” of it has a concomitant (assumed to be) positive influence on such outcomes. For example, considering the consequence of follower wellbeing, the common prediction would be: “If leaders enact ‘healthy leadership’, then the wellbeing of their employees will improve (or be higher, especially in comparison to those who do not).” This prediction can be boiled down to a direct function, in which follower wellbeing is understood as a function of healthy leadership:

$$\text{follower wellbeing} = f(\text{healthy leadership}) \quad (1)$$

It is this type of precise definition that is currently lacking in the theorizing concerning “healthy leadership.” Such functional predictions could also be extended to include health and wellbeing outcomes for leaders, as well as outcomes at different levels of analysis (e.g., unit-level wellbeing, indexed subjectively or objectively).

To begin addressing the need for enhanced theory, we propose a process model of “healthy leadership” to inform future work (see Fig. 2). Given that many of the critiques levied here would need to be resolved before tests of this model could be reasonably attempted, we consider this to be a “speculative” model in the spirit of House’s (1976) theory of charismatic leadership. Thus, we classify this as a “2019 model of ‘healthy leadership,’” which we offer in the hope that “...at some future date, this theory will have led to a better theory.” (House, 1976 p. 26). In brief, the “core” of our proposed model suggests that “healthy leadership” components (i.e., attitudes, values, behaviors) influence follower and leader wellbeing outcomes both directly and indirectly (through follower health-related attitudes, values, and

behaviors). These effects are incremental to those of established leadership constructs (e.g., LMX, consideration) and work characteristics (e.g., job demands) that explain variance in follower and leader wellbeing. Moreover, the effects of “healthy leadership” are likely moderated by leader individual differences and contextual conditions (see Fig. 2 for examples). Beyond the core processes of the model, we propose that relevant leader individual differences and contextual conditions have direct and interactive effects on “healthy leadership,” and that follower and leader wellbeing directly and interactively influence more distal, objective and subjective work outcomes.

Although the need for enhanced theorizing is pressing, in order to embark on tests of this model, there is a broader landscape of “healthy leadership” that must be mapped. We suggest that this mapping process must unfold in a systematic and ordered process. Our suggestions here are geared toward expanding the simple functional relationship described above, as a means of expanding our understanding of “healthy leadership.” Much of the effort required to integrate and unify “healthy leadership” theory will be informed by a more rigorous research agenda.

Recommendations for empirical research

Fig. 3 outlines a flowchart of the four steps involved in our proposed research agenda and examples of research questions to ask at each step. Our goal here is to provide prescriptive advice that, if followed, would advance our empirical understanding, while additionally serving the development of a more codified theory of “healthy leadership.” Where relevant, we provide guidance for the types of research designs and methodological concerns that are necessary to realize this research agenda.

Step one. The first step in this new research agenda (Fig. 3, Step #1) is to come to an understanding of how the multitude of “healthy leadership” constructs are related and how they can be differentiated from one-another (see Table 4). We need to establish a better understanding of the construct domain of “healthy leadership;” we need to define “what it is” and “what it is not.” The sheer number of “healthy leadership” constructs that exist in this literature is a liability to its broader contributions to our understanding of leadership- and occupational health-related phenomena. Thus, the “jingle-jangle” of “healthy leadership” has to be addressed explicitly, and this must be done before attempts to differentiate it from other constructs are considered. This can be done in a number of ways. For example, the overlap of these constructs can be addressed through a thorough content analysis of existing measures, which can be triangulated through factor analytic methods and clustering/profile methodologies. Particular attention must be paid to the construct validation of various measures of “healthy leadership” found in the literature (see Table 3). Indeed, a notable critique that could be levied against the measurement of “healthy leadership,” is that it suffers from what has been deemed “phantom validation” – the practice of re-using unvalidated measures across multiple studies, and justifying this practice via citing research that has used such unvalidated measures in the past (Friedberg, 2019).

Once a clearer understanding of the “healthy leadership” construct domain is established, the next step is to further establish its nomological network through offering empirical evidence for convergent and divergent validity. Beyond definitional concerns, evidence for convergent and divergent validity speaks to the heart of the notion of construct differentiation. To this end, it is especially important for research to address and eliminate the confounding of actual “healthy leadership” behaviors and their intended outcomes (see Van Knippenberg & Sitkin, 2013). Specifically, “healthy leadership” could be defined as leader behavior (influenced by attitudes and values) that addresses follower health and wellbeing, but it should not be defined as behavior that per se has positive effects on these outcomes. Overall, we believe that there is a place for “healthy leadership” behavior in the

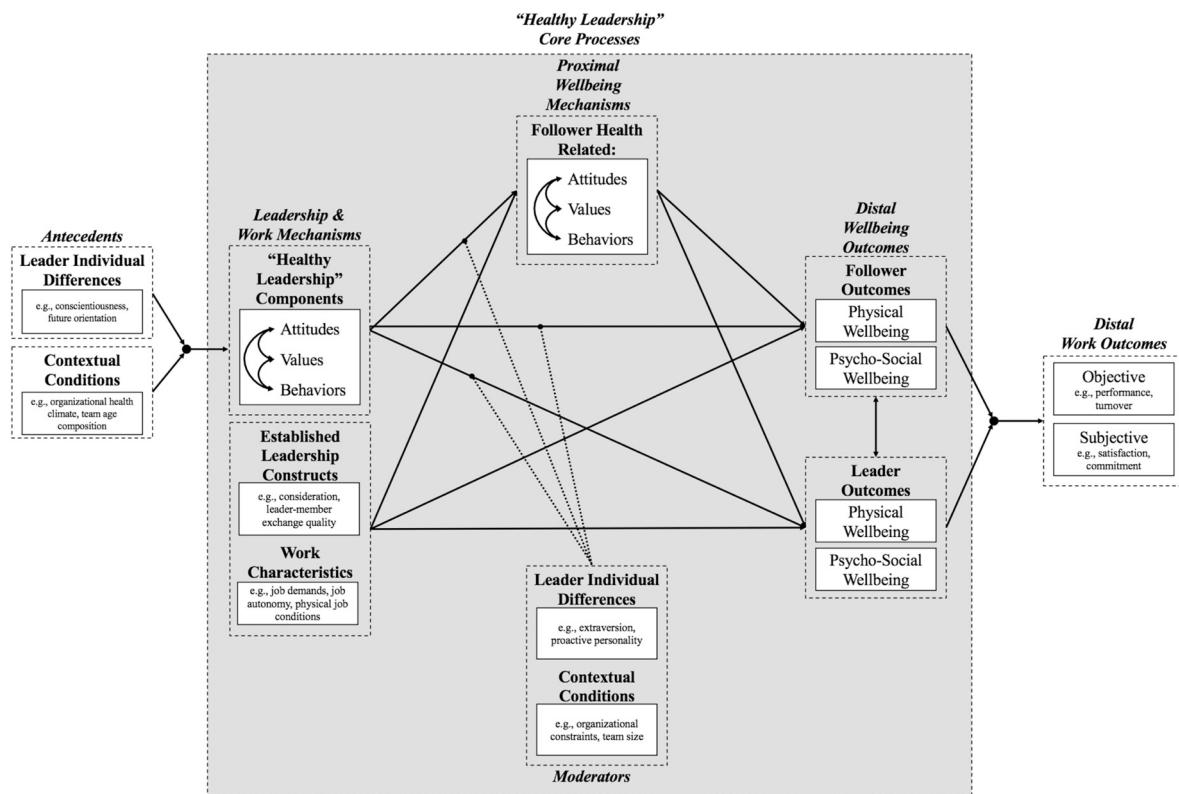


Fig. 2. Proposed model of "healthy leadership".

Note. Dotted lines indicate moderation. Arrows converging with circles indicate possible direct and interactive effects.

broader leadership theoretical space, but the coordinates of this space need to be mapped and articulated more clearly.

Step two. The second step in this new research agenda (Fig. 3, Step #2) would be to establish evidence for the incremental validity of "healthy leadership." This step will serve to additionally expand our

understanding of the construct space that defines "healthy leadership" by establishing the unique role that it plays in the prediction of relevant outcomes (e.g., follower health and wellbeing) above-and-beyond established leadership constructs. For example, it is essential that scholars establish whether "healthy leadership" should be construed as distinct from or integrated with established leadership constructs.

Key Research Questions

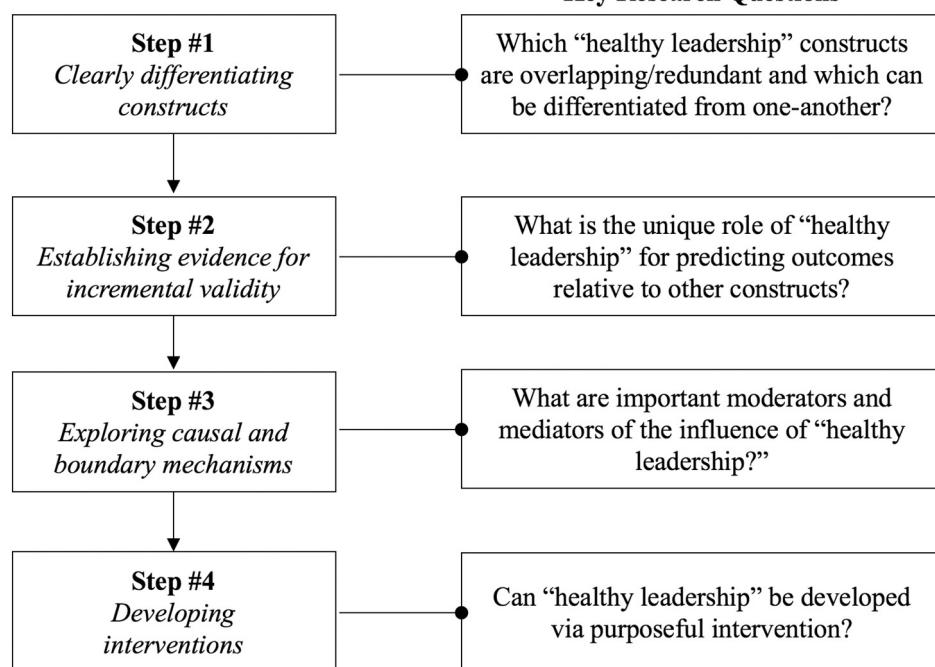


Fig. 3. Outline of steps in "new agenda" for research on "healthy leadership".

Indeed, “healthy leadership” could also be conceived as a specific behavioral outcome of high LMX quality (e.g., leaders taking responsibility for followers’ health and wellbeing, but also followers becoming more aware of the health and wellbeing of their leaders). “Healthy leadership” could also be understood as a specific manifestation of the broader leadership style of individualized consideration, which involves leaders showing an awareness of and concern for their followers’ health and wellbeing.

Beyond the incremental contributions of “healthy leadership,” its unique role in predicting health and wellbeing above and beyond other individual and organizational factors that promote these outcomes needs to be established. Indeed, research as yet to widely consider “healthy leadership” effects incremental to established predictors of health and wellbeing at the individual level (e.g., proactivity, job crafting) or at the team and organizational levels (e.g., job characteristics, personnel practices).

Regardless if tested against existing leadership constructs, or other individual or team and organizational factors, it is imperative that future studies of “healthy leadership” report its incremental predictive validity in terms of variance explained above and beyond these broader and better-established constructs. These models should ideally be examined using fully-crossed and lagged longitudinal research designs that permit modeling temporal dynamics and allow for more appropriate inferences about causality and mediation (Antonakis, 2017). Additionally, to avoid pitfalls of common method bias, ratings of “healthy leadership” and health and wellbeing outcomes should come from different sources. Ideally, to avoid rating biases, “healthy leadership” behavior should be observed during leader-follower interactions and coded using theory-based, *a priori* established behavioral categories (see Lehmann-Willenbrock, Meinecke, Rowold, & Kauffeld, 2015).

Step three. The third step in this new research agenda (Fig. 3, Step #3) should be to explore causal and boundary mechanisms of the influences of “healthy leadership.” Research to establish direct and unconditional relationships between “healthy leadership” and health and wellbeing outcomes is useful for addressing the clarification of its construct space and nomological network. However, beyond such relationships, research needs to establish *why* and *when* “healthy leadership” effects manifest to influence health and wellbeing.

“Why” questions concern mediating mechanisms, and because such mechanisms imply a causal process, they are not easy to study. Indeed, cross-sectional and single time point designs, such as those that are typically used in “healthy leadership” research, are unsuitable to study causal mechanisms (Antonakis, Bendahan, Jacquart, & Lalivé, 2010). Moreover, as with many dynamic phenomena, there is the possibility for reciprocal mechanisms linking organization-, leader-, and follower-level processes and outcomes via reinforcing loops between leaders and followers, and the dynamic interplay within their work environments. For example, in a top-down, cascading process, a “healthy organizational climate” may foster “healthy leadership” which, in turn, affects follower health and wellbeing. From the bottom-up, follower health and wellbeing may reinforce “healthy leadership” which, in the aggregate, could be construed as one index of a “healthy organizational climate.” This implied dynamic and non-recursive process may approximate a “wellbeing spiral,” making the specification of mediating mechanisms challenging and begging for research designs that can capture this implied dynamicity. Moreover, multilevel designs that capture responses from top management, HR officers, supervisors, and subordinates would allow for the emergence of these processes to be studied.

“When” questions concern moderating mechanisms, and ask “For whom...?” type research questions regarding the relative efficacy of “healthy leadership.” Because “when” questions concern conditional mechanisms, they are likewise difficult to study. However, given the assumed top-down influences of “healthy leadership” on follower

health and wellbeing, it is feasible that there are a number of situational contingencies for its relative effectiveness. For example, although the vast majority of studies have focused on outcomes of “healthy leadership,” future research could examine potential dispositional and contextual factors as antecedents and/or moderators of “healthy leadership.” The findings of such research could have bearing for the development of “healthy leadership” across individuals’ careers.

Regarding methodologies, we additionally suggest that scholars move away from inductive and qualitative, and especially phenomenological approaches that generate various descriptions of “healthy leadership” to deductive and quantitative designs that rigorously examine antecedents and consequences, as well as mediator and moderators of “healthy leadership.” As suggested above, such efforts must also take into account effects of established leadership constructs, particularly, LMX quality and individualized consideration.

Step 4. The fourth step in this new research agenda (Fig. 3, Step #4) is to develop interventions to enhance “healthy leadership.” Example research questions to be addressed here include, “By what means can ‘healthy leadership’ be developed?” and “Does ‘healthy leadership’ development have a positive influence on leader and follower health and wellbeing?” In understanding the efficacy of such efforts, intervention studies should use randomized control trials to further bolster inferences about causality (see Podsakoff & Podsakoff, 2019). Absent the possibility of “true” randomization, researchers should consider adopting quasi-experimental methods, including regression discontinuity designs, as a means of estimating treatment effects for “healthy leadership” interventions (Antonakis et al., 2010).

These four “steps” provide a path forward for research on “healthy leadership” that will enhance the quality and impact of this body of work. Our hope is that research on “healthy leadership” will adopt a more critical focus guided by the principle of parsimony, as opposed to a more lenient, confirmatory approach in the design of studies, analyses, reporting, and discussion. By adopting a sound empirical strategy, including a more rigorous focus on measurement and theoretical (re)development, the impact of this research will be greater.

Recommendations for practice

Regarding applications of “healthy leadership,” our general advice to organizational practitioners is that they should likewise adopt a critical attitude toward existing research on “healthy leadership,” taking into account the limitations of this research with respect to theory, methods and, sometimes, unclear, selective, and uncritical reporting of findings. The heterogeneous literature on “healthy leadership” is currently too inconclusive and plagued with conceptual and methodological problems to allow for more definite recommendations for leadership practice. Importantly, we are not suggesting that leaders and organizations should ignore employees’ health and wellbeing—on the contrary. We only suspect that research in this area might run the risk of “reinventing the wheel,” because follower health and wellbeing might already be, to some extent, addressed and influenced by established and more general forms of leadership behavior.

We do see promise in the possibility for the assumed outcomes of “healthy leadership” to be a mechanism by which leadership effectiveness is gauged. For example, one metric of a leader’s value to the organization (i.e., their “return on investment”) could be the health and wellbeing of their followers. The appeal of this idea, is that it would serve as a direct mandate for the duty of care principle, putting a higher degree of responsibility for ensuring follower health and wellbeing on leaders themselves. This is noteworthy in an era where the burden of maintaining one’s wellbeing has shifted increasingly to the individual, rather than the institution.

Moreover, the impact of “healthy leadership” could to be gauged against tangible behavioral (e.g., sickness absences) and economic metrics (e.g., healthcare costs). These ideas beg further the question of whether we should (re)structure reward systems for leaders to promote

the application of “healthy leadership” behaviors. Perhaps leaders should be held accountable for their followers’ health and wellbeing, much like they would for their individual “bottom line,” economic contributions. Such questions raise an important, as-of-yet unlevied critique of “healthy leadership” in general. Specifically, we have not directly addressed whether the fundamental premise of “healthy leadership” is itself a good thing for followers, leaders, their organizations, and society as a whole. Like many phenomena, an overemphasis on the role of “healthy leadership” is accompanied by certain hazards associated with its popularity. Putting the onus for follower health and wellbeing on leaders’ shoulders risks the possibility for an “All we need is leadership...” mentality to emerge. The risk here specifically being that, like any supposed panacea, this mentality holds up “healthy leadership” as a “cure-all” remedy, but does nothing to change the systems that make work a detriment to employee health and wellbeing in the first place (e.g., poor-quality job characteristics).

Conclusion

Our review of research on “healthy leadership” literature contributes to leadership literature in at least three important ways. First, our conceptual overview and our systematic and critical review brings needed clarity to this burgeoning research topic. Second, we argue that the multiplicity in “healthy leadership” models and constructs is a liability rather than a strength of this literature. To be clear, we would not argue against the need to consider specific health-related leader attitudes, values, and behaviors, necessarily. Rather, very similar constructs have been offered and adopted uncritically and without regard for the broader nomological network of leadership. We hope that our review and critique serves as a call for more careful theoretical and empirical elaborations about this general idea. Finally, we have critically evaluated existing research regarding the confounding of actual leadership behaviors and their intended outcomes, and we have assessed whether research has sufficiently addressed the issue of the incremental validity of “healthy leadership.” Based on these critical evaluations, we have outlined a set of prescriptive recommendations for theory development efforts, future research, and practical applications regarding “healthy leadership.” We hope that our review will help scholars and practitioners critically assess the contributions of “healthy leadership” constructs, models, and assessments to the leadership literature and organizational settings, respectively.

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Review

Exploring why leaders do what they do: An integrative review of the situation-trait approach and situation-encoding schemas



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ARTICLE INFO

Keywords:

Leadership
Cognitive-Affective Processing System
Situation-encoding schemas
Mindsets
Goal orientation
Regulatory focus

ABSTRACT

In order to enhance leaders' effectiveness, it is critical to clearly and accurately understand the underlying processes that contribute to leaders' decision making and behavior. The traditional trait approach to understanding leaders' underlying processing carries limitations and does not capture any of the situational characteristics that may be important. We thus advance the situation-trait approach by introducing the Cognitive Affective Processing Systems framework more fully into the leadership domain. A primary benefit of integrating this framework is that it identifies an attribute largely overlooked by leadership scholars, yet foundational to leaders' processing and behaviors: situation-encoding schemas. We integrate and review decades of research on four sets of situation-encoding schemas to demonstrate their important role in determining why leaders do what they do. This consensus shift, novel focus on situation-encoding schemas, and integration of four disparate sets of well-studied situation-encoding schemas has important implications for leaders' self-awareness, meta-cognition, effectiveness, and development.

Introduction

Leadership matters. Leaders are responsible for making decisions, taking action, and creating cultures that help their organizations adapt and succeed in competitive environments (Bass, 1990; Nadkarni & Herrmann, 2010; Peterson, Smith, Martorana, & Owens, 2003; Resick, Whitman, Weingarden, & Hiller, 2009; Waldman & Yammarino, 1999). Acknowledging this, a primary question researchers and practitioners face is: "How do we improve the effectiveness of leaders?" This is particularly important because anecdotal evidence suggests a large proportion of leaders are not operating as effectively as expected. Gallup, Inc.'s polling research has revealed that only 22% of employees strongly agree that their performance is managed in a way that motivates them to do outstanding work (Ott, 2017). The Center for Creative Leadership reports that over 38% of executives outright fail in the first 18 months (Riddle, 2016). To answer the question, "How do we improve the effectiveness of leaders?" it is critical to understand the underlying processes that contribute to leaders' decision making and behavior. Only by diving into the psychology of leadership can we hope to comprehensively understand why leaders do what they do, which will

ultimately help us train leaders to process and behave in more effective and optimal ways.

Historically, the emphasis on why leaders do what they do has been on leaders' traits. This traditional approach implied that leaders' traits were the primary explanation for leaders' processing and behavior, and left organizations with two primary options if they wanted to improve the effectiveness of their leaders: select leaders with the traits more likely to lead to effectiveness or develop their leaders to possess such traits. Unfortunately, this early approach carries three assumptions that have limited leadership development research and practice. These assumptions include: (1) leadership behaviors are a function of relatively stable characteristics of the person (Michel & LeBreton, 2011; Park, Arvey, & Tong, 2011; Zaccaro, Green, Dubrow, & Kolze, 2018), (2) variability of behaviors across situations represent a form of measurement error or internal contradictions (Mischel & Shoda, 2008), and (3) the manifestation of the leader's traits and the situations they face are mutually exclusive and opposing influences (Mischel & Shoda, 2008). While leadership researchers have largely moved away from this traditional focus of leaders' traits being the primary explanation for why leaders do what they do, these assumptions still linger and may be

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limiting the development of richer perspectives which can more comprehensively explain leaders' processing and behavior.

What psychologists and leadership researchers are increasingly agreeing on is that an improved explanation for why leaders do what they do must go beyond studying leaders' traits, and instead focus on the interaction of those traits with the specific situations in which leaders operate (Bandura, 1986; Higgins, 1990; Mischel & Shoda, 1995; Mischel & Shoda, 2008). They recognize that instead of the leaders operating similarly across situations because of their traits, leaders operate and manifest their traits differently across the various situations they encounter (Michel & LeBreton, 2011; Park et al., 2011). For example, it should be expected for a leader who is generally high in agreeableness to demonstrate different levels of agreeableness across different situations—for example one level when negotiating with employees about where to hold the annual company retreat, and another level when negotiating a significant business deal. Further, psychologists do not believe that such variation should be considered "error;" rather, such variation should be expected, and is likely predictable (Mischel & Shoda, 2008). Thus, to better understand why leaders do what they do, we need to better understand the interplay between the situations leaders encounter and their traits (Fleeson, 2007; Judge & Zapata, 2015; Mischel & Shoda, 2008). When we take this situation-trait approach, new and novel insights related to leadership development and effectiveness become apparent.

Perhaps the best framework to explain this situation-trait approach is broadly summarized by a model and meta-theory called "Cognitive-Affective Processing System" (CAPS). The CAPS framework explains that how leaders operate in a given situation is based upon cues in the situation that activates select affect and cognitions within the leader (broadly categorized as an individual's personality system; Mischel & Shoda, 1995; Mischel & Shoda, 2008). More specifically, it suggests that while individuals do not operate similarly across situations, they have processing and behavioral dispositions that become activated upon certain cues, causing them to operate similarly and predictably across situations that share similar cues (Mischel & Shoda, 1995; Mischel & Shoda, 2008). This framework identifies a commonly undervalued, yet critical aspect of leaders' operations: the initial intersection between the leader and the situations they encounter, which CAPS labels the "encoding process" (Mischel & Shoda, 1995).

Leaders' encoding process, which largely functions subconsciously, guides (1) what cues the leaders detect in the situations they encounter; (2) why those particular cues are detected and not others; and (3) the activation of specific processing and behavioral dispositions, or repeatable and predictable patterns, within the leaders' personality system (Mischel & Shoda, 2008). As such, leaders' encoding process are foundational to how they process and operate, and if categorized, can be used to develop a leader's "signature" (Mischel & Shoda, 2008). We believe that if we can better understand leaders' encoding process, and the specific mechanisms that drive it (i.e., situation-encoding schemas), we will develop more precise leadership development guidance that involves a novel focus on leaders' encoding process, which has largely been absent from leadership research and practice.

The purposes of our paper are three-fold. First, we seek to shift consensus within the leadership literature to more fully embrace this situation-trait approach in the study of why leaders do what they do. In doing so, we recognize that the leadership domain has historically placed emphasis on situational leadership theories. But, these theories have primarily focused on how leaders need to adapt to their situations instead of how their situations dictate their processing and behavior, which has only received scant attention. Thus, we summarize the situation-trait approach, primarily relying upon the CAPS framework. Our second purpose is to identify a component in this framework, leaders' encoding process, as being the most important and foundational component for leaders' operations because it initiates the interchange between individual and situation and activates select aspects of leaders' personality systems (e.g., traits and self-regulatory processes) to

help them best navigate the situations they encounter. Third, we review four sets of situation-encoding schemas that govern leaders' encoding process. These schemas activate and guide leaders' processing and behavioral dispositions, yet they have largely been overlooked by leadership researchers and practitioners. As such, they are ideal aspects to focus on for leadership development and promoting leadership effectiveness. One benefit of considering these sets of schemas together is that they can help identify leaders' "signature" responses across the situations they encounter, with important developmental implications including enhancing their ability to be self-aware, operate consciously (as opposed to non-consciously), and engage in metacognition.

The study of why leaders do what they do

The field of psychology has long investigated why people process and behave in the manner they do. Historically, psychologists took two competing approaches, forming two branches of psychology: personality psychology and social psychology (Mischel, 2009). Personality psychologists focused on identifying internal traits to explain individuals' processing and operation. On the other hand, social psychologists focused on the situational characteristics to explain individuals' processing and operation. For many years, primarily in the 1970s and 1980s, these psychologists debated between the "power of the person" and "the power of the situation," considering the debate a zero-sum formula, where it was all or nothing.

Psychologists' contemporary view is now a more accurate depiction of reality that acknowledges a combination of individual traits and situational characteristics is what best explains why people operate the way they do. They believe that there is a dynamic interchange between situations and individuals' traits, and it is this interchange that best represents how individuals express their behavior (Bandura, 1986; Mischel, 2009; Pervin & John, 1999). It is also an interchange that leadership scholars need to better integrate into their theories and research.

The trait approach

The traditional approach that the leadership domain has taken in studying why leaders do what they do has been the trait approach, stemming from personality psychology (Zaccaro et al., 2018). This approach has a long history that dates back to the ancient Greeks who believed that some people had the "natures" to be leaders, while others did not (Plato & Jowett, 1901). Leadership researchers who have taken this approach have been primarily interested in identifying specific traits that can be generalized across situations, providing insight for leadership selection, development, and effectiveness. The significant amount of research on this topic has resulted in multiple meta-analyses, allowing DeRue, Nahrgang, Wellman, and Humphrey (2011) to test a meta-analytic structural equation model of the role leader traits play on leadership behaviors and effectiveness. They identified personality (i.e., the Big Five), intelligence, and gender as being the most heavily studied traits related to leadership.

This approach carries an assumption that few have questioned: leaders' traits generally cause them to act the same across situations. Unfortunately, this assumption, and broader approach, carries significant limitations. First, it views variability of behavior across situations as error and internal contradictions (Mischel & Shoda, 2008). Second, it construes personality and situation as being mutually exclusive and opposing influences (Mischel & Shoda, 2008). Third, it overlooks and fails to address the psychological processes and dynamics that underlie leaders' behaviors (Mischel & Shoda, 2008). Fourth, it fails to consider that leaders engage in cross-situational consistent patterns of behavior that differ depending upon the cues of the situation (Michel & LeBreton, 2011; Mischel, 2009; Park et al., 2011). Overall, this approach ignores reality: "The person and the situation at any given moment are inextricably interwoven" (Rauthmann, Sherman, & Funder,

2015; p. 363). Because of these limitations, the trait approach will always be limited in its predictive validity of leadership effectiveness, and they are likely the primary reasons for relatively small correlations between traits and leader effectiveness (DeRue et al., 2011; Judge, Colbert, & Ilies, 2004).

The situation-trait approach

The leadership domain is increasingly recognizing the limitations associated with the traditional trait approach, but theoretical approaches or frameworks that move the domain beyond this traditional approach have been slow to develop. Fortunately, the psychological domain has spent decades studying how individuals' traits interact with their situation to explain why they do what they do. Thus, there is much precedent and expected value from applying this situation-trait approach into the leadership domain. In fact, this approach has been predicted (Antonakis, Day, & Schyns, 2012) and promoted (Zaccaro et al., 2018) as a renaissance for the leadership domain.

A framework commonly used to describe the situation-trait approach is CAPS (Mischel & Shoda, 1995). CAPS is a meta-theory, which means that it provides a framework for building theories to account for individuals' characteristic intra-individual behavior and the dynamics that underlie it (Cervone, Shadel, Smith, & Fiori, 2006; Mischel & Shoda, 2008). It is able to incorporate "the complexity of human personality and the cognitive-affective dynamics, conscious and unconscious—both 'cool' and 'hot,' cognitive and emotional, rational and impulsive—that underlie the individual's distinctive, characteristic internal states and external behavioral expressions" (Mischel & Shoda, 1998, p. 210–211).

The situation-trait approach and CAPS framework takes a process-oriented perspective toward personality, viewing it as a process or system of a unique network of organized interconnections among cognitions and affects that explains why and when a leader behaves distinctively (Mischel & Shoda, 1994, 1995, 2008; Rauthmann et al., 2015; Zaccaro et al., 2018). It moves beyond the idea that personality produces uniformly consistent behavior across situations, and instead suggests that leaders possess various behavioral processes or patterns that are characteristic and predictable across situations, depending upon situational cues (Mischel & Shoda, 1998; Park et al., 2011). It implies that certain traits (e.g., extraversion) and related behavior may be utilized more heavily in situations with certain cues than other situations with different cues.

This approach carries its own assumptions that has unique implications for the leadership domain. First, leaders' context or situation has significant influence on the expression of their leadership (Zaccaro et al., 2018). Second, leaders' behavioral tendencies vary in stable and predictable manners across situational cues, which means that variability in cognitions and behavior across situations is not viewed as error or internal contradictions, but as valuable information related to the leaders' personality processes (Michel & LeBreton, 2011; Mischel & Shoda, 1995, 2008). Third, every leader will differ in how they encode the situations they encounter, and their specific encodings will activate their own unique pattern of processing and behavior (Mischel & Shoda, 1995). Fourth, failed leadership is less about not possessing particular traits, and more about failing to encode their situations properly and subsequently failing to recognize the need to employ their traits differently across situations (Zaccaro et al., 2018).

Comparing the situation-trait approach to the trait approach, it becomes clear to see that while they are both seeking to address why leaders do what they do, they have different motives and focus. The trait approach seeks to identify the characteristics that explains how leaders are likely to operate across all situations, whereas the situation-trait approach investigates the psychological processes that underlie leaders' individual differences in behavior and its variability across situations (i.e., how a leader functions; Mischel & Shoda, 1995).

This latter approach allows for a more accurate view of the reality of

human functioning. Assuming variability in behavior across situations to be errors, the trait approach only offers flat, simplistic, static portraits that characterize a leader's average types of behavior. Instead, the situation-trait approach sees variability to be part of the multi-faceted nature of human character, and provides a richer, more comprehensive, and more coherent explanation and understanding of leaders' contextualized behavioral expressions (Michel & LeBreton, 2011; Mischel, 2009; Mischel & Shoda, 2008; Park et al., 2011). It explains both baseline levels of behavior (i.e., behavioral consistency) and patterns of variability (i.e., behavioral coherence; Michel & LeBreton, 2011).

It has been argued that the trait approach is akin to categorizing an automobile's dispositions (e.g., clunky or speedy; gas guzzler or economical; Mischel & Shoda, 2008). While that information may be helpful when determining which car to buy, it provides little value for fixing the car if it is not running properly. The situation-trait approach, on the other hand, allows for a deeper understanding of what is going on "under the hood"—the psychological processes and dynamics that underlie leaders' behavioral dispositions (Epstein, 1994; Mischel & Shoda, 2008). When one has a knowledge of what is going on "under the hood," it makes one more capable of diagnosing and fixing any issues in operation.

In fact, the situation-trait approach allows for the identification of leader signatures or profiles representing their characteristic individual patterns of cognitions and behaviors in response to specific situational conditions (Mischel & Shoda, 2008). Identifying and awaking to such signatures has valuable implications for enhancing leaders' self-awareness and development. If leaders can better understand their processing dynamics, they will be able to more accurately assess and improve the effectiveness of their processing and operation (Mischel & Shoda, 2008). Specifically, they will be able to anticipate the events and conditions that activate select signatures, allowing them to become more conscientious of the situations they step into and more conscious of their reactions and responses to such situations. Altogether, they will be empowered to modify their processing that underlies any maladaptive and dysfunctional behaviors.

Modeling the situation-trait approach

CAPS framework

The CAPS framework is the primary model used to capture the situation-trait approach. A depiction of this framework is presented in Fig. 1. Broadly, it presents a process explaining why leaders operate the way they do.

This process begins with the initial interaction between individual and situation. The situation is full of features and related cues, generally too many to process effectively. When individuals interact with the situation, they must identify and interpret a sample of select cues to start the process of informing the individual how to best navigate the situation. This is called the encoding process. This reading of the situation occurs automatically, largely subconsciously, and efficiently (Bargh, 1997; Kihlstrom, 2004; Mischel & Shoda, 2008).

This encoding process activates a number of affective and cognitive personal aspects—housed in what is broadly categorized as one's personality system—in a manner designed to help the individual best navigate the situation based upon the select cues perceived and how they are interpreted (Mischel & Shoda, 1995, 2008). Mischel and Shoda (1995, 2008) identify five different categories of affective and cognitive personal aspects that can potentially be activated as part of the broad personality system. They include: (1) encoders, which are people's individualized manner of categorizing information from external stimuli; (2) competencies and self-regulation strategies, which include intelligence and self-regulatory strategies; (3) expectancies and beliefs, or people's predictions about the consequences of each of the different behavioral possibilities; (4) goals and values, which provide the basis for behavior consistency; and (5) affective responses, which include

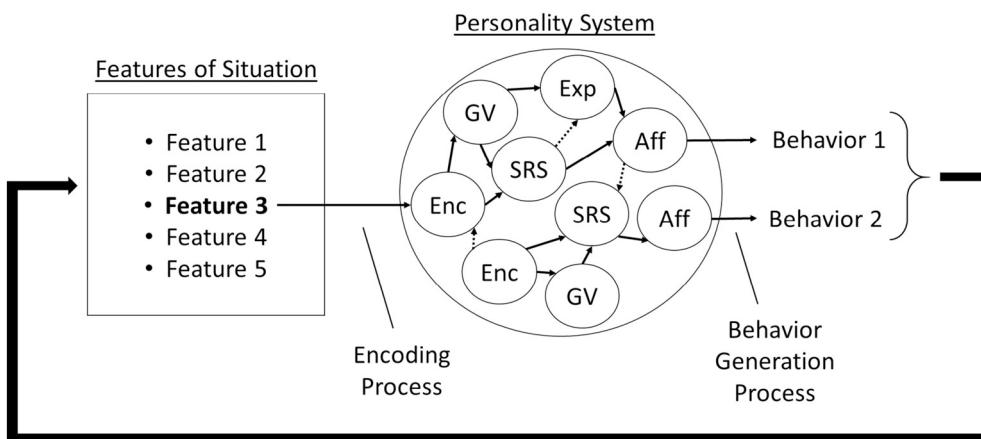


Fig. 1. Model of Cognitive and Affecting Processing System (CAPS)

Enc = Encoding, SRS = Self-regulatory strategies, Exp = Expectancies, GV = Goals and Values, Aff = Affects. Adapted from Mischel & Shoda, 2008, p. 212).

emotions, feelings, and the affects accompanying physiological reactions.

The encoding process and subsequent pattern of affects and cognitions within the personality system serves to help individuals assign meaning to the situations they encounter. This system is complex, involving automatic bottom-up processing, top-down 'hot' (impulsive-affective and ore implicit) and 'cold' (reflective-cognitive and more explicit) information processing, and the five different personal aspects that range from volatile (e.g., emotions, moods, attitudes) to stable personal factors (e.g., competencies, personality; Rauthmann et al., 2015). Altogether, this processing determines how individuals uniquely experience their situations and determines how they think, feel, and act, leading to the next step in the process: behavior generation, or taking action associated and in alignment with the initial encoding and subsequent processing within one's personality system.

The CAPS framework also suggests that this sequence is circular. Once the individual takes action as a result of their processing, the features of the situation can change or new cues can become available, restarting the encoding process, and reengaging the individual's personality system. Because of this cyclical relationship, individuals' processing interacts continuously and dynamically with the individuals' social world (Mischel & Shoda, 2008).

The CAPS framework creates space for exploring and explaining the rich and dynamic processing that underlies leaders' responses to the situations they encounter. It includes allowing for the explanation for why a leader behaves differently across situations.

To fully explore such processing and to improve our understanding of leaders' operations, there are two elements of the CAPS framework that are vital to understand: the personality system and the encoding process. We describe each as follows.

Personality system

A primary focus of the CAPS framework has always been on the description of the personality system. It creates a space for a variety of personal attributes to interact in a variety of ways in response to the cues encoded from the environment, explaining behavior across situations and situational cues. The CAPS framework carries a number of assumptions about this personality system.

First, it suggests that the affective and cognitive personal aspects interact in distinct patterns based upon the specific environmental cue encodings (Mischel & Shoda, 2008). These patterns generally operate in a distinct sequence, such that the immediate "triggering" of a specific attribute can in turn "trigger" other relevant aspects of the self (Hannah, Woolfolk, & Lord, 2009; Fig. 1 depicts a greatly simplified CAPS pattern). These patterns are processing structures that dictate

one's behavioral dispositions and subsequent behavior (Mischel & Shoda, 1995).

Second, it assumes that the complex, multifaceted relationships and interactions between these personal aspects may operate at many levels of awareness, automaticity, and control (Mischel & Shoda, 1995). Mischel and Shoda (2008) state that the characteristic reactions of the personality system to situations are often immediate, non-conscious, and automatic. But, the reactions can also be conscious and reflective, involving higher-order cognitive processes. Whether one reacts non-consciously or consciously may be partly described by the "heat" of the situation. When a situation is "hot," or emotionally charged, individuals' personality system may operate more quickly and non-consciously. But, when a situation is "cold," or emotionally neutral, individuals have the ability to be more contemplative, flexible, slow, and strategic, allowing for more conscious processing and regulation. Other characteristics of the individual or situation that can affect the consciousness of one's processing system is the amount of stress within the individual or situation, the individual's developmental level, and the individual's self-regulatory dynamics (Mischel & Shoda, 2008).

Third, it suggests that the personality system's patterns are stable across situations that share the same cues. Specifically, these stable and predictable patterns are what characterize the personality of an individual, and underlie their uniqueness (Mischel & Shoda, 1995).

Fourth, it suggests that while the structure of the personality system can remain stable across situations, it will change readily when the situational features change or are encoded differently (Mischel & Shoda, 1995). Thus, the activated pattern of processing can be categorized as an individuals' personality state, and as environments change, different personality states are activated (Mischel & Shoda, 2008). This implies that at any single point in time, only a portion of the individual's self-construct is active, and as different cues are perceived, other portions of the individuals' self-construct become active (Hannah et al., 2009).

Fifth, it suggests that individual's variability in processing and behavior across situations are not necessarily internal contradictions, rather potentially predictable expressions of a stable underlying system that may remain unchanged in its organization (Mischel & Shoda, 1995). This provides the rationale for why, despite having certain stable traits (i.e., extraversion), individuals do not operate similarly across situations (i.e., trait approach), but operate similarly across situational cues (i.e., situation-trait approach).

Sixth, each individual's personality structure is both stable and unique, allowing for the explanation for why individuals with similar traits operate differently across the same situations. Specifically, this difference can be explained by the chronic availability and ease of activation of particular affects and cognitions and the particular relations

among them (Mischel & Shoda, 1995).

Seventh, as individuals' repeatedly use and rely upon specific processing patterns, they increase in strength, and may even function more automatically and habitually over time (Hannah et al., 2009). In fact, Lord, Diefendorff, Schmidt, and Hall (2010) suggest that it is common for leaders to nonconsciously rely on these habitual processing patterns for their functioning and operation.

Together, these assumptions have led Mischel (2009) to summarize the CAPS framework as follows:

"The CAPS model is idiographic in the sense that it is about each person's distinctive organization and how it is expressed in interactions with the social world. But while intended to capture the uniqueness of each personality, it is not limited to $N = 1$. It lends itself easily to the nomothetic study of types of people who share common if... then... behavioral signatures, and similar underlying processing dynamics, generated by similarities in their CAPS networks" (p. 286).

Mischel is alluding to the idea that the personality system is the "nuts and bolts" of the CAPS framework. But, he is also suggesting that if we can better understand and predict why certain patterns or systems will be activated, we can better predict individuals' processing and subsequent behavior (Mischel, 2009; Mischel & Shoda, 1995). This leads us to the aspect of the CAPS framework that we are most interested in: the encoding process, which is the intersecting point between the individual and the situation.

Encoding process

Across Mischel and Shoda's (1995, 2008) explanations of the CAPS framework, and relative to their explanation of the personality system, the encoding process has received relatively little attention. Yet, it is a critical aspect of explaining why leaders do what they do. This is for two primary reasons. First, it initiates the behavioral process. In order for leaders to effectively navigate the situations they encounter, they must first form situational impressions (Edwards & Templeton, 2005). Since it is extremely inefficient, costly, and time-consuming to process every possible situational cue, individuals quickly attend to, filter, and interpret only the information that appears salient, important, and consequential (Miller, 2007; Rauthmann et al., 2014). Second, and consequently, the cues that are attended to, filtered, and interpreted are what activates individuals' personality system in ways unique to the filtered cues (Mischel & Shoda, 1995, 2008).

Mischel and Shoda (1995, 2008) generally identify the encoding process as *if... then...* situation-behavior relations. They suggest that if certain cues are identified, then specific personality signatures are activated. More specifically, the encoding process guides and constrains the particular patterns of affect and cognitions within the personality system (Mischel & Shoda, 2008). As such, the encoding process underlies and is foundational to how individuals think, process, and correspondingly behave.

There are two important features of this process to point out. First, encoding is what brings meaning to an environment – what is happening, what might have led to the observed state of affairs, and what might happen (Rauthmann et al., 2014; Rauthmann et al., 2015). The objects and the aspects associated with an environment are neutral and without meaning. They only take on meaning once they are perceived by an individual. For example, a picture of a clown, if unobserved, does not carry any meaning. But, if observed, can bring a variety of emotions and cognitions ranging from amused to fear. Second, this encoding process generally occurs automatically and outside of one's awareness (Mischel & Shoda, 2008). The purpose of this automatic and non-conscious meaning making process is to quickly inform processing, regulation, and behavior based upon the situational cues (Rauthmann et al., 2015).

The encoding process is primarily regulated by individuals'

categories for the self, people, events, and situations, which Mischel and Shoda (1995) label as "encodings." We label them as situation-encoding schemas.

Broadly, schemas have been described as patterns of thought that influence attention and the absorption of new knowledge to quickly understand one's world (Nadkarni & Narayanan, 2007). They are the lenses through which individuals interpret information and translate it into actions (Baldwin, 1992).

Such descriptions seemed to be aligned with the "encodings" Mischel and Shoda (1995) describe, which (1) explain why individuals differ in how they selectively focus on different cues and features in a given situation, (2) initiate and activate the personality system, and (3) continue to interact with other aspects of the wider personality system to determine appropriate behavior in response to the situation. We add the label, "situation-encoding" because there are a wide variety of schemas that have been studied that occur at different stages of individuals' processing, and we are most interested in the schema that are relied upon as the very first step in one's processing, activating one's personality system.

CAPS experts have yet to identify and categorize specific situation-encoding schemas. Although, they do state that there is value in doing so and identify examples of psychological research that has attempted to do so (e.g., the Implicit Association Test; Mischel & Shoda, 1995).

One of the primary contributions of this paper is to provide clarity and understanding around individuals' situation-encoding schemas. Fortunately, scholars have spent decades studying such schemas. While much of this research validates the important role they play in explaining individuals' processing, behavioral dispositions, and behavior, research on specific situation-encoding schemas has been rather isolated across various domains, spanning psychology, management, education, and marketing. In the next section, we integrate this research to (1) inform readers of the important and foundational role they play in leaders' processing and operation, and (2) create a framework to help leaders and those supporting them better identify and understand the situation-encoding schemas they possess, why they process and operate in the manner they do, and how to improve their situation-encoding schemas to enhance their processing and operation.

Leaders' situation-encoding schemas

It has been stated that the information that captures leaders' attention is what determines their direction and decision making, and ultimately their success and the success of the organizations they lead (Hambrick, 2007; Hambrick & Mason, 1984). Since leaders' situation-encoding schemas are the bridge between the leader and their environment, they play the initiatory role in determining what captures their attention and their subsequent processing and behaviors. This means that leaders' situation-encoding schemas are foundational to how leaders process and operate. Thus, it seems critical that we better understand just how foundational these schemas are in how leaders process and operate, the implications for more fully adopting these schemas into leadership research and practice, and what specific situation-encoding schemas leaders can possess and develop.

Foundational role of situation-encoding schemas

The foundational nature of situation-encoding schemas becomes apparent when we go "under the hood" of leaders' processing and behaviors and understand the neuropsychology behind these schemas. Simply put, situation-encoding schemas are neural networks in the prefrontal cortex that tap into leaders' associative processing mode (Diefendorff & Lord, 2008; Smith & DeCoster, 2000). Specifically, when individuals absorb information through their senses, this information is quickly sent to the individuals' executive processing system, their prefrontal cortex, which functions to maximize benefits and minimize harm for the individual (Miller & Cohen, 2001; Spielberg, Heller, &

(Miller, 2013). Designed to create efficiencies, the prefrontal cortex possesses neural connections that stand ready to fire based upon specific cues absorbed by our senses (Johnson, Chang, & Lord, 2006). The stronger the neural connections, the more readily and quickly they fire in response to such cues.

The specific neural connections involved in our situation-encoding schemas are connected to our associative-, or slow-processing, memory system (Smith & DeCoster, 2000). Individuals' associative-processing system uses knowledge accumulated from a large number of experiences to fill in information, quickly and automatically, about the current situation based upon similar situations we have previously experienced (Smith & DeCoster, 2000). As such, this system is responsible for forming stable, general representations about the various properties we commonly encounter.

In summary, situation-encoding schemas are neural connections and networks that are primed to fire when specific cues are detected, quickly and efficiently interpreting the cues based upon past experience and knowledge. As neural connections strengthen, so does the automatic and habitual reliance on these specific networks, and the more likely an individual is to detect and retrieve cues according to the previous experiences which brought about and strengthened the neural networks in the first place. These strong neural networks influence and dispose individuals' focus, motivation, and self-regulation for both the positive and the negative. While leaders' situation-encoding schemas increase information processing speed (i.e., create efficiencies), these situation-encoding schemas also leave them vulnerable to biases and closed off to alternative perspectives, which can have significant negative implications for their effectiveness as a leader.

Why situation-encoding schemas have important leadership implications

Although there has been relatively little focus on situation-encoding schemas within the leadership domain to date, select situation-encoding schemas have received decades of research attention across multiple domains of study including management, psychology, education, and marketing. There are at least three aspects of this research that have important implications for the leadership domain. First, despite being studied independently, the research on situation-encoding schemas has demonstrated consistent findings that suggest they largely dictate where individuals' place their attention, how they process information, and how they behave. Second, summarizing and integrating such research and bringing these attributes together under a common umbrella of situation-encoding schemas can help guide leadership researchers in future scholarship, particularly scholarship related to the situation-trait approach and the role these schemas play in the leadership process. Finally, a focus on situation-encoding schemas provides leaders and leadership developers with the novel perspective that if leaders can become more conscious of their situation-encoding schemas, they can enhance their effectiveness in at least two ways. First, knowing about the role situation-encoding schemas play in one's processing would allow leaders the opportunity to operate more consciously and manually override their automatic and often biased processing. Second, since some situation-encoding schemas have more positive effects on individuals' processing and operation than others, becoming conscious of one's current situation-encoding schemas would allow leaders the ability to change and improve upon their non-conscious automatic processing.

In this next section, we integrate and describe four well- and independently-studied situation-encoding schemas into a single source and review the research on these schemas to demonstrate the foundational role they play in information processing, and subsequent operation. We also summarize the largely limited research that has been conducted on these schemas within the leadership domain. Together, this information will allow us to describe and discuss the implications of situation-encoding schemas on leadership theory and practice in our Discussion section.

Review of four sets of situation-encoding schemas

Situation-encoding schemas are distinctive processing profiles that cause individuals to interpret situational cues and activate individuals' processing dynamics in predictable ways across contexts that contain the same psychological features (Mischel & Shoda, 1995, 2008). Although not always labeled as "situation-encoding schemas," they have been studied for over 30 years across a variety of domains. Alternative labels for these schemas include: "encoding strategies" (Mischel & Shoda, 1995), "attractors" (Dinh, Lord, & Hoffman, 2014), "perceptual input function" (Carver & Scheier, 2002); "orientations" (Elliot & McGregor, 2001), "mindsets" or "implicit theories" (Dweck, 2006), and "focus" (Higgins, 1998). Collectively, researchers across domains have found that specific situation-encoding schemas can be assessed in individuals, and have been demonstrated to predictably dispose individuals to specific ways of processing (e.g., self-regulation, goals, attitudes, decision-making) and operation (e.g., goal fulfillment, behaviors, performance).

While there is likely a wide variety of situation-encoding schemas that could be identified and studied, there are four sets of such schemas that have received significant research attention: fixed and growth mindsets, goal orientations, deliberative and implemental mindsets, and regulatory focus. Until now, these situation-encoding schemas have been studied in relative isolation from each other. Additionally, there has been little focus on these attributes within the leadership literature. Although, in the instances when situation-encoding schemas have been studied in relation to leadership, the findings have been significant and meaningful (e.g., Heslin, Latham, & VandeWalle, 2005; Lanaj, Chang, & Johnson, 2012). We are the first to integrate them into a single source, and to collectively introduce them into the leadership domain.

Bringing these four sets of schemas into a single source enables us to develop a framework to help leaders investigate and assess their processing and behavioral dispositions, allowing for greater self-awareness at the foundation of their processing. For leaders, this self-awareness should empower them to become more conscious and regulatory in their processing and operation. Further, it should facilitate more specific predictions of a given leader's reaction to particular types of psychological situations (Mischel & Shoda, 2008).

In this section, we introduce each of the four sets of situation-encoding schemas. In doing so, we have three objectives for each set. First, seek to describe the schemas. Second, we summarize the existing research and evidence demonstrating how each set of schemas influences individuals' processing and behavioral dispositions. Third, we summarize the limited amount research that does exist specifically to the role they play in leaders' processing, behaviors, and effectiveness. After reviewing these sets of schemas, and in our Discussion section, we summarize broader theoretical and practical implications for integrating these four sets of situation-encoding schemas more fully into the leadership domain.

Fixed and growth mindsets

Fixed and growth mindsets, also called implicit theories, revolve around a person's lay beliefs about the malleability of their personal attributes (e.g., ability, intelligence, personality; Dweck, 1986). Research on these mindsets were largely pioneered by psychologist, Carol Dweck, with most of her research being rooted in the educational psychology domain. As such, the majority of the research on fixed and growth mindsets over the last 30 years has occurred in that domain and its related domains. Across this body of research, mindset researchers have found that individuals can either believe that people can change their personal attributes (i.e., growth mindset), or that they cannot change their personal attributes (i.e., fixed mindset), and that such beliefs dramatically affect how individuals process and operate (Dweck, 2012).

Processing dispositions

Fixed and growth mindsets play a deep role within individuals' cognitive processes. One reason why is that these mindsets represent implicit beliefs, meaning that they may not explicitly articulated in the mind of the person holding them. Yet, researchers have found that at the implicit, largely subconscious level, these beliefs actually (1) dictate the way people ascribe meaning to their environment and situations, and (2) prime a range of processing and behavioral dispositions, largely outside of one's awareness (Burnette, O'Boyle, VanEpps, Pollack, & Finkel, 2013; Heslin & Keating, 2017).

Interpreting situational cues. Preserving and enhancing a sense of self-worth is a priority for all individuals (Crocker, Luhtanen, Cooper, & Bouvrette, 2003). When individuals possess fixed or growth mindsets, their specific belief about the malleability of their personality attributes influences how they manage their sense of self-worth (Kamins & Dweck, 1999). Thus, their mindsets cause them to quickly scan for specific cues to inform them about how to best navigate their environment to preserve or enhance their self-worth in a manner unique to their mindset.

Since individuals with a fixed mindset do not believe they can change or improve their attributes, their self-worth is connected to the valuable attributes that they possess. They implicitly believe that if they experience failure, because they cannot develop or improve, such failure is an indication that they are a failure and of little worth (Burnette et al., 2013; Dweck, 2012; Kamins & Dweck, 1999; Mangels, Butterfield, Lamb, Good, & Dweck, 2006). Further, they also implicitly believe that if they experience success, such is an indication that they are of value. Thus, wanting to protect their self-worth and image, they are sensitive to cues that indicate whether the situations they encounter will threaten or confirm their self-worth. Situations that involve the opportunity for failure threaten their self-worth, making them sensitive to cues that suggest uncertainty about their likelihood for success. Such situations commonly involve what the individual considers to be a challenge or requiring effort (Blackwell, Trzesniewski, & Dweck, 2007; Dweck, 2012; Dweck & Leggett, 1988; Hong, Chiu, Dweck, Lin, & Wan, 1999). On the other hand, if a fixed-mindset individual approaches a situation and ascertains that success is likely and/or requires very little effort, they will see the situation as an opportunity to demonstrate their positive attributes and solidify themselves as someone of worth.

Since individuals with a growth mindset believe they can change or improve their attributes, their self-worth is connected to their personal growth and development (Dweck, 2012; Mangels et al., 2006). Thus, wanting to enhance their self-worth, they are sensitive to cues that indicate whether the situations they encounter provide the opportunity for growth and development. The situations that provide the greatest opportunity for growth and development are the situations that those with a fixed mindset try to avoid: situations where there is uncertainty about success, usually challenges or situations that require effort (Blackwell et al., 2007; Dweck, 2012; Dweck & Leggett, 1988; Hong et al., 1999).

Together, fixed and growth mindsets seek for similar cues associated with one's likelihood for success. Specifically, they seek for cues related to the likelihood for failure (i.e., challenges) and anticipated effort required for success, but they encode these cues very differently. Those with a fixed mindset encode challenges and effort as situations to avoid, whereas those with a growth mindset encode such cues as situations to approach. These differences are summarized in the top half of Table 1

Activating processing dynamics. One of the primary ways fixed and growth mindsets influence individuals' processing is that they shape their self-regulation, which is a core part of individuals' personality system. Many prominent self-regulation theories (e.g., control theory, motivation action theory, adaptive resonance theory) rely upon the notion of a feedback loop to help explain individuals' motivations and behaviors. The basic premise of the feedback loop is that individuals set

goals, compare their progress against those goals, and make modifications to their behaviors or cognitions to resolve the discrepancy between their goals and their current state (Karoly, 1993).

Interestingly, the psychological theories that use feedback loops to explain motivation and goal-oriented behaviors largely consider the steps involved in the feedback loop to be a conscious process. While they surely can be a conscious process, these theories largely overlook the non-conscious role situation-encoding schemas play in shaping and dictating the entire feedback loop process. Since situation-encoding schemas occur quickly, non-consciously, and automatically, they are an implicit force that shape the three main aspects of individuals' feedback loops. They (1) influence what goals the individual sets to begin with, (2) influence the metrics individuals select and use to measure the gap between their goals and their current state, and (3) guide individuals to select specific behavioral and/or cognitive options to resolve any such discrepancy that exists (Smith & DeCoster, 2000). Acknowledging the underlying role situation-encoding schemas play in this process has led researchers to suggest that much of our behavior is driven by non-conscious automatic processes (Bargh, 1990; Bargh & Chartrand, 1999; Bargh, Gollwitzer, Lee-Chai, Barndollar, & Trötschel, 2001; Wilson, 2004).

In the case of fixed mindsets, to preserve their sense of self-worth, individuals implicitly develop goals to avoid failure and be viewed favorably (Dweck, 2012; Kamins & Dweck, 1999; Mangels et al., 2006). Consequently, they consistently measure and monitor how they are performing relative to expectations of, and in comparison to, others. Correspondingly, they are non-consciously directed to avoid failure and validate their ability (Burnette et al., 2013; Mangels et al., 2006). Thus, fixed mindsets predispose individuals to self-regulate by avoiding tasks or challenges where they are uncertain of success (Burnette et al., 2013; Dweck, 2006, 2012; Hong et al., 1999; Nussbaum & Dweck, 2008).

In the case of growth mindsets, to enhance their self-worth, individuals implicitly develop goals to learn and develop in order to be viewed favorably (Dweck, 2012; Mangels et al., 2006). They monitor and measure their progress through the development of attributes. Correspondingly, they are non-consciously directed to take on tasks or challenges where they are uncertain about how successful they will be—acknowledging that such tasks and challenges are essential for optimal learning and development (Burnette et al., 2013). In fact, researchers have found that those with growth mindsets are more inclined to seek out developmental opportunities and remain optimistic when struggling with their goal pursuits, when compared to fixed mindset individuals (Burnette et al., 2013; Dweck, 2006; Dweck, 2012; Hong et al., 1999; Nussbaum & Dweck, 2008).

Additional evidence of the role these mindsets play in individuals' regulatory processes is found in how individuals with these different mindsets compare their performance to others and view feedback. Researchers have found that fixed-mindset individuals engage in downward comparisons to see if they outperformed others, while those with a growth mindset often engage in upward comparisons to learn from top performers (Dweck, 2012; Nussbaum & Dweck, 2008). Further, fixed-mindset individuals tend to view constructive feedback as being self-defeating, whereas growth-mindset individuals view that same feedback as valuable information that enhances learning and development (Mangels et al., 2006; Mueller & Dweck, 1998).

Other ways these mindsets influence individuals' processing dispositions revolve around how fixed mindsets make individuals more prone to biases. Consider the following findings. Because individuals with a fixed mindset do not believe that others can change, compared to those with a growth mindset, they (1) are more likely to engage in fundamental attribution error, believing that others' behaviors are driven by their traits and are indicative of their underlying moral behavior (Chiu et al., 1997; Erdley & Dweck, 1993; Molden & Dweck, 2006); (2) are inclined to be more confident in their attributions of others and are less likely to change their attributions (Erdley & Dweck, 1993; Plaks et al., 2001); and (3) are more likely to endorse

Table 1

How fixed and growth mindsets influence individual processing and operation.

	Fixed mindset	Growth mindset	Citations
Processing dispositions	<p>Interpreting situational cues</p> <ul style="list-style-type: none"> Failure threatens self-worth Sensitive to cues that indicate a likelihood for failure Situations with high likelihood for success are opportunities to demonstrate worth <p>Activating processing dynamics</p> <ul style="list-style-type: none"> Develop goals to avoid failure and be viewed favorably Assesses progress by comparing performance to others Predisposed to avoid tasks or challenges with uncertainty for success Seek comparisons to see if they outperformed others Views feedback as being self-defeating More prone to biases 	<p>Interpreting situational cues</p> <ul style="list-style-type: none"> Failure enhances learning Sensitive to cues that indicate a likelihood for learning and development Opportunities for greatest growth involves challenges and effort <p>Activating processing dynamics</p> <ul style="list-style-type: none"> Develop goals to learn and develop to be viewed favorably Assesses progress through personal advancement and progress Predisposed to seek out developmental opportunities and remain optimistic when struggling Seek comparisons to see how they can learn Views feedback as valuable information Less prone to biases 	<ul style="list-style-type: none"> Blackwell et al., 2007; Burnette et al., 2013; Dweck, 2012; Dweck & Leggett, 1988; Hong et al., 1999; Kamins & Dweck, 1999; Mangels et al., 2006
Behavioral dispositions	<ul style="list-style-type: none"> More likely to avoid challenges, feedback, and opportunities to learn Inclined to adopt avoidant and self-handicapping strategies in an effort to self-protect Less willing to put forth effort in the face of challenges and difficulties Less likely to provide quality and quantity feedback Lower motivation Progress toward goals less quickly Lower negotiation performance More inclined to engage in emotion-focused coping strategies Less willing to receive coaching related to underperformance Fare less positively in challenging situations Set less-challenging goals 	<ul style="list-style-type: none"> More likely to take advantage of challenges, feedback, and opportunities to learn Inclined to adopt problem-solving strategies in an effort to develop and master More willing to put forth effort and persist in the face of challenges and difficulties More likely to provide quality and quantity feedback Higher motivation Progress toward goals more quickly Higher negotiation performance More inclined to engage in problem-focused coping strategies More willing to receive coaching related to underperformance Fare more positively in challenging social situations Set more-challenging goals 	<ul style="list-style-type: none"> Burnette et al., 2013; Chiu, Hong, & Dweck, 1997; Dweck, 2012; Erdley & Dweck, 1993; Gervey, Chiu, Hong, & Dweck, 1999; Hong et al., 1999; Kamins & Dweck, 1999; Levy, Stroessner, & Dweck, 1998; Mangels et al., 2006; Molden & Dweck, 2006; Mueller & Dweck, 1998; Nussbaum & Dweck, 2008; Plaks, Stroessner, Dweck, & Sherman, 2001 Beer, 2002; Blackwell et al., 2007; Burnette et al., 2013; Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Doron, Stephan, Boiché, & Le Scanff, 2009; Dweck, 2012; Dweck & Leggett, 1988; Heslin, Vandewalle, & Latham, 2006; Kray & Haselhuhn, 2007; Miele & Molden, 2010; Mueller & Dweck, 1998; Nussbaum & Dweck, 2008; Shih, 2009; Tabernero & Wood, 1999

punishment, hold stereotyped views, and resist information that countered a stereotype (Erdley & Dweck, 1993; Gervey et al., 1999; Levy et al., 1998; Plaks et al., 2001).

Behavioral dispositions

The options for individuals' behaviors are limited to the breadth and depth of their processing. Thus, it should not be a surprise to understand that individuals behave in a manner aligned with their processing. We identify several specific ways fixed and growth mindsets dispose individuals to operate in distinct ways.

First, these mindsets shape individuals' disposition toward avoiding versus approaching challenges. Since the self-worth of those with a fixed mindset is sensitive to failure, they are disposed to avoid challenges or situations with potential for failure (Blackwell et al., 2007; Dweck & Leggett, 1988; Mueller & Dweck, 1998). On the other hand, implicitly believing that they are malleable and that growth enhances self-worth, those with a growth mindset are disposed to approach challenges and situations at risk for failure as opportunities to learn and grow (Blackwell et al., 2007; Dweck & Leggett, 1988; Mueller & Dweck, 1998).

Second, researchers have found that individuals' mindsets cause them to develop different strategies for navigating achievement contexts (Burnette et al., 2013; Doron et al., 2009; Shih, 2009). Perceiving achievement contexts as threats to their self-worth, fixed mindset individuals are inclined to adopt avoidant and self-handicapping

strategies in an effort to self-protect. Those with a growth mindset view achievement contexts as opportunities for development and mastery. As such, they are more inclined to adopt problem-solving strategies.

Third and relatedly, individuals' mindsets affect their willingness to exert effort and persist in the face of obstacles (Blackwell et al., 2007). Since those with a fixed mindset do not believe that they can improve their talents, intelligence, and abilities, they believe that efforts to nurture one's abilities and improve performance are essentially futile. In fact, for those with a fixed mindset, the need to exert effort is interpreted as an admission of a lack of ability (Dweck, 2012; Miele & Molden, 2010). Thus, if something does not come naturally to fixed-mindset individuals, they are more inclined to back away from a task rather than continually invest in the task. On the other hand, since those with a growth mindset believe that they can improve their talents, intelligence, and abilities, they see effort as the very instrument for improving their abilities (Blackwell et al., 2007; Mueller & Dweck, 1998). As such, when something does not come naturally to them, they are more inclined to persist, believing that success is the result of hard work, and that even geniuses have to work hard for their discoveries (Blackwell et al., 2007; Dweck & Leggett, 1988).

Additional findings related to how those with a fixed mindset operate differently from those with a growth mindset include the following: (1) lower motivation (Burnette et al., 2013); (2) progress toward goals less quickly (Compas et al., 2001; Shih, 2009); (3) poorer negotiation performance (Kray & Haselhuhn, 2007); (4) are more

inclined to engage in emotion-focused, rather than problem-focused, coping strategies (Compas et al., 2001); (5) less willing to receive coaching related to underperformance (Dweck, 2012; Nussbaum & Dweck, 2008); and (6) less willing to enter challenging social situations, and fared less positively in those situations (Beer, 2002). The bottom half of Table 1 summarizes these findings.

Existing research related to leadership domain

Although most of the research on fixed and growth mindsets exists outside of a leadership context, the little evidence that is there demonstrates that leaders aren't immune to the effects their fixed or growth mindsets have on their processing and behavioral dispositions, and select studies have demonstrated that is the case. Specific studies reveal that those with growth mindsets are more likely to engage in efforts to develop their followers (Heslin et al., 2006), demonstrate greater leadership confidence (Hoyt, Burnette, & Innella, 2012), and set more challenging goals (Taberner & Wood, 1999).

Considering the breadth of research on fixed and growth mindsets, we should anticipate fixed-mindset leaders to be sensitive to cues related to the likelihood of success, adopt goals to support a successful image, engage in downward comparisons, resist feedback, commonly engage in attribution biases, seek to avoid challenges and effort, develop self-handicapping strategies, and resist investing in the development of others. On the other hand, we should anticipate growth-mindset leaders to be sensitive to cues related to learning and development, adopt developmental goals, engage in upward comparisons, seek feedback, make sound attributions, approach challenges and effort, adopt problem-solving strategies, and invest in the development of others. In all, research has rather conclusively demonstrated that we should expect leaders' processing, behaviors, and overall effectiveness to be more positive if they possess a growth mindset compared to a fixed mindset.

Goal orientation

Goal orientation has become one of the most frequently studied motivational variables in applied psychology and is a dominant approach in the study of achievement motivation (DeShon & Gillespie, 2005; Vandewalle, Nerstad, & Dysvik, 2019). The basic premise of goal orientations is that individuals, largely non-consciously, take on a specific goal preference or orientation toward their achievement situations, and the goal orientation they adopt directs their efforts to support the goal they are oriented toward.

Individuals' goal orientations are generally described as a disposition that is a "somewhat stable individual difference factor that may be influenced by situational characteristics" (Button, Mathieu, & Zajac, 1996; p. 28). Additionally, scholars have suggested that individuals' goal orientations represent neural wiring in individuals' brains, that when frequently activated become increasingly accessible and eventually become chronic in the sense that they are chronically ready to be activated and acted upon (Bargh & Chartrand, 1999; DeShon & Gillespie, 2005).

While many conceptualizations of goal orientations exist, most conceptualizations have primarily revolved around two primary orientations: a learning orientation and performance orientation (Vandewalle et al., 2019). A learning orientation involves being motivated toward increasing one's competence and mastering something new. A performance orientation involves being motivated toward gaining favorable judgements about competence or avoiding negative judgments about one's competence.

Originally, goal orientation researchers believed goal orientation to be a bipolar construct, suggesting that individuals could be high (or low) on one orientation, but not simultaneously high (or low) on both (Payne, Youngcourt, & Beaubien, 2007). But, since then, research has established that not only are these two orientations separate constructs, but that each orientation can be further broken down into two separate

dimensions—approach and avoid—identifying up to four types of goal orientation: learning-approach (the desire to develop skills and abilities, advance one's learning, and master a task), learning-avoid (the desire to avoid losing one's skills and abilities, forgetting what one has learned, or leaving a task unmastered), performance-approach (the desire to prove one's competence and to gain favorable judgments about it), and performance avoid (the desire to avoid the disproving of one's competence and to avoid negative judgments about it; Elliot, 1999; Vandewalle et al., 2019). However, researchers have historically focused primarily on a three-factor model involving learning-approach, performance-approach, and performance-avoid orientations (Vandewalle et al., 2019).

Although different from other situation-encoding schemas, goal orientations do share some similarities with fixed and growth mindsets. Notably, both of these situation-encoding schemas were developed in the educational psychology domain. In fact, Carol Dweck's foray into fixed and growth mindsets began with conducting research on goal orientations and similar constructs, and she eventually suggested that fixed and growth mindsets may be antecedents to goal orientations, with fixed mindset being more strongly related to performance orientation, and growth mindset being more strongly related to learning orientation (Dweck, 1986; Dweck & Leggett, 1988). While this relationship between fixed/growth mindsets and goal orientation has been largely accepted, it has been largely untested, and meta-analytic correlations between the two situation-encoding schemas have been quite small, suggesting that there may not be a causal relationship between the two situation-encoding schemas and that the two situation-encoding schemas may be more distinct than thought previously (Payne et al., 2007; Vandewalle et al., 2019). In fact, for the most part, research on these two types of situation-encoding schemas have been rather isolated from each other, and notably, goal orientations have received significantly more attention within the management domain, enough for Vandewalle et al. (2019) to review goal orientation research specifically from this domain.

Like the other situation-encoding schemas, goal orientations have been found to activate and influence individuals' processing and behavioral dispositions, which ultimately have important implications for leadership. We discuss below and summarize in Table 2.

Processing dispositions

Research across the three most commonly studied goal orientations has been consistent: learning goal orientation generally has positive relationships with self-regulatory processes, performance-avoid goal orientation has overwhelmingly negative relationships with self-regulatory processes, and performance-approach goal orientation largely has non-significant relationships with self-regulatory processes (Cellar et al., 2011; Payne et al., 2007; Vandewalle et al., 2019). We discuss why this is and specific findings below.

Interpreting situational cues. Although goal orientations are related to the motivations for achievement within achievement contexts, the foundation of this motivation is rooted in individuals' appearance of their competence (Cellar et al., 2011; Dweck, 1986). Effectively, this means that individuals develop different definitions for success (Nicholls, 1975; Payne et al., 2007). Success for those with a learning orientation is enhancing self-perceptions of their competence. Success for those with a performance-approach orientation is being seen as being competent by others, often in comparison to others. Success for those with a performance-avoid orientation is avoiding being seen as incompetent.

As such, individuals' goal orientations cause them to be sensitive to situational cues that indicate their likelihood of success in the manner that they define it. Since those with a learning orientation are primarily concerned about their self-perceptions of their competence, they seek cues to indicate that their situation is one where they can make incremental improvements to one's self (Elliott, 1995). Those with either

Table 2

How goal orientations influence individual processing and operation.

	Performance-avoid goal orientation	Performance-approach goal orientation	Learning goal orientation	Citations
Processing dispositions	<p>Interpreting situational cues</p> <ul style="list-style-type: none"> Success is related to the degree to which they are not viewed as incompetent Sensitive to cues that signal likelihood of failure <p>Activating processing dynamics</p> <ul style="list-style-type: none"> Self-regulation is catered to avoid being viewed as incompetent Rely upon surface-level learning strategies Reluctant to seek feedback Experience greater anxiety Less effort and persistence More likely to compete and refrain from information sharing More likely to cheat Less likely to adapt to change Moderate negative relationship with performance 	<p>Interpreting situational cues</p> <ul style="list-style-type: none"> Success is related to being viewed as more competent than others Sensitive to cues that signal ease to perform higher than others <p>Activating processing dynamics</p> <ul style="list-style-type: none"> Self-regulation is catered to being viewed as more competent than others Rely upon surface-level learning strategies Reluctant to seek feedback Experience greater anxiety Less effort and persistence More likely to compete and refrain from information sharing More likely to cheat Less likely to adapt to change Small positive relationship with performance 	<p>Interpreting situational cues</p> <ul style="list-style-type: none"> Success is related to enhancing self-perceptions of competence Sensitive to cues that signal they can advance competence <p>Activating processing dynamics</p> <ul style="list-style-type: none"> Self-regulation is catered to enhancing competence Rely upon deep-level learning strategies Seeks out feedback Experience less anxiety <ul style="list-style-type: none"> Greater effort and persistence More likely to cooperate and engage in information sharing Less likely to cheat More likely to adapt to change Moderate positive relationship with performance 	<ul style="list-style-type: none"> Cellar et al., 2011; Dweck, 1986; Elliott, 1995; Nicholls, 1975; Payne et al., 2007 <ul style="list-style-type: none"> Blume, Ford, Baldwin, & Huang, 2010; Cellar et al., 2011; Diefendorff & Lord, 2008; Dierdorff, Surface, & Brown, 2010; Fisher & Ford, 1998; Payne et al., 2007; Simons, Dewitte, & Lens, 2004; Spielberger & Vagg, 1995; Tziner, Fisher, Senior, & Weisberg, 2007; Vandewalle et al., 2019 <ul style="list-style-type: none"> Matzler & Mueller, 2011; Poortvliet & Giebels, 2012; Poortvliet, Janssen, Van Yperen, & Van de Vliert, 2007; Vandewalle et al., 2019; Van Yperen, Hamstra, & Van der Klaauw, 2011; Van Yperen, Blaga, & Postmes, 2014
Behavioral dispositions				

of the performance orientations are primarily concerned about others' perceptions of their competence (Cellar et al., 2011; Dweck, 1986). More specifically, those with a performance-approach goal orientation want to demonstrate to others that they possess high competence. Thus, they are sensitive to cues that signal the ease at which one can perform or succeed relative to others. If cues suggest that they will not perform as well as others, their processing and behavioral dispositions are inclined to avoiding the situation (Elliott, 1995; Payne et al., 2007). Those with a performance-avoid goal orientation want to avoid demonstrating incompetence to others. Thus, they are sensitive to cues that signal the likelihood of failure and/or the ease at which one can perform above a minimum standard of achievement (Elliott, 1995; Payne et al., 2007).

Activating processing dynamics. Since individuals' goal orientations cause them to define success differently, their personality system is primed to function in a manner that supports their definition of success (Diefendorff & Lord, 2008). There are three primary ways goal orientations have been found to shape individuals' processing.

First, individuals' goal orientations non-consciously underlie and influence individuals' self-regulation. In a similar fashion as fixed and growth mindsets, goal orientations shape the goals individual adopt, how they measure their success relative to their goals, and the actions they take to address any gaps between their level of success relative to their goals (Diefendorff & Lord, 2008; Payne et al., 2007). Essentially, goal orientations explain what goals individuals set, why some people set higher goals than others, why some people persist longer in the face of adversity, and why some people tend to avoid achievement situations (Cellar et al., 2011; Diefendorff & Lord, 2008). In all, goal orientations activate the processing involved in determining the allocation of effort in achievement-related situations.

Second, individuals' goal orientations have been found to explain the learning strategies individuals adopt (Vandewalle et al., 2019). Specifically, goal orientation researchers have examined two different types of learning strategies: surface-level strategies (e.g., note-taking, textbook highlighting, rehearsing) and deep-level strategies (e.g., creating diagrams, paraphrasing, and using self-testing exercises). Across multiple contexts, individuals with a learning goal orientation tend to use more deep-level strategies, whereas those with performance

goal orientations tend to use more surface-level strategies (Fisher & Ford, 1998; Simons et al., 2004). Correspondingly, researchers have found that there is a positive relationship between learning orientation and transfer of training for those with a learning orientation, a non-significant relationship for those with a performance-approach orientation, and a negative relationship for those with a performance-avoid orientation (Blume et al., 2010; Dierdorff et al., 2010; Tziner et al., 2007).

Third, individuals' goal orientation explains the likelihood an individual will seek feedback (Payne et al., 2007; Vandewalle et al., 2019). Researchers have found is that there are both benefits and costs to seeking feedback. The benefits largely involve gaining information to improve learning and performance. The costs largely involve potentially exposing one's lack of competence. Those with a learning orientation weigh the benefits much more highly than the costs; and as such, are much more inclined to seek feedback. Those with a performance orientation tend to weigh the costs more highly than the benefits, making them more reluctant to seek feedback.

Some additional ways research has indicated that individuals' goal orientations affect individuals processing include affecting their state goal orientations, state anxiety, and specific self-efficacy (Payne et al., 2007). For example, there is evidence to suggest that those with performance orientations are more anxious than those with a learning orientation, and such anxiety can affect individuals' behavior and performance (e.g., "test anxiety," Spielberger & Vagg, 1995).

Behavioral dispositions

Arguably, the most widely studied behavioral disposition studied in relation to goal orientation is effort. From a theoretical standpoint, individuals are more likely to exert effort if the situation appears to be aligned and supportive of their definition for success. But, empirically, what researchers have found across a wide variety of contexts is that those with a learning orientation are more disposed to engage in higher levels of effort and persist longer compared to those with a performance orientation (Vandewalle et al., 2019). One of the primary explanations for this consistent finding is that those with learning orientations are more intrinsically motivated than those with performance orientations (Vandewalle et al., 2019).

Researchers have also found that individuals operate in predictably

different ways. First, since those with performance goal orientations are concerned about their competence relative to referent others, they are more likely to compete and refrain from information sharing in an effort to gain a competitive advantage, whereas those with a learning goal orientation are more likely to cooperate, seeing information sharing as an opportunity for supporting mutual growth (Matzler & Mueller, 2011; Poortvliet et al., 2007; Poortvliet & Giebels, 2012). Second, those with a performance goal orientation are more likely to engage in problematic and counterproductive behaviors, such as cheating, in order to promote their competence. For example, Van Yperen et al. (2011) found that those assigned to a performance goal condition cheated at nearly twice the rate as those with a learning goal condition. Finally, research has repeatedly found that those with a learning orientation are more willing to change and do a better job of successfully adapting to change than those with performance goal orientations (see Vandewalle et al., 2019).

Recognizing that individuals' goal orientations shape their effort and operation, it is no surprise that researchers have found significant relationships between goal orientation and performance. Notably, when Van Yperen et al. (2014) meta-analytically investigated the relationship between goal orientation and non-self-reported performance moderated by setting (work, sports, and education), they found that the relationships were more extreme for work settings compared to education and sports settings. Specifically, they found that the relationships between learning goal orientation and performance in a work setting was much higher than the other settings ($r = 0.27$ for work and $r = 0.13$ and $r = 0.17$ for education and sports, respectively), and higher than indicated in prior meta-analyses that did not engage in moderator analyses (Cellar et al., 2011; Payne et al., 2007). The relationship between performance-approach and performance was $r = 0.10$, with no difference across settings, and the relationship between performance-avoid and performance was $r = -0.20$ in a work setting and $r = -0.14$ and $r = -0.04$ for education and sports settings, respectively.

As a whole, all of the research on goal orientation led Cellar et al. (2011) to state: "Thus based on the existing research, we conclude that the [learning]-approach trait goal orientation may well be the most desirable orientation in achievement contexts. This is likely the case because the [learning]-approach orientation results in more frequent and persistent self-regulation activities" (p. 480).

Existing research related to leadership domain

While most goal orientation research has not been directed at leaders, there is little reason to think that the conclusive results would differ for a leader population. Based upon the findings described above, we anticipate leaders with a learning goal orientation will be sensitive to situations that may enhance their ability to develop, develop goals focused on learning, utilize deep-level learning strategies, seek feedback, be willing to exert effort, cooperate, and perform at a high level. Those with either of the performance goal orientations will be sensitive to situations where they can demonstrate their competence, develop goals focused on performing at a certain level, utilize surface-level learning strategies, avoid feedback, be relatively unwilling to exert effort, compete, and perform at a lower level.

In the research that has been conducted on goal orientation related to leadership, these assumptions have largely been validated. Findings suggest that goal orientation is likely important for (1) leadership emergence and development (Dragoni, Tesluk, Russell, & Oh, 2009), (2) the quality of relationships leaders have with their followers (Janssen & Van Yperen, 2004), (3) leaders' willingness to embrace change (Payne et al., 2007), and (4) the behaviors and styles a leader adopts (Coad & Berry, 1998; Sosik, Godshalk, & Yammarino, 2004). In all, evidence suggests that a leader's goal orientation non-consciously influences the effectiveness of their processing and behaviors, and that possessing a learning goal orientation is most optimal to leader effectiveness and success.

Deliberative and implemental mindsets

The third set of situation-encoding schemas that we review are deliberative and implemental mindsets. Like the other situation-encoding schemas, this set is concerned with individuals' non-conscious processing that drives one's goal-related motivations and striving, but it is rooted in different psychological theories, mainly those associated with decision-making (Gollwitzer, 2012). Being from a different theoretical foundation, research on these mindsets has been largely isolated from the other situation-encoding schemas even though the effects found have also been shown to dictate individuals' processing and behavioral dispositions.

The initial impetus for studying these mindsets was based on the idea that as individuals go through the decision-making process, they generally take on different mindsets (Gollwitzer, 1990, 2012). Originally, it was suggested that early in the decision-making process, individuals have a heightened receptiveness to all kinds of information (i.e., deliberative mindset). But, in the later stages of the decision-making process, individuals become more selective in their processing, allowing them to focus on implementing decisions, and thus closing them off to new ideas and information (i.e., implemental mindset).

With this view, early researchers theorized that when individuals possess a deliberative mindset, the deliberation they engage in would deplete their cognitive resources, causing them to perform more poorly on subsequent short-term memory tasks than those more focused on implementing decisions (implemental mindset), who likely use less cognitive resources. However, they found the exact opposite (Gollwitzer, 2012).

Researchers found that when individuals possess a deliberative mindset, it activates the brain's ability to explore things outside what one has been deliberating, causing a heightened receptiveness to all kinds of information (open-mindedness). And, on the other hand, possessing an implemental mindset activates the brain's ability to focus on a single task and deactivates the brains ability to be receptive to new non-relevant information (close-mindedness).

While initial theorization suggested that these mindsets occur in different stages of the decision-making process, subsequent research and theory suggest that they do not necessarily fluctuate as one proceeds through different decision-making stages. Instead, it is more of a condition of the mind that affects overall processing (Gollwitzer, 2012). In fact, most research on these mindsets involve experiments where these mindsets are manipulated or primed, suggesting that regardless of where one is in the decision-making process, he/she can possess either a deliberative or implemental mindset.

Processing dispositions

Like the other situation-encoding schemas, deliberative and implemental mindsets dictate the cues and information individuals absorb, and in turn, activates different, yet predictable processing dynamics. We summarize their unique processing dispositions in the top half of Table 3.

Interpreting situational cues. Similar to fixed and growth mindsets and goal orientations, deliberative and implemental mindsets are connected to individuals' perceptions of their worth. In the case of deliberative and implemental mindsets, individuals are concerned about their rightness. Those with a deliberative mindset want to make the most appropriate decisions. As a result, they believe that their value is connected to their ability to get closer to truth and think optimally. Those with an implemental mindset think that they are right. As a result, their value is connected to being seen as being right. Both mindsets are cognitively attuned to information that confirms or supports their perspective (Gollwitzer, 2012).

At the encoding level, those with a deliberative mindset are sensitive to cues that indicate an opportunity for improving in one's processing and decision making (Gollwitzer, 2012; Gollwitzer, 1990;

Table 3

How deliberative and implemental mindsets influence individual processing and operation.

	Deliberative mindset	Implemental mindset	Citations
Processing dispositions	Interpreting situational cues	Interpreting situational cues	<ul style="list-style-type: none"> Gollwitzer, 2012; Gollwitzer, 1990; Taylor & Gollwitzer, 1995
	<ul style="list-style-type: none"> Want to make appropriate decisions and think optimally Sensitive to cues that indicate opportunities for improved thinking Primed to explore why one should do something and related pros and cons <p>Activating processing dynamics</p> <ul style="list-style-type: none"> More impartial, less biased, and more accurate in processing and decision making More open to new information, and more open-minded as a whole More inclined to spot relevant information and engages in less selective filtering Exerts less focus, initiative, persistence, and effort toward taking action 	<ul style="list-style-type: none"> Think they are right and want to be viewed as being right Sensitive to cues that indicate their perspective is correct Primed to explore how, when, and where to do something <p>Activating processing dynamics</p> <ul style="list-style-type: none"> Less impartial, more biased, and less accurate in processing and decision making Less open to new information, and less open-minded as a whole Less inclined to spot relevant information and engages in more selective filtering Exerts greater focus, initiative, persistence, and effort toward taking action 	<ul style="list-style-type: none"> Fujita, Gollwitzer, & Oettingen, 2007; Gagne & Lydon, 2001; Gollwitzer, 2012; Gollwitzer & Kinney, 1989; Harmon-Jones & Harmon-Jones, 2002; Heckhausen & Gollwitzer, 1987; Henderson, de Liver, & Gollwitzer, 2008; Puca, 2001; Taylor & Gollwitzer, 1995 Armor & Taylor, 2003; Brandstätter & Frank, 2002; Gollwitzer, 2012
Behavioral dispositions			

(Taylor & Gollwitzer, 1995). They are more primed to explore why one should do something and information related to the pros and cons of different possibilities. On the other hand, those with an implemental mindset are sensitive to cues that indicate their perspective is correct and that they can proceed accordingly (Gollwitzer, 2012; Gollwitzer, 1990; Taylor & Gollwitzer, 1995). They are more primed to explore how, when, and where one should do something. Consequently, these schemas shape individuals' processing as follows.

Activating processing dynamics. Research has found that these mindsets affect individuals' processing in two primary ways: the degree to which one engages in biased thinking and one's openness to information.

Relative to those with an implemental mindset, those with a developmental mindset are more impartial, less biased, and more accurate in their processing and decision making (Gollwitzer, 2012). Research has demonstrated this in three primary ways. First, researchers have found that after making a selection between options, those with implemental mindsets view the non-selected alternatives more negatively than those with a deliberative mindset (Harmon-Jones & Harmon-Jones, 2002), leaving those with a deliberative mindset more open to the value of alternative ideas. Second, researchers have found that those possessing a deliberative mindset are more accurate judges of their control or impact over the situations they encounter than those possessing an implemental mindset (Gollwitzer & Kinney, 1989; Taylor & Gollwitzer, 1995). When individuals were successful at a task that they did not have control over (i.e., their success was based on factors outside of their control), those with a deliberative mindset were more open to the idea that their success was not fully attributed to themselves, whereas those with an implemental mindset tended to believe that their success was more fully the result of their performance (Gagne and Lydon, 2001; Puca, 2001; Taylor & Gollwitzer, 1995). This has led researchers to assert that those with implemental mindsets are more prone to illusions of invulnerability, and less accurately perceive their abilities and probabilities for success (Gollwitzer, 2012; Puca, 2001). Finally, researchers have found that those with an implemental mindset are more likely to develop an extreme position, particularly around a course of action they are implementing. But interestingly, these effects are not just associated with the issue at hand and have found to carry over to issues irrelevant to one's goal concern (Henderson et al., 2008).

As mentioned previously, researchers originally conceptualized these mindsets as being part of a decision-making process. These findings demonstrate that these mindsets are not solely associated with the

decision-making process, but also persist beyond current tasks.

Further, an acknowledged premise of effective decision-making is that in order to make the best possible decisions, one should (1) be open to any available information that might inform one's decisions, (2) avoid prematurely dismissing relevant information, and (3) be willing to change one's mind in light of new ideas (Fujita et al., 2007; Gollwitzer, 2012; Heckhausen & Gollwitzer, 1987). Across the body of deliberative and implemental mindset research, researchers consistently find that those with deliberative mindsets are much more open to new information and thus more open-minded as a whole, leading them to be more effective decision-makers relative to those with implemental mindsets. Additionally, those with deliberative mindsets are more inclined to spot relevant information and engage in less selective filtering than those with implemental mindsets (Fujita et al., 2007).

Behavioral dispositions

Until now, we have largely presented implemental mindsets in a negative light. But, research indicates that this mindset is not always negative (see bottom half of Table 3 for summary). There seems to be some benefits to having implemental mindsets. Although, as we will discuss, perhaps these benefits need to be slightly tempered. Research indicates that those with implemental mindsets are more focused on implementing a decision, and as such, they are able to exert greater focus and effort toward a specific course of action than those with deliberative mindsets (Gollwitzer, 2012). Specifically, relative to those with deliberative mindsets, those with implemental mindsets (1) are faster to initiate goal-directed behavior (Gollwitzer, 2012); (2) generate greater persistence in goal-directed behavior, particularly when feasibility was deemed low and desirability deemed high, or vice versa (Brandstätter & Frank, 2002); and (3) demonstrate greater effort and performance on certain tasks (e.g., scavenger hunt), partly because of their more optimistic outcome expectations and overestimating the ease of the task (Armor & Taylor, 2003).

While these findings surely seem positive for possessing an instrumental mindset, there are a couple of factors to further consider. First, while instrumental mindsets seem valuable when one needs to implement a decision, they do not seem valuable when having to make a decision. Thus, a tradeoff potentially exists: making the best decision and possibly implementing that decision at a slower or more thoughtful pace or possibly implementing a less-than-optimal decision at a quicker pace. Second, it seems likely that the complexity of the decision and task needs to be taken into consideration. There are some decisions and

tasks that, perhaps because of their obviousness or simplicity, do not require a deliberative mindset, making an implemental mindset more beneficial. But, it is important to recognize that, while the weightiest and most important decisions may be infrequent, often they are quite complex, and likely require a deliberative mindset. Further, it is important to recognize that there are some individuals in certain organizational positions that consistently deal with more complex and weighty decisions (e.g., leaders) who would presumably function more effectively with a deliberative mindset.

Existing research related to leadership domain

Unfortunately, there has yet to be much research directly investigating the role that deliberative and implemental mindsets play in leadership effectiveness, but the implications of deliberative and implemental mindset research surely seem relevant. Gollwitzer (2012) asserts that deliberative and implemental mindsets have “enormous influence” on how individuals process information (p. 533). Thus, we suggest that if leaders’ processing and decision-making shapes the direction and success of their organizations, whether they possess deliberative or implemental mindsets can have “enormous” implications. While implemental mindsets do seem to have some positives in terms of effectiveness in implementing decisions, such mindsets may also leave one prone to biases and closed to potentially relevant information, which can reduce the effectiveness of one’s decisions in the first place. Leaders with a deliberative mindset appear much more inclined to be sensitive and open to new and novel information, and less biased in their processing. This is surely important for effective decision making, but it is likely also important for the engagement of employees, as deliberative mindsets are likely necessary for creating a psychologically safe and engaging workplace.

Regulatory focus

Regulatory focus theory is a well-studied theory in the organizational domain that suggests that individuals regulate their cognition and behavior during goal pursuit, generally to either maximize pleasure or to minimize pain (Baumeister, Heatherton, & Tice, 1993; Carver & Scheier, 2002; Higgins, 2001). As such, regulatory focus theory describes how individuals regulate through two coexisting regulatory systems that cater to different needs and interests during goal pursuit (Higgins & Spiegel, 2004; Lanaj et al., 2012; Scholer & Higgins, 2010). These systems are called prevention and promotion focus and represent two different goal-striving strategies (Lanaj et al., 2012). Simply stated, those with a prevention focus are focused on winning, gaining, and accomplishing, while those with a promotion focus are focused on avoiding losses (Johnson, Smith, Wallace, Hill, & Baron, 2015).

There have been over 200 studies conducted on regulatory focus (Johnson et al., 2015). What researchers have found is that individuals’ regulatory foci are situation-encoding schemas that shapes how individuals view their world and approach their goals, and as such, is a foundational driver of the affect, cognitions (i.e., processing, strategies, and tactics), and behaviors individuals engage in to accomplish their goals (Gorman et al., 2012; Johnson et al., 2015; Lanaj et al., 2012). While these two forms of regulatory focus are theoretically independent (suggesting that individuals can be high or low on either simultaneously), individuals generally possess a dominant focus as a trait-like quality (Higgins, 1997, 2000).

Despite some similarity between regulatory focus and the other perceptual attributes, especially goal orientation, they are considered distinct (Cornwell & Higgins, 2015). Kark & Van Dijk (2019) explain that the primary difference between these situation-encoding schemas is that while both are focused on approaching or avoiding positive or negative end-states, goal orientation schemas do not distinguish between different types of positive or negative end-states. By this, they mean that theory related to goal orientation suggests that individuals typically approach positive end-states and avoid negative end-states.

Regulatory focus schemas, on the other hand, are concerned with distinct types of end-states, and suggest that individuals can approach positive or negative end-states through either approach or avoid actions.

In Lanaj et al.’s (2012) meta-analysis, the authors summarize the research associated with regulatory focus as follows: “Based upon the evidence to date, promotion and prevention foci appear to be important person-based variables that influence self-regulation and behavior at work” (p. 999). Much of the research that led them to make this conclusion has been focused on how these regulatory foci dictate individuals’ processing associated with their evaluation of their workplace perceptions and attitudes. This research is largely summarized in Table 4.

Processing dispositions

Like the other situation-encoding schemas, the regulatory focus schemas influence both the cues individuals absorb and the activation of their personality system as described below.

Interpreting situational cues. Kark and Van Dijk (2007) stated that “regulatory focus theory can be thought of as one of the most comprehensive motivation theories, since its constructs seem to comprise a primary element of human motivation” (p. 503). This primary element involves the non-conscious regulation individuals engage in to maximize pleasure or to minimize pain. In fact, researchers have isolated this regulation within the prefrontal cortex. Specifically, Shah, Higgins, and Friedman (1998) found that promotion focus is associated with greater left prefrontal activity, and thus positive thinking and maximizing pleasure, while prevention focus is associated with greater right prefrontal activity, which drives negative thinking and minimizing pain.

Specifically, individuals with a prevention focus are sensitive to cues that indicate the likelihood of negative affect, safety, and security (Johnson et al., 2015; Kark & Van Dijk, 2007). They are especially sensitive to cues related to risk. Such cues guide prevention-focused individuals on how to best fulfill their duties and obligations, maintain an acceptable standard of performance, and limit mistakes and errors (Johnson et al., 2015; Johnson & Chang, 2008; Kark & Van Dijk, 2007). Those with a promotion focus, on the other hand, are sensitive to cues that indicate the likelihood of positive affect, growth, and accomplishment (Johnson et al., 2015; Kark & Van Dijk, 2007). Such cues guide promotion-focused individuals on how to best fulfill their goals and aspirations, advance and make progress, and attain their ideal self (Higgins, 1997). Rather than interpret risk as something to avoid, they interpret it as being a necessary part of the process of progress and advancement.

Activating processing dynamics. Since the motivations associated with each regulatory focus schema differ, it is natural that their processing differs, which includes their focus, goals, desires, and behaviors (Kark & Van Dijk, 2007). Those with a prevention focus are motivated to avoid problems and losses, which leads their personality system to be programmed for vigilance, avoidance, stability, exploitation, and maintaining the status quo (Kark & Van Dijk, 2007; Kark and Van Dijk, 2019). Those with a promotion focus are motivated to seek winning and gains, which leads their personality system to be programmed for eagerness, speed, achievement, exploration, and change (Kark & Van Dijk, 2007; Kark and Van Dijk, 2019).

As most of the research on regulatory focus has occurred within the management domain, researchers have commonly investigated the effects regulatory focus schemas have on how employees process and perceive their work environment, in the form of workplace perceptions and attitudes that include job satisfaction, commitment, and engagement.

Job satisfaction, affective commitment, and engagement are each considered to be positive and desired employee perceptions and

Table 4

How regulatory foci influence individual processing and operation.

	Prevention focus	Promotion focus	Citations
Processing dispositions	Interpreting situational cues <ul style="list-style-type: none"> • Seeks to minimize pain • More prone to negative thinking • Sensitive to cues that indicate the likelihood of negative affect, safety, and security • Focused on fulfilling duties and obligations, maintaining acceptable standards of performance, and limiting mistakes and errors Activating processing dynamics <ul style="list-style-type: none"> • Motivated to avoid problems and losses, programming them for vigilance, avoidance, stability, exploitation, and maintaining status quo • Negative and/or weak relationships with job satisfaction, affective commitment, and engagement • Moderate positive relationship with continuance commitment • Small positive relationship with normative commitment 	Interpreting situational cues <ul style="list-style-type: none"> • Seeks to maximize pleasure • More prone to positive thinking • Sensitive to cues that indicate the likelihood of positive affect, growth, and accomplishment • Focused on accomplishing goals and aspirations, advancing and making progress, and fulfilling one's ideal self Activating processing dynamics <ul style="list-style-type: none"> • Motivated to seek winning and gains, programming them for eagerness, speed, achievement, exploration, and change • Strong positive relationships with job satisfaction, affective commitment, and engagement • Small positive relationship with continuance commitment • Moderate positive relationship with normative commitment • Generally outperforms those with a prevention focus • Sets more challenging goals and exhibit greater persistence • Moderate positive relationships with task performance, organizational behavior, and innovative performance • Moderate negative relationship with counterproductive work behaviors • Moderate negative relationship with safety performance 	<ul style="list-style-type: none"> • Higgins, 1997; Johnson et al., 2015; Kark & Van Dijk, 2007 <ul style="list-style-type: none"> • Kark & Van Dijk, 2007; Kark and Van Dijk, 2019; Lanaj et al., 2012
	<ul style="list-style-type: none"> • Generally underperforms relative to those with a promotion focus • Less likely to set goals and exhibit persistence • Small or non-significant relationships with task performance, organizational behavior, and innovative performance • Moderate positive relationship with counterproductive work behaviors • Strong positive relationship with safety performance 	<ul style="list-style-type: none"> • Moderate negative relationship with counterproductive work behaviors • Moderate negative relationship with safety performance 	<ul style="list-style-type: none"> • Gorman et al., 2012; Higgins & Spiegel, 2004; Lanaj et al., 2012
Behavioral dispositions			

attitudes. The research between the regulatory foci and these outcomes portrays consistent findings: promotion focus has a strong positive relationship with these outcomes ($r = 0.45$, 0.45 , and 0.49 , respectively), while prevention focus has either a small positive or negative relationship with these outcomes ($r = -0.23$, -0.04 , and 0.06 , respectively; [Lanaj et al., 2012](#)). The primary explanations for these relationships are that, compared to those with a prevention focus, those with a promotion focus are more perceptive to positive information, more intrinsically motivated, and more emotionally connected to their work because they see work as a way to fulfill their ideal selves, allowing them to go beyond their minimum job requirements.

Continuance and normative commitment have also been studied as consequences of regulatory foci. These forms of commitment both involve an element of feeling compelled to remain a member of the organization, and as such, have been theorized to have a stronger relationship with prevention focus. For continuance commitment, meta-analyses have confirmed that prevention focus has a moderate positive relationship with continuance commitment ($r = 0.31$; [Lanaj et al., 2012](#)), while promotion focus, on the other hand, has a small positive relationship with continuance commitment ($r = 0.15$; [Lanaj et al., 2012](#)). For normative commitment, meta-analytic results suggest that promotion focus has a stronger positive relationship with normative commitment ($r = 0.26$) than prevention focus ($r = 0.12$; [Lanaj et al., 2012](#)).

Behavioral dispositions

Similar to perceptions and attitudes, research associated with the relationships between the regulatory focus schemas and behaviors and performance are rather consistent. For the most part, those with a promotion focus seem to outperform those with a prevention focus. This is largely because those with a promotion focus are more satisfied, committed, engaged, and motivated to enhance their self-concept. Specifically, it has been found that compared to those with a prevention focus, those with a promotion focus set more challenging goals and

exhibit greater persistence, task performance, organizational behavior, and innovative performance ([Gorman et al., 2012](#); [Higgins & Spiegel, 2004](#); [Lanaj et al., 2012](#)). In fact, for each of these types of performance, relationships with promotion focus are moderately positive (ranging between $r = 0.28$ and 0.30), while relationships with prevention focus are largely nonexistent (ranging from $r = -0.04$ to 0.04 ; [Lanaj et al., 2012](#)). In addition, meta-analyses reveal that promotion focus has a moderate negative relationship with counterproductive work behaviors (CWBs; $r = -0.19$), while prevention focus has a moderate positive relationship with CWBs ($r = 0.25$; [Lanaj et al., 2012](#)).

Overwhelmingly, research has consistently found that those with a promotion mindset outperform those with a prevention mindset. However, there is one area where this is not the case. Based upon meta-analytic results, it appears there is one primary behavioral benefit to possessing a prevention focus, which is that it has a strong positive relationship with safety performance ($r = 0.51$), while promotion focus has a small-moderate negative relationship with safety performance ($r = -0.15$; [Lanaj et al., 2012](#)). This is largely because those with a prevention mindset are mentally cued to safety and security, and are more vigilant to safety-related issues.

Existing research related to leadership domain

Leader's regulatory focus has been found to have important implications for how the leader operates, their influence on those they lead, and even the success of an organization. In terms of the influence of regulatory focus schemas on how leaders operate, researchers have found that those with a promotion focus are viewed more as transformational leaders, possessing greater motivation for accomplishments and aspirations, whereas those with a prevention focus are viewed more as transactional leaders, seeking to maintain order and stability in the workplace ([Johnson et al., 2015](#); [Kark & Van Dijk, 2007](#)).

Related to the influence of leaders' regulatory focus schemas on those they lead, when leaders possess a promotion focus, their followers become more sensitive to positive outcomes, more likely to develop

preferences for change, are more committed, and engage in higher levels of performance demonstrated through risk-taking, creativity, and efficiency (Kark & Van Dijk, 2007; Kark & Van Dijk, 2019; Kark, Van Dijk, & Vashdi, 2018). On the other hand, when leaders possess a prevention focus, their followers become more sensitive to negative outcomes, more likely to develop preference for stability, are less committed, and less likely to take risks and be creative (Kark et al., 2018; Kark & Van Dijk, 2007; Kark & Van Dijk, 2019).

There is also evidence that leaders' regulatory focus affects organizational performance. Regulatory focus scholars have suggested that leaders are the meaning makers in their organization, such that their personal goals frame the goals of their organizations (Brockner & Higgins, 2001; Johnson et al., 2015). As such, it has been posited that the regulatory focus of organizations' top management teams shapes their organizations' and workforces' goal pursuit strategies (including employees' dominant regulatory focus stance), capacity to be agile and implement change, and engagement in corporate knowledge management systems (Arazy & Gellatly, 2012; Kark et al., 2018; Kark & Van Dijk, 2007; Spanjol, Tam, Qualls, & Bohlmann, 2011; Taylor-Bianco & Schermerhorn, 2006). In fact, there have been multiple studies that have demonstrated that firms with promotion-focused CEOs outperform firms with prevention-focused CEOs (Kammerlander, Burger, Fust, & Fueglistaller, 2015; Wallace, Little, Hill, & Ridge, 2010).

Summary of the four sets of situation-encoding schemas

Upon identifying, describing, and summarizing the research associated with the four sets of situation-encoding schemas, we feel it is important to bring attention to four broad observations. First, there has been decades of research studies supporting the foundational role that these four situation-encoding schemas play in how people and leaders process and behave. Second, the amount of research on these schemas related to leadership is relatively small, and additional research is not only needed, but, we believe, will prove quite fruitful. Third, altogether, the existing research strongly supports the idea that certain situation-encoding schemas are more conducive to leadership effectiveness (e.g., growth mindset, learning orientation, deliberative mindset, and promotion focus) than other schemas (e.g., fixed mindset, performance orientation, implemental mindset, and prevention focus), which has important development implications. Fourth, while we seem to know some schemas are more conducive for success than others, we currently have little research or understanding regarding how the different schemas are related. While some research has pointed toward some natural consistencies between schemas (e.g., Lanaj et al., 2012; Payne et al., 2007; Vandewalle et al., 2019), their relationships with each other needs to be further explored. We further elaborate this point later in our Discussion section. Altogether, we believe substantial evidence exists for more fully integrating situation-encoding schemas into our research and conversations related to the important ingredients of effective leadership.

Before moving on, it is important to acknowledge that while individuals' situation-encoding schemas generally dictate their processing and behavioral dispositions, it seems likely that certain situations may be strong enough for these individuals to overcome their natural schematic tendencies. For example, individuals may normally possess a performance orientation, but if they are required to learn or master some material (e.g., to pass a bar or certified public accounting exam), the situation may elicit a learning orientation. In fact, as we will discuss below, research across these schemas has demonstrated that relatively simple interventions designed to elicit more positive situation-encoding schemas generally will lead to at least a short-term positive shift in one's processing and behaviors (for example, see Blackwell et al., 2007; Gollwitzer, 1993; Kilduff & Galinsky, 2013; Kray & Haselhuhn, 2007).

Discussion

Our paper had three purposes: (1) to shift consensus within the leadership literature away from the more traditional trait-approach toward the more modern situation-trait approach to better understand why leaders do what they do, (2) identify situation-encoding schemas as being critical and foundational components that explain why leaders process and operate uniquely across the situations they encounter, and (3) integrate and review research on four types of situation-encoding schemas to more fully introduce these schemas into the leadership domain. We summarize these contributions in preparation for discussing the important implications they have for leadership research and practice.

In the first section, entitled "The Study of Why Leaders Do What They Do," we identify that leaders' traits have been a traditional focus for explaining how leaders operate. This approach has a number of limitations which may limit our ability to gain a complete understanding for why leaders process and behave the ways that they do. For example, the trait approach assumes that leaders' variations in behavior across situations are assumed to be "errors," as opposed to valuable information into how they process and behave. Acknowledging these limitations, we integrate the CAPS framework from psychology to advance and build the case for a robust approach to understanding leader effectiveness which utilizes the situation-trait approach. It carries its own assumptions suggesting that when explaining leaders' processing and behaviors, it is necessary to consider both the situation and how it interacts with leaders' traits.

We cover the CAPS framework in our second section: "Modeling the Situation-Trait Approach." The CAPS framework suggests that why individuals operate in the manner they do begins with how they encode unique cues in the situations they encounter. This encoding activates individuals' personality system, which in turn, causes the individual to behave and navigate the situation in a manner aligned with the personality system's processing. As such, the encoding process is foundational to and directs the leaders' personality system. The personal attributes that guide individuals' encoding process are situation-encoding schemas, making these attributes a crucial and foundational component of individuals' processing and behavior.

In the third section, entitled "Leaders' Situation-encoding Schemas," we demonstrate just how foundational these attributes are in leaders' processing by "going under the hood" and summarizing the neuropsychology behind these schemas. Specifically, we identify situation-encoding schemas as neural networks in the prefrontal cortex that tap into leaders' associative processing mode. As such, they automatically and largely non-consciously direct leaders' cue-seeking and processing activation. Being foundational to how leaders view their environments and subsequently how they process and behave relative to their perception of their environments, we suggest that better understanding leaders' situation-encoding schemas and integrating them more fully into the leadership literature will have important and meaningful implications for leadership research and practice. Thus, it is important to identify specific situation-encoding schemas that underlie leaders' processing and behaviors.

In the fourth section, entitled "Review of Four Sets of Situation-Encoding Schemas," we identify and integrate research on four sets of situation-encoding schemas that have been independently studied for decades across various research domains: fixed and growth mindsets, goal orientations, deliberative and implemental mindsets, and regulatory focus. Despite being studied independently, research across these schemas has repeatedly found that they do dictate individuals' processing dispositions (cue-encoding and activating the personality system) and behavioral dispositions. As such, they are likely to have important implications for leadership, and we summarize the research to date and integrating these previously independently-studied schemas into one source.

Implications for leadership

By understanding the situation-trait approach, the CAPS framework, the encoding process, and situation-encoding schemas that direct the encoding process, we are able to come to a more clear and accurate understanding of the complexity of leaders' operations. Further, it allows us to more clearly identify situation-encoding schemas to be a foundational component behind leaders' processing and operation. This has a variety of important implications that include: enhancing leaders' self-awareness, improving leaders' meta-cognition, improving leadership effectiveness, and improving leadership development.

Enhancing leaders' self-awareness

Remarkably, until this point, leadership researchers have largely treated the variation of leader behaviors as error and eliminated it by simply averaging behavior over diverse situations (Mischel & Shoda, 1995). But, with the situation-trait approach and CAPS theory, it becomes possible to identify meaningful stable situation-behavior (i.e., if... then...) profiles activated by situation-encoding schemas that predictably explain variations in behavior across situations (Mischel & Shoda, 1995). Since the leadership domain has largely not considered the situation-trait approach or foundational role situation-encoding schemas play in leaders' processing and operation, leaders have largely lacked a framework to help them understand why they do what they do across the various situations they encounter, and we suggest that the current framework provides the opportunity for greater clarity and self-awareness.

In particular, we have identified four sets of situation-encoding schemas that dispose leaders to specific processing and behaviors. Each of these sets identifies at least two possible schemas, but research suggests that leaders tend to rely on a single dominant schema for their encoding system. If leaders can identify the schema that they possess, they can better understand why they are disposed to process and behave in the manners that they do across different situations. Further, across the research on these different sets of situation-encoding schemas, research has made it quite clear that certain schemas lead to better processing and behavior than other schemas. This allows leaders to determine if they are disposed to process and behave in the most effective ways.

If we put all four sets of schemas together into a single framework, it allows leaders to develop a multifaceted profile of their processing system. Are they fixed- or growth-minded, learning- or performance-oriented, deliberative- or implemental-minded, and promotion- or prevention-focused? Knowing their profile, leaders and those who support them can develop inferences related to the leaders' underlying structure and dynamics and better understand why leaders process and behave in the specific manner they do (Mischel & Shoda, 1995). This has three important implications for the leadership domain that we discuss next.

Improving leaders' meta-cognition

Meta-cognition is defined as deliberate, planned, intentional, goal-directed, and future-oriented mental processing that can be used to accomplish cognitive tasks (Flavell, 1979). When leaders understand how they are disposed to process and operate, it provides them with the opportunity to become more conscious about how they process and operate.

Specifically, there are at least three benefits of leaders understanding their situation-encoding profile (Mischel & Shoda, 1995). First, they can better predict the events and conditions that will activate certain dispositions, helping them to be more strategic about their decision making. Second, they can become more conscious of the situations they put themselves in, helping them avoid situations that bring out negative processing and behavioral dispositions and approach situations that bring out their positive processing and behavioral dispositions. Third, knowing what cues they are naturally attuned to, they

can consciously seek after other cues that they do not normally pay much attention to, expanding the range of their processing and options for behavior. In all, with a greater ability to meta-cognate about their situation-encoding schemas, leaders will be more empowered to meet their role demands in their most effective ways (Hannah et al., 2009).

Improving leaders' effectiveness

As leaders improve in their self-awareness, they enhance their behavioral freedom and their ability to operate more consciously, instead of falling back into non-conscious and predictable patterns of processing and behaviors (Mischel & Shoda, 1995). Thus, as leaders get to know their situation-encoding schemas, various options for improving their effectiveness become available (Mischel & Shoda, 1995, 2008). First, by understanding what schemas they currently possess and what schemas are most ideal for leader effectiveness, leaders can seek to more fully adopt the schemas most ideal for leader effectiveness. As leaders make improvements to their schemas, naturally their processing and behavior will improve, making them more effective. Second, by understanding the cues one naturally seeks, and what other cues might be helpful for improved processing and behaviors, leaders can consciously seek after different cues to disrupt their typical personality system patterns. Third, by understanding the situations that activate less-effective and more-effective processing and behavior, leaders can consciously select the situations to which they expose themselves to bring out their best.

Improving leaders' development

One of the great things about focusing on situation-encoding schemas in light of leadership development and effectiveness is that there is ample evidence that individuals can change and improve their schemas, and when they do, there is a corresponding improvement in their processing and behaviors (Mischel & Shoda, 2008). And often, research has repeatedly found that leaders' situation-encoding schemas can be improved through relatively simple interventions, such as: reading fictional stories (Kray & Haselhuhn, 2007), writing two paragraphs (Kilduff & Galinsky, 2013), watching a three-minute video (Crum, Salovey, & Achor, 2013), imagining responses to situations (Gollwitzer, 1993; Gregory, Cialdini, & Carpenter, 1982; Linville & Clark, 1989; Mischel & Shoda, 2008) or engaging in a training (Blackwell et al., 2007; Crum & Langer, 2007; Yeager et al., 2019). For example, Kilduff and Galinsky (2013) found that individuals asked to write two paragraphs about their aspirations and ambitions (priming a promotion focus) were more proactive in their behaviors and achieved higher social status than those asked to write two paragraphs about their duties and obligations (priming a prevention focus).

The basic idea is that when an individual is primed to encode their situations differently, they are activating and strengthening neural connections in their prefrontal cortex that may not fire as rapidly as their dominant situation-encoding neural connections. Knowing that neural connections strengthen and operate more rapidly the more they get used, it suggests that shifting a leaders' situation-encoding schemas requires regular primes or interventions, which over time strengthens their less-dominant but more positive schemas, making them more dominant and having lasting positive implications for their subsequent processing and behavioral dispositions (Gioia & Poole, 1984; Mischel & Shoda, 1995).

Understanding these dynamics uncovers three things that leaders or those who develop leaders can do to help leaders shift from less-than-optimal situation-encoding schemas (fixed mindset, performance orientation, implemental mindset, and prevention focus) to more optimal situation-encoding schemas (growth mindset, learning orientation, deliberative mindset, and promotion focus) to develop more effective processing and behaviors, and overall effectiveness. First, help leaders understand the role their situation-encoding schemas play in their processing and behavior. Without this understanding, it will be difficult to have the motivation to focus on situation-encoding schemas as a way to develop. Second, help leaders identify and distinguish between less-

than-optimal situation-encoding schemas and more optimal situation-encoding schemas. This will help leaders become more conscious of their situation-encoding schemas and the quality of their current situation-encoding schema profiles and it will help them identify areas for development and improvement. Third, develop interventions and initiatives to help leaders adopt the more optimal situation-encoding schemas. These interventions and initiatives should be designed to exercise and strengthen the neural connections associated with the more optimal situation-encoding schemas. As those neural connections are strengthened, leaders will come to rely upon them more frequently, improving their processing and behavioral dispositions.

We must point out that this approach to leadership development has not been available under the trait and behavior approaches that leadership scholars have traditionally leaned upon. When scholars have focused on leaders' traits and behaviors, the practical developmental implications all relate to improving select traits and behaviors. But, what the situation-trait approach reveals is that even if a leader can make shifts in traits and behaviors, if they continue to encode their situations in the same ways, development in traits and behaviors may be limited and may not translate into any greater leader effectiveness. This is what CAPS experts were referring to when they stated that the traditional trait approach may help when determining which car to buy (i.e., leader to select), but that it provides little value for fixing the car if it is not running properly (Epstein, 1994; Mischel & Shoda, 2008). The situation-trait approach allows us to get "under the hood" of leaders' psychological processes and dynamics and to work on any of the processing that may not be functioning properly.

Finally, while we have focused primarily on the encoding process, it is important to step back and more broadly consider the implications that improving one's situation-encoding schemas might have on the CAPS framework. While it is easy to suggest that leadership effectiveness will naturally improve when leaders improve their situation-encoding schemas, the reality is likely more complex. When leaders improve their schemas, these new schemas may activate different elements of the leaders' personality systems (e.g., cognitions, affect, competencies, expectancies, and goals). As a consequence, it is possible that the leaders' entire personality system will be restructured, for both the positive or the negative. For example, the new schemas may trigger more positive self-efficacy beliefs, opening up new expectancies and goals. But, they may also trigger anxiety associated with perceiving situations in new, unproven, and uncertain ways, stifling the positive impact of the new schemas. Thus, while we are promoting the value of an increased focus on the encoding system and situation-encoding schemas, at least two important leadership implications exist beyond this system and schemas. First, while improving situation-encoding schemas may be an important answer for developing leaders, it is not the entire answer. Effective leadership development will require both developing new "if...then..." signatures and subsequent restructuring within the personality system. Second, understanding the broader CAPS framework will help leaders develop greater self-awareness and metacognitive skills beyond their encoding processing. More specifically, understanding the entirety of the CAPS framework will also help leaders to become more self-aware of their personality system and develop improved metacognitive skills to ensure that the changes in their schemas result in improved processing and behavioral dispositions.

Further theoretical implications

One of the major purposes of this paper is to help the leadership literature shift consensus more completely away from the trait-approach and toward the situation-trait approach. There are a variety of theoretical implications related to this shift. First, it aligns the leadership literature with the most current thought and theories from the psychological domain. Second, it provides a more accurate foundation and perspective for explaining why leaders do what they do. Third, this approach introduces new questions and new constructs (i.e., situation-encoding schemas) to focus on for the development and effectiveness of

leaders, which both broadens and deepens the pool of important ingredients of effective leadership, and should lead to further theoretical insights and development.

Future research

One of the values of the CAPS framework is that it is a meta-theory, providing a context by which new theories that explain various elements of leaders' processing and behavioral manifestations can be developed. While CAPS provides a general understanding of the processes that underly leadership behavior, there is still much research needed to fully explain these processes. In other words, future research is needed to better map leaders' encoding process, personality system, and behavioral manifestations. There is complexity for each, especially leaders' personality system which can involve a variety of different factors that form leaders' patterns of processing. Mischel and Shoda (1995) state: "The relationships among the person's important encodings, beliefs and expectations (e.g., about the self), the enduring goals pursued, the key strategies used, and the affects experienced, all in relation to relevant features of situations, become the terrain [psychologists and leadership researchers] need to map" (p. 259).

By presenting situation-encoding schemas more fully into the leadership domain, a natural question is: what is the value of these schemas relative to what we are already studying, namely leadership traits and behaviors? Thus, moving forward, leadership researchers should investigate what variance situation-encoding schemas account for above and beyond the leadership traits and behaviors currently studied.

Additionally, leadership researchers should more fully investigate the relationships between situation-encoding schemas and leadership traits and behaviors. Are situation-encoding schemas antecedents to both leadership traits and behaviors, with leadership traits and behaviors mediating the relationship between situation-encoding schemas and leadership effectiveness?

Leadership researchers should also investigate the degree to which followers can accurately assess leaders' situation-encoding schemas, and what role their evaluations of their schemas plays in their evaluation of the effectiveness of their leader. Mischel and Shoda (2008) argue that observers are interested in and sensitive to others' generalized behavioral tendencies, and are inclined to identify their if...then... situation-behavior profiles, or what we call situation-encoding schemas. Thus, this seems like a ripe area for future research, and would add breadth to our understanding of how followers' perceptions of their leaders affect their responsiveness to their leader, as well as their overall work climate.

Further, it would be valuable to have a clearer understanding surrounding the relationships between the four different situation-encoding schemas. It has been theoretically suggested and largely accepted that fixed and growth mindsets lead to the different goal orientations, but there has been little empirical support for this relationship (Payne et al., 2007; Vandewalle et al., 2019). But, we do have empirical evidence that there is a relationship between the goal orientation schemas and the regulatory focus schemas (Lanaj et al., 2012). Beyond that, we have little clarity if and how these different schemas may be related. It is thus important to better understand the relationships between schemas, as this would have important developmental implications. If they are related, then perhaps they can be built up simultaneously via broad approaches to improving any situation-encoding schemas. If they are more independent, this would suggest that organizations need to gain clarity on what specific negative situation-encoding schemas their leaders dominantly possess, and provide a tailored developmental program specifically for the most limiting schemas.

Finally, we acknowledge that the four situation-encoding schemas that we have focused on in the present review do not exhaustively encompass the breadth of situation-encoding schemas that shape

leaders processing and behavioral dispositions. Thus, future research should seek to identify other schemas that may influence the cues leaders absorb and correspondingly activate their personality system.

Methodological considerations

There are also important methodological implications that accompany our current work. As researchers continue to embrace the situation-trait approach and leverage the strengths of the CAPS framework to guide such research, they will have to give special attention to which measurement techniques they use in order to capture the dynamic nature of situation encoding schemas. One such approach that is especially well-suited for this use is experience sampling methodology (ESM; also called ecological momentary assessments). Utilizing this approach, researchers can capture work behavior from respondents at multiple times during the day *in situ* (Hormuth, 1986), which allows for the investigation of both between- and within-person variability of constructs. Further benefits of this approach include capturing multiple data points for each variable over time which can reduce the number of third variable explanations and aid researchers in understanding the dynamic relationships between variables (Beal & Weiss, 2003).

To further disentangle and understand the relationships among the four situation-encoding schemas discussed in this review, collecting responses from participants throughout the day to gain insight into how decisions and behaviors result from unique combinations of cognitive and affective states, could prove quite informative in better understanding how and why leaders do what they do. This within-person analysis considers variation in constructs around an individual's own mean level of a construct (effectively capturing situational variation), and this approach can effectively be paired with trait-level measurement to model the combined effect of trait and state levels of a construct on leader behaviors (see Hektner, Schmidt, & Csikszentmihalyi, 2007 for an overview of ESM). In sum, ESM is especially well-suited for asking and answering research questions in which different types of personal attributes (e.g., trait and state attributes) together inform leader behavior, which is aligned with the complexity and strength of the CAPS framework.

A second methodological approach that could be used to advance research on the four situation-encoding schemas is latent profile analysis (LPA; Marsh, Lüdtke, Trautwein, & Morin, 2009; Muthén & Muthén, 2000). This approach is a form of cluster analysis in which researchers can uncover hidden groups that exist within observed data. For example, researchers could ask whether there are certain "clusters" or "signatures" that exist across people in which they exhibit certain levels of each of the four situation-encoding schemas. It could be that a unique combination of these schemas can predict additional variance in outcomes above and beyond the actual level of each of the schemas. In other words, latent profile analysis could prove to be an effective tool to expand the study of situation-encoding schemas and to uncover any hidden insights that might emerge as a result of considering unique combinations of these schemas. As such, each schema is important by itself, but latent profile analysis would allow researchers to study the combined synergistic effect of multiple schemas together.

Conclusion

In 2012, Antonakis et al. argued that leadership and individual difference research is at a cusp of a renaissance because of new theories and methods to conceptualize and test more complete models of leadership. We believe that the shift from the trait approach to the situation-trait approach, the identification of situation-encoding schemas as foundational components of the leadership process, and the identification and integration of specific situation encoding schemas is part of this renaissance. Together, these contributions are meant to broaden, deepen, and enhance the accuracy of our understanding for why leaders do what they do, leading to important implications for leaders' self-awareness, metacognition, effectiveness, and development.

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Review

Follower transformation as the linchpin of transformational leadership theory: A systematic review and future research agenda[☆]



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ARTICLE INFO

Keywords:

Transformational leadership
Follower transformation
Systematic review
Longitudinal research
Multifactor leadership questionnaire

ABSTRACT

Transformational leadership theory represents a cornerstone in leadership research. Despite an impressive empirical record highlighted by both the breadth of its nomological network and magnitudes of effects, scholars raise serious construct and content validity concerns. In this article, we address a remarkable oversight in the transformational leadership literature. Few studies have assessed the theory assumption that the positive individual, group, and organizational effects of transformational leadership are due to the transformation of followers in specific and enduring ways. We offer a systematic review of empirical evidence related to follower transformation as the conceptual foundation of transformational leadership theory. Findings from this review highlight the radical leap in the evolution of transformational leadership theory from nascent phenomena to mature paradigm. Calling for a return to nascent and intermediary phases of theory development, we conclude with a research agenda aimed at creating a stronger theory, better measures, and more actionable leadership models.

Introduction

Transformational leadership theory has garnered substantial scholarly attention since its inception more than 40 years ago and continues to be one of the most actively researched leadership paradigms (Day & Antonakis, 2012; Dinh et al., 2014; Northouse, 2016). The notion that leaders transform followers in ways that lead to greater organizational performance provides a compelling conceptual foundation for both research and practice. Hundreds of empirical studies support links between transformational leaders and individual, group, and organizational outcomes, making it hard to deny the importance of this construct.

Yet despite its rich history, transformational leadership theory is at a crossroads. On the one hand, critics point out serious flaws in the theory and operationalizations, with some going so far as to call for the abandonment of the construct entirely (most notably, van Knippenberg & Sitkin, 2013). On the other, researchers continue to invest efforts to explore new frontiers of this leadership paradigm (cf. Jiang & Chen, 2018; Jin, Seo, & Shapiro, 2016; Rosen et al., 2019). The purpose of this review is to explore potential explanations for how the current state of affairs came to be and offer a much-needed course correction to the transformational leadership research agenda.

Our review centers on the notion that follower transformation

represents the key conceptual foundation for transformational leadership theory. Regardless of the positive outcomes associated with this leadership construct, a leader isn't truly "transformational" unless followers are transformed. Moreover, the utility of transformational leadership hinges on follower transformation serving as a mechanism explaining the relationship between leaders and positive organizational outcomes. Reviewing the role of follower transformation in transformational leadership scholarship, we note its similarity to a linchpin: a critical and often undervalued fastener that holds a complex mechanical system together and whose absence or failure would cause an entire system to malfunction. In engineering parlance, it is critical to test the durability of linchpins early in the design process. We therefore ask: *Have researchers sufficiently tested the major linchpins of transformational leadership theory?*

In the section below, we review transformational leadership theory examining existing criticisms and explicating three fundamental assumptions related to the role of follower transformation. Next, we conduct a systematic literature review to explore whether the field has adequately investigated these assumptions. Finding insufficient evidence, we draw on Edmondson and McManus's (2007) theory-building framework to expose a radical leap in the transformational leadership literature as the field prematurely advanced from a *nascent* to *mature* stage of theory development.

[☆] This proposal did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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We conclude with an assessment of the implications of our findings. Combining our concerns with other critiques of transformational leadership theory, we propose a moratorium on theory-extending empirical research until scholars address a series of difficult-yet-necessary questions relating to the future of this construct. Finally, taking the stance that (a) transformational leadership theory is not dead but will require considerable efforts to revive and (b) there are enough redeeming qualities of this theory to justify a revival, we offer a future research agenda aimed at paving the way for a richer theory, more valid measures, and more actionable theoretical and practical applications of transformational leadership.

An overview of the state of transformational leadership theory

Forty years after James McGregor Burns introduced the concept of the transforming leader, his ideas continue to have a substantial impact on how we think about and apply leadership theory. Simply stated, Burns' (1978) thesis was that great leaders are transformational in that they "serve as an *independent force in changing the makeup of the followers' motive base...*" (Burns, 1978, p. 20, emphasis in original). In the decades that followed, leadership scholars sought to refine, expand, and empirically validate a theory of transformational leadership into what has become arguably the most widely researched leadership paradigm (Day & Antonakis, 2012; Dinh et al., 2014; Northouse, 2016). Most notable to the evolution of transformational leadership theory was the work of Bernard Bass and colleagues who helped clarify (a) the behaviors that leaders engage in to induce follower transformation; (b) the ways in which leaders transform followers; and (c) the nexus of outcomes influenced by leader-follower interactions (Avolio & Bass, 1995; Bass, 1985; Bass & Riggio, 2006; Bass & Steidlmeier, 1999).

Empirical evidence of the predictive validity of transformational leadership has been most impressive. Hundreds of primary studies and dozens of meta-analyses have consistently produced moderate-to-strong relationships between transformational leadership and outcomes such as performance, engagement, satisfaction, commitment, and turnover (e.g., DeRue, Nahrgang, Wellman, & Humphrey, 2011; Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramiam, 1996; G. Wang, Oh, Courtright, & Colbert, 2011). Comparisons to leadership approaches including authentic leadership, ethical leadership, servant leadership, and transactional leadership highlight both strong relative predictive validity and incremental validity of transformational leadership over and above other leadership constructs (Hoch, Bommer, Dulebohn, & Wu, 2016; Judge & Piccolo, 2004; G. Wang et al., 2011).

Despite an impressive empirical record highlighted by both the breadth of its nomological network and magnitudes of effects, transformational leadership theory is not without its critics. For instance, van Knippenberg and Sitkin (2013) liken transformational leadership to the Hans Christian Anderson tale of *The Emperor's New Clothes* where a community is blinded by what they expect to see (that transformational leadership is a viable construct) despite clear evidence to the contrary. They identify four blemishes marring transformational leadership scholarship: (1) the lack of a clear conceptual definition leading to ambiguities regarding the dimensionality of the transformational leader construct; (2) no clear understanding of the causal relationships between leader behaviors, follower responses, and performance outcomes; (3) operationalizations of transformational leaders that confound leader behaviors with effects; and (4) transformational leader measures that fail to reproduce the dimensional structure of the theories. The authors go as far as to label these issues as "fatal flaws" that are "fundamental and inherent" and call for "abandoning the construct" of transformational leadership entirely (van Knippenberg & Sitkin, 2013, p. 2).

Indeed, several scholars have echoed the concerns raised by van Knippenberg and Sitkin (e.g., Barnes, Guarana, Nauman, & Kong, 2016; C. Li, Zhao, & Begley, 2015; V. Li, Mitchell, & Boyle, 2015; Mitchell et al., 2014), and while few have gone so far as to argue for abandoning

the construct entirely, it is clear that we do a disservice to the field by discussing the concerns in principle, but ignoring them in practice. Our goal in this review is to go beyond simply raising awareness of issues with transformational leadership theory (for this, see Antonakis, Bastardoz, Jacquart, & Shamir, 2016; Behrendt, Matz, & Göritz, 2017; van Knippenberg & Sitkin, 2013) to clarify *how* these issues have pervaded the literature despite so much scholarship.

We present an epistemological assessment of transformational leadership theory based on a systematic review of the empirical literature. Our assessment leads to three major conclusions: First, the field has reached what Pfeffer (1993) refers to as *high paradigm development*, which is characterized by consensually shared beliefs about the nature of a theory and the appropriateness of methods of measurement and empirical validation. Pfeffer and others make the argument that paradigm consensus is a necessary—although not sufficient—condition for the systematic advancement of knowledge; fields with undeveloped paradigms are hampered by construct proliferation that obfuscates communication of new knowledge and makes comparing and accumulating findings problematic (Cole, 1983; Kuhn, 1970). As Webster and Starbuck (1988) note: the scientific value of consensus hinges on the correctness of the paradigm and consensus of a mis-specified paradigm could be more damaging than a lack of consensus as the former may result in the advancement of erroneous scientific claims.

A second insight from our literature review is that the field has been in what Edmondson and McManus (2007) refer to as a *mature stage* of theory development. This stage is characterized by "elegant, complex, and logically rigorous [research], addressing issues that other researchers would agree from the outset are worthy of study" (p. 1159). Importantly, Edmondson and McManus note that once a field reaches the mature stage of theory development, researchers typically rely heavily on existing constructs and measures and aim to contribute to the theory by adding specificity, introducing new mechanisms, or exploring boundary conditions. Related to the above concern regarding the relationship between paradigm consensus and correctness, a fundamental assumption of mature-stage theories is that the field successfully traversed through earlier developmental stages whereby (a) new theories are generated and explicated (*nascent stage*) and (b) provisional empirical support is found for major theoretical propositions and assumptions (*intermediate stage*). Our literature review exposes a radical leap of transformational leadership scholarship where the field prematurely advanced from a *nascent* to *mature* stage of development with paradigm consensus occurring before scholars exercised due diligence examining the major assumptions of transformational leadership theory.

Our third major conclusion is that there is a relative dearth of empirically rigorous research validating the claims that (a) transformational leaders transform followers in relatively enduring and specific ways and that (b) follower transformation explains the positive effects of leaders on organizational outcomes. Recognizing this oversight and its implications, we call for a program of research that takes transformational leadership theory back to previous stages (*intermediate, nascent*) where theoretical assumptions are validated and unsupported assumptions are examined and refined.

Transformational leaders and transformational leadership

Before reviewing the transformational leadership literature, a clarification on the distinction between the concept of *transformational leaders* and that of *transformational leadership* is necessary. Following the recommendations of Day and colleagues (Day, 2000, 2011; Day, Fleenor, Atwater, Sturm, & McKee, 2014), we recognize the importance of making a conceptual distinction between the intrapersonal study of *leaders* and the interpersonal study of *leadership*. We extend this observation to transformational leadership theory where we attempt to disentangle what we know about *transformational leaders* (i.e., the attributes and behaviors associated with people who fit this

categorization) from what we know about *transformational leadership* (i.e., the process through which leaders transform followers).¹

While scholars have created parallel models and alternate measures of transformational leaders (see Bass & Avolio, 1995; Conger & Kanungo, 1994; Podsakoff, MacKenzie, Moorman, & Fetter, 1990; Rafferty & Griffin, 2004; Shamir, Zakay, Breinin, & Popper, 1998), previous reviews of the literature highlight the considerable conceptual and empirical overlap (Bass & Riggio, 2006; Ng, 2017; van Knippenberg & Sitkin, 2013). For the sake of brevity, we refer to the Bass and Avolio (1995) dimensional labels of transformational leaders unless otherwise noted as they are the most recognizable and are frequently synonymized with transformational leaders. According to this model, the extent to which leaders are considered transformational is a function of four leader dimensions: (1) *Idealized influence* (role modeling attributes and behaviors); (2) *Inspirational motivation* (articulations of compelling and inspiring visions of the future); (3) *Intellectual stimulation* (challenging existing assumptions and stimulating new ways of thinking); and (4) *Individualized consideration* (attending to followers' needs and concerns).

While much of the scholarship in this area focuses on studying the impact of transformational leaders' attributes and behaviors on work outcomes, original conceptualizations of the theory emphasize a process-oriented, leadership-oriented focus. In one of his earliest works on conceptualizing transformational leadership theory, Bass proposed transformational leadership as the process through which leaders "broaden and elevate the interests of their employees,...generate awareness and acceptance of the purposes and mission of the group, and...stir their employees to look beyond their own self-interests for the good of the group" (Bass, 1990, p. 21).

The stipulation that follower transformation is at the core of transformational leadership was further explicated by subsequent scholars. Podsakoff et al. (1990), for instance, in describing early attempts to define transformational leadership (e.g., Avolio & Bass, 1988; Bass, 1985; Bass, Avolio, & Goodheim, 1987; Bass, Waldman, Avolio, & Bebb, 1987; Conger & Kanungo, 1987; House, Woycke, & Fodor, 1988), argued that a common theme among these early perspectives is that "[transformational] leaders transform or change the basic values, beliefs, and attitudes of followers so that they are willing to perform beyond the minimum levels specified by the organizations" (p. 108). As more recent scholars noted, the essence of transformational leadership theory is a process whereby the leader builds followers' commitment to organizational objectives and develops followers to be able to accomplish organizational goals (Avolio & Yammarino, 2013; Bass & Riggio, 2006; van Dierendonck, Stam, Boersma, de Windt, & Alkema, 2014; Yukl, 1998). Put simply, transformational leaders influence the development and transformation of their followers. The result, at least in theory, is the enhancement of follower performance, and subsequently, organizational performance, beyond expectations (Bass, 1985; Yukl, 1998).

¹ In van Knippenberg and Sitkin's (2013) critique of transformational leadership, the authors argue that disentangling the process of transformational leadership from the way in which transformational leaders are evaluated is difficult due to the dominance of the MLQ in transformational leadership research, stating, "transformational leadership is de facto defined as what the MLQ measures." (p. 5; emphasis in original). From this position, they provide a critique of transformational leadership that largely hinges on issues with conceptualizing and operationalizing transformational leader attributes and behaviors (through the MLQ). While we recognize the seriousness of the authors' major criticisms, we take the perspective that disentangling the concept of transformational leaders from transformational leadership theory is (a) possible, (b) necessary due to what van Knippenberg identify as "fundamental flaws" in the transformational leader paradigm, and (c) useful in guiding solutions to overcoming these concerns. We return to this issue in the Discussion section.

Follower transformation as the lynchpin of transformational leadership theory

Despite so much scholarship of transformational leadership to date, the transformation of followers remains one of the most critical and understudied elements of this leadership paradigm. This oversight is unfortunate given Burns' assertion that "the extent of real change in [followers] must be investigated, not assumed." (Burns, 1978, p. 440, emphasis in original). Emphasizing the process-oriented focus of transformational leadership, our review centers on the notion that follower transformation represents an indispensable conceptual foundation of transformational leadership theory. Given the relative mileage of transformational leadership research, we propose that a critical evaluation of this lynchpin is long overdue.

Drawing on Bass's (1985; see also Bass & Riggio, 2006) conceptualization of transformational leadership, we focus on follower transformation and identify three underlying assumptions of transformational leadership theory:

- 1) Leaders are responsible for relatively enduring change (i.e., transformation) in followers.
- 2) Followers are transformed in specific ways.
- 3) The systematic, relatively enduring change in followers explains the process through which leaders achieve positive workplace results.

In the sections below, we discuss each assumption and describe examples of evidence that would provide support. Then, we systematically review the literature to determine whether the field has garnered support for the underlying assumptions of transformational leadership.

Assumption 1. Leaders transform followers.

Transformational leadership theory is grounded in the assumption that followers transform as the result of their experience with certain leaders. Burns (1978) describes the qualities of transformation as involving "real change" in terms of (a) the magnitude of change: followers' attitudes and values need be transformed to a "marked degree"; and (b) persistence of change: change should be relatively enduring rather than fleeting. While this assumption is perhaps the simplest and most intuitive of the three, the difficulty comes in testing this assumption since it requires that researchers utilize study designs powerful enough to model change. This involves both complex analytical research methodologies and repeated measurement of variables that are expected to change—and remain changed—over time (Ployhart & Vandenberg, 2010; Singer & Willett, 2003). In this regard, our test of the first assumption involves identifying whether transformational leadership research has employed research designs suitable for assessing follower transformation.

Assumption 2. Followers transform in specific ways.

A second fundamental assumption of transformational leadership theory is that transformational leaders stimulate particular transformations in followers. As a historian and political scientist, James Burns' original conceptualization of transformational leadership laid the groundwork for how societal transformations might occur. Subsequent work by Bass and colleagues applied transformational leadership to organizational contexts and specified how employees are transformed. In particular, Bass (1985) described three specific aspects of a follower's self-concept that are impacted by transformational leaders (for detailed discussions, see Bass, 1985; Bass & Riggio, 2006; Shamir, House, & Arthur, 1993; van Knippenberg & Sitkin, 2013):

1. *Collective identification*: Followers develop a sense of belonging to the team or organization and see the collective as an important part of their personal identity.
2. *Value internalization*: Followers align their personal values with the

values of the team or organization.

3. **Self-efficacy:** Followers develop a heightened sense of their ability and potential to accomplish their task.

To test this assumption, we explore whether research has investigated the link between transformational leaders and these three specific constructs. It should be noted that several additional mediating mechanisms have been proposed and empirically investigated by leadership scholars. We do not intend to devalue the important work that has been done to extend transformational leadership theory beyond its original form. Rather, our aim is to explore what has not been done, in terms of empirically validating the foundational assumptions of this theory upon which paradigm consensus and subsequent theory-extending research is grounded.²

Assumption 3. Followers transformation is responsible for the effectiveness of transformational leadership.

Transformational leadership theory was designed to explain variance in leadership effectiveness. Whereas the previous two evaluations focus on validating the claim that transformational leaders create systematic and enduring changes in followers, the final assessment explores the extent to which the field has adequately tested whether these systematic, enduring follower transformations account for the benefits associated with transformational leaders. In other words, a key indicator of the effectiveness of transformational leadership would be evidence that the transformation of followers represents the process through which transformational leaders influence positive individual, group, and organizational outcomes. In sum, the veracity and utility of transformational leadership scholarship hinges on a few critical assumptions. In the next section, we explore three features of the literature:

1. Choices related to research design: Has the field employed appropriate research designs to capture enduring follower transformations?
2. Choices related to study variables: Has the field explored systematic follower change according to theory propositions (collective identification, value internalization, and self-efficacy)?
3. Choices related to data analysis: Has the field captured systematic, enduring follower transformations analyzed whether these transformations account for the effectiveness of transformational leaders?

To be clear, we do not intend to appraise individual scholars' choices or imply that investigations that do not test these assumptions are necessarily inferior. We assess the collective choices of the field to examine the (in)stability of the foundation upon which paradigm consensus and mature-stage, theory-extending research rests.

Method

A systematic literature search was conducted to identify relevant studies for inclusion in our review. Using "transformational leadership" as the keyword, we followed Fischer, Dietz, and Antonakis (2017) screening criteria by searching online databases (ABI INFORM Global,

Academic Search Complete and Business Source Complete via the EBSCOhost research databases, PsycINFO, and Web of Science) for articles that were published before February 2019 in twenty-five journals known to publish leadership research (see Table 1 for a complete list of journals in this review). While we could have limited our search only to studies published since 1985 (when Bass published his seminal book on transformational leadership), we did not want to exclude studies that may have also investigated earlier conceptualizations of the transforming leader (e.g., Burns, 1978). The initial screening yielded 1536 articles.

We then vetted full texts to confirm the relevance of each study. We applied three inclusion criteria during this screening process. First, the study had to be empirical and original research with transformational leadership being one of the focal studied variables (eliminating meta-analyses, reviews, and conceptual studies). Second, since the dimensions of transformational leadership are thought to be formative rather than reflective indicators (Podsakoff, MacKenzie, Podsakoff, & Lee, 2003) where the "whole" is conceptually different from any subset of "parts", we excluded studies that only captured a partial set of transformational leadership dimensions. For instance, a study by Koseoglu, Liu, and Shalley (2017) was excluded because only intellectual stimulation was measured. We also excluded studies that examined transformational leadership as a context (e.g., transformational leadership climate) as they did not measure the direct effects of transformational leaders (e.g., Jiang, Jackson, & Colakoglu, 2016; Menges, Walter, Vogel, & Bruch, 2011).

Applying these criteria, we identified 320 primary studies reporting empirical tests of transformational leadership. Since the focus of our analysis is on follower transformation, we coded studies wherein a follower psychological transformation was directly measured. This excluded studies that measured transformational leader's direct influence on organizational outcomes (e.g., Vaccaro, Jansen, Van Den Bosch, & Volberda, 2012; Zhu, Chew, & Spangler, 2005), studies that only examined antecedents of the leader's attributes and behaviors (e.g., Bommer, Rubin, & Baldwin, 2004; Reichard et al., 2011), studies that used transformational leadership as an element of the nomological network of other variables (e.g., Hu, Erdogan, Jiang, Bauer, & Liu, 2018; G. Li, Rubenstein, Lin, Wang, & Chen, 2018), and scale validation studies (e.g., Antonakis, Avolio, & Sivasubramaniam, 2003; Schriesheim, Wu, & Scandura, 2009).

We should also note that while the transformational leadership literature has been largely dominated by Bass's Full Range Leadership Model and the use of the Multifactor Leadership Questionnaire (MLQ; Bass & Avolio, 1995; Antonakis & House, 2013; van Knippenberg & Sitkin, 2013), we included studies that relied on other transformational leadership measures and models (e.g., Podsakoff et al., 1990; Rafferty & Griffin, 2004) to ensure we provided a complete representation of the state of transformational leadership research. Applying these criteria, we reduced our sample by 185, yielding a final sample of 135 relevant articles. In the next section, we discuss our approach for categorizing studies on follower transformation based on the three assumptions of transformational leadership theory.

Categorization

In Table 2, we present our categorization of the articles in this review. Note that the number of articles in the far-right column ($n = 185$) constitutes studies that did not meet our inclusion criteria of assessing follower transformation. We present this number to provide a more complete illustration of the transformational leadership research and to demonstrate the proportion of empirical research on follower transformation to the overall transformational leadership literature.

In order to more effectively and systematically evaluate the transformational leadership literature according to the three assumptions of transformational leadership theory, we categorized the articles in the following way. First, to address the first assumption, we focused on

² A post hoc assessment of our article database revealed that 90.4% of the empirical studies in our review cited at least one of the works that developed the three psychological mechanisms as key mediators in the transformational leadership process (Bass, 1985; Bass, 1998; Bass & Riggio, 2006; Shamir et al., 1993). Moreover, several studies explicitly identified these mechanisms as the unmeasured phenomena explaining the relationship between their measured transformational leader and outcome variables in the theoretical development of their work (see, for example, De Poel, Stoker, & Van der Zee, 2014; Dust, Resick, & Mawritz, 2014; Nemanich & Vera, 2009; Sun, Zhang, Qi, & Chen, 2012).

Table 1

Journals used for systematic literature review of transformational leadership research.

Journal	Number of article	Initial inquiry	Impact factor
Academy of Management Journal	24	67	6.700
Academy of Management Learning & Education	–	15	2.866
Academy of Management Perspectives	–	10	4.686
Administrative Science Quarterly	2	15	5.878
Group & Organization Management	25	99	3.104
Human Relations	8	71	3.043
Human Resource Management	3	59	2.474
Human Resource Management Journal	1	9	2.343
Human Resource Management Review	–	18	3.276
International Journal of Management Reviews	–	4	6.489
Journal of Applied Psychology	45	124	4.643
Journal of International Business Studies	2	27	6.198
Journal of Management	13	77	8.080
Journal of Management Studies	10	22	5.329
Journal of Occupational and Organizational Psychology	23	70	2.892
Journal of Organizational Behavior	33	126	4.229
Leadership Quarterly	108	505	3.307
Management and Organization Review	2	26	1.655
Management Science	–	2	3.544
Organization Science	2	34	3.027
Organization Studies	–	15	3.133
Organizational Behavior and Human Decision Processes	4	28	2.259
Personnel Psychology	14	98	5.523
Research in Organizational Behavior	–	7	3.238
Strategic Management Journal	1	8	5.482
Total	320	1536	

overall research design and assessed how scholars have treated or examined follower change. We applied Ployhart and Vandenberg's (2010) recommendations for analyzing change by categorizing studies based on the frequency and timing in which the focal follower transformation variables were measured. In particular, empirically capturing change requires a "longitudinal" study in which data related to the focal variable theorized to change is collected over three or more time points or waves separated by a sensible unit of time. Ployhart and Vandenberg provide two reasons for why fewer than three measures of a focal variable is insufficient to capture change (see also Singer & Willett, 2003). First, it takes at least three measures to accurately model the trajectory of change; with two or fewer measures, change is assumed to be linear. More critically, with only two measures of a focal variable, it is not possible to decompose true change from measurement error. Accordingly, we submit that "longitudinal" studies provide the strongest test of the first assumption of transformational leadership.

While not truly longitudinal by the most conservative definitions (Day, 2011; Day et al., 2014), Singer and Willett (2003) consider two-wave repeated-measure designs to be incrementally better than research that does not capture a focal variable across multiple time periods (see also Ployhart & Vandenberg, 2010). Therefore, for research that utilized repeated-measures, we differentiate "longitudinal" from "two-wave" quasi-longitudinal studies (see also Day, 2011; Day et al., 2014). Another form of quasi-longitudinal research design that provides only preliminary support for the theoretically argued longitudinal effects involves separating (across time) measurement of the focal change variable(s) from causes and/or effects (Day, 2011). In accordance, for studies that do not capture repeated measures of follower transformation, we differentiate those that include "temporal separation" of the

leader evaluation and focal follower transformation variable(s) from "single time" studies that assume rather than attempt to assess follower change.

Testing of the second assumption involved coding the follower transformation variables captured by each study. Particularly, we coded whether the study focused on examining follower transformation according to Bass's theoretical propositions—1) identification with the collective, 2) value internalization, and 3) self-efficacy—or whether the scholars attempted to extend this theory by testing additional follower variables.

The final assumption frames follower transformations as the explanatory mechanism of the relationship between transformational leaders and work outcomes. To test this assumption, we coded whether the study treated focal follower variable(s) as mediator and explicitly analyzed the mediation effect. In this regard, an "ideal study" testing the assumptions of transformational leadership would (a) incorporate a repeated-measures design powerful enough to capture enduring change in the follower; (b) measuring specific, theoretically posited follower changes; and (c) modeling follower change as a mediating mechanism explaining the relationship between transformational leaders and work outcomes.

Results

Table 2 presents a visualization of empirical evidence related to the assumptions of transformational leadership theory. Surprisingly, of the 320 primary empirical studies on transformational leadership from our literature search, only 35 studies (11%) directly assessed at least one assumption. Notably, we were only able to locate two studies that assessed elements of all three assumptions.

Tests of all three assumptions

In a field study of employees from a large multinational bank in Hong Kong, Schaubroeck et al. (2016) used a three-wave longitudinal design to explore whether employees' changes in beliefs about the benefits of customer service (proxy for value internalization) and perceived behavioral control (proxy for self-efficacy) mediated the effects of transformational leaders on employee work performance. Overall, Schaubroeck et al. (2016) found support for the assumption that transformational leaders change followers in specific and enduring ways. However, the authors only found partial support for the assumption that follower transformation explained the link between transformational leaders and job performance; the test of mediation was significant for follower value internalization, but not self-efficacy.

In another longitudinal field study involving multiple observations of follower psychological variables over time, Tims et al. (2011) assessed the extent to which transformational leaders impact followers' daily self-efficacy and optimism levels. Data on followers were collected over five consecutive days. While followers' perceptions of transformational leaders were found to be positively related to follower day-level optimism, the same effect was not observed for follower self-efficacy. In testing the mediating effects of these follower psychological variables, support was found only for follower optimism to serve as a mediator for the relationship between transformational leaders and follower work engagement.

Across the two direct tests of all three assumptions of transformational leadership theory, both studies failed to support the importance of follower self-efficacy. Equally important is that neither study tested the importance of follower collective identification in relation to transformational leaders. It must be noted, however, that theory-testing is a collective effort; our goal is to assess whether the field, as a whole, has sufficiently scrutinized the assumptions of transformational leadership theory. In this regard, along with the two above-mentioned studies, we were able to identify four additional studies that tested the first assumption regarding the dynamic nature of transformational

Table 2

Summary of primary empirical studies on transformational leadership (n = 320).

Research design	Follower transformation variable				No follower transformation variables n = 185 (57.8%)	
	Bass mediators n = 26 (8.1%)		Other mediators n = 109 (34.1%)			
	Tested Mediation	Tested Mediation	Tested Mediation	Tested Mediation		
	<u>Yes</u> n = 20 (6.3%)	<u>No</u> n = 6 (1.9%)	<u>Yes</u> n = 68 (21.3%)	<u>No</u> n = 41 (12.8%)		
Longitudinal n = 6	n = 2 (0.6%) Schaubroeck et al. (2016) Tims et al. (2011)	n = 0 (0%)	n = 2 (0.6%) Breevaart et al. (2016) Breevaart & Zacher (2019)	n = 2 (0.6%) Bono et al. (2007) Breevaart et al. (2014)		
Two-Wave n = 7	n = 1 (0.3%) Hannah et al. (2016)	n = 1 (0.3%) Dvir et al. (2002) ^a	n = 1 (0.3%) Lyons & Schneider (2009) ^a	n = 4 (1.2%) Barling et al. (1996) ^a Bommer et al. (2005) Hardy et al. (2010) ^a Hill et al. (2012)		
One-Wave, Temporal Separation n = 11	n = 3 (0.9%) Walumbwa et al. (2008) Walumbwa & Hartnell (2011) Wang & Howell (2012)	n = 0 (0%)	n = 8 (2.5%) Braun et al. (2013) Duan et al. (2017) Jung & Avolio (2000) ^a Kovjanic et al. (2012) Lorinkova & Perry (2019) Nübold et al. (2013) ^a Tucker et al. (2010) Zhang et al. (2011)	n = 0 (0%)		
One-Wave, One Time	n = 14 (4.4%) n = 111	n = 5 (1.6%)	n = 57 (17.8%)	n = 35 (10.9%)		

Note. Top left region represents studies that simultaneously test all three assumptions. Region along the diagonal represents studies that tested at least one assumption.

^a Experimental study.

leadership, but did so by testing mediators beyond those proposed by Bass.

Tests of Assumption 1

In a series of longitudinal field studies using daily diaries, Breevaart et al. (2014) found support for follower transformation in ways not theorized in previous transformational leadership literature. Breevaart et al. (2014) asked Norwegian naval cadets to complete daily diaries over a 34-day period. The researchers found evidence that follower perceptions of autonomy and social support are not only influenced by transformational leaders but that they also explain the association between transformational leaders and follower work engagement. In a follow-up study, Breevaart et al. (2016) relied on data collected from employees in the business service and healthcare sector once a week over the course of five consecutive weeks to extend the mediational pathway from transformational leadership to job performance through work engagement. A third study of employees from a large international brewer in the Netherlands again collected weekly measures of follower psychological variables over five weeks. This time, Breevaart and Zacher (2019) found followers' perception of transformational leaders to influence change in followers' trust in leaders.

In a final longitudinal study, utilizing experience sampling methodology where data were collected from health care workers four times daily for two weeks, Bono et al. (2007) found transformational leaders to positively impact change in followers' experience of positive emotions. On the other hand, transformational leaders had no impact on followers' experiences of negative emotions or reports of emotional regulation over time.

A few general observations regarding tests of the first assumption of transformational leadership theory deserve attention (see Table 2). First, of the 135 articles that directly measured variables associated with follower transformations, 111 (82%) relied on a measure of

follower transformation captured at a single time point and measured the transformational leadership variable at the same time. Second, across the 11 studies where researchers temporally separated measurement of leaders and followers and the 13 studies where repeated measurements were used to capture changes in the follower, results were generally supportive of the assumption that transformational leaders transform followers. Table 3 provides an overview of each of the longitudinal studies discussed above along with studies that employed either quasi-longitudinal or experimental research designs. This table includes only the 24 studies in our review that included tests capable of capturing or inferring change. Of the 51 distinct tests of follower psychological variables measured in a way that either directly captures change (e.g., repeated-measures) or allows for an inference of change (e.g., temporal separation), 33 (65%) were statistically significant in the hypothesized direction. Therefore, we find partial support or Assumption 1.

One potential moderator of this association may be the unit of time over which the relationship was observed. The separation of time between measures of transformational leaders and follower psychological variables ranged from minutes (Lyons & Schneider, 2009) to hours (Bono et al., 2007) to days (Tims et al., 2011) to weeks (Breevaart et al., 2016) to months (Schaubroeck et al., 2016). Of the four studies that tested the first assumption using repeated measures to assess changes in follower psychological variable(s) over the span of more than 6 months, two found support whereas two did not.

Tests of Assumption 2

The second assumption of transformational leadership theory refers to the specific ways that followers are expected to change according to Bass's dominant transformational leadership paradigm. While an abundance of articles use the mediating mechanisms proposed by Bass's theory-building work—collective identity, value internalization, and

Table 3

Studies from the systematic review of transformational leadership according to the three assumptions of transformational leadership theory.

Study	Assumption #1: Studied follower change				Bass Mediators			Assumption #2: Change in follower psychological variable		Assumption #3: Tested whether change in follower explains the effects of TFL				
	Authors	Sample	Y?	Type of study	# of observ.	ID	VI	SE	Studied variable	Time between first and last measurement	TFL predicts change in studied variable	Y?	Outcome	Findings
Barling et al. (1996)	20 bank managers from different regional branches of a national bank in Canada	✓	Two-wave pre- and post-intervention field experiment	2					Organizational commitment	5 months	Supported			
Bommer, Rich, & Rubin (2005)	372 employees from three manufacturing firms in Midwestern United States	✓	Two-wave field study	2					Cynicism about organizational change (-)	9 months	Supported			
Bono et al. (2007)	54 ambulatory healthcare employees	✓	Longitudinal field study	40					Feeling positive emotions	2 weeks	Supported			
									Feeling negative emotions	2 weeks	Not supported			
									Faking positive emotions	2 weeks	Not supported			
									Hiding negative emotions	2 weeks	Not supported			
Braun et al. (2013)	360 employees from 39 academic teams (e.g., postdocs, Ph.D. students, technical assistants)		One-wave, temporal separation field study	1					Trust in the team	6 weeks	Supported	✓	Job satisfaction	Support for trust in the team as mediator of the relationship between TFL and follower job satisfaction. No support for trust in the team as mediator the relationship between TFL and team performance
													Team performance	Trust in the supervisor was also examined as a mediator. However, this variable was assessed at the same time as follower perception of TFL
Breevaart et al. (2016)	57 employees from companies in the business service or the healthcare sector	✓	Longitudinal field study	5					Work engagement	5 weeks	Supported	✓	Performance	Follower work engagement mediated the positive relationship between TFL and follower job performance

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Table 3 (continued)

Study		Assumption #1: Studied follower change			Bass Mediators			Assumption #2: Change in follower psychological variable		Assumption #3: Tested whether change in follower explains the effects of TFL			
Authors	Sample	Y?	Type of study	# of observ.	ID	VI	SE	Studied variable	Time between first and last measurement	TFL predicts change in studied variable	Y?	Outcome	Findings
Breevaart et al. (2014)	61 naval cadets from a Norwegian Military University College	✓	Longitudinal field study	34				Perceived autonomy	34 days	Supported	✓	Work engagement	Follower perceived autonomy mediated the positive relationship between TFL and follower work engagement
								Perceived social support	34 days	Supported			Follower perceived social support mediated the positive relationship between TFL and work engagement
Breevaart and Zacher (2019)	59 employees from a large international brewer in the Netherlands	✓	Longitudinal field study	5				Trust in leader	5 weeks	Supported			
Duan et al. (2017)	394 employees from private companies in finance, technology, food, and manufacturing industries in China		One-wave, temporal separation field study	1				Voice role perception	2 months	Supported	✓	Voice behavior	"transformational leaders elicited higher levels of leaders' voice expectation, which indirectly facilitated voice behavior through employee voice role perception" (p. 663)
Dvir et al. (2002)	90 direct and 724 indirect subordinates in Israel Defense Forces infantry	✓	Two-wave pre- and post-intervention field experiment	2	✓	✓	✓	Self-efficacy	6 months	Not supported			
								Collectivistic orientation	6 months	Not supported			
								Critical independent approach	6 months	Not supported			
								Extra effort	6 months	Not supported			
								Active engagement	6 months	Not supported			
								Internalization of moral values	6 months	Not supported			
								Self-actualization needs	6 months	Not supported			

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Table 3 (continued)

Study		Assumption #1: Studied follower change			Bass Mediators			Assumption #2: Change in follower psychological variable		Assumption #3: Tested whether change in follower explains the effects of TFL			
Authors	Sample	Y?	Type of study	# of observ.	ID	VI	SE	Studied variable	Time between first and last measurement	TFL predicts change in studied variable	Y?	Outcome	Findings
Hannah et al. (2016)	357 United States Army infantry personnel	✓	Two-wave field study	2	✓	Value internalization	~14 weeks	Supported	✓	Performance (leader-rated)	Follower value internalization and self-efficacy both mediated the positive relationship between TFL and leader-rated follower performance	Support for follower value internalization as mediator of the relationship between TFL and peer-rated follower performance. No support for follower self-efficacy as mediator of the relationship between TFL and peer-rated follower performance	Follower value internalization and self-efficacy both mediated the positive relationship between TFL and leader-rated follower performance
Hardy et al. (2010)	85 UK Royal Marine recruits	✓	Two-wave time-series field experiment	2		Self confidence	10 weeks	Not supported					
						Resilience	10 weeks	Not supported					
						Satisfaction	10 weeks	Not supported					
Hill et al. (2012)	531 government agency employees	✓	Two-wave field study	2		Affective commitment to change	12 months	Not supported					
Jung and Avolio (2000)	194 students from upper business courses at a public university in Northeastern United States		Postintervention-only experimental study	1		Normative commitment to change	12 months	Not supported					
						Trust in the leader	~2 hours ^b	Supported	✓	Objective performance	Follower trust in the leader mediated the relationship between TFL on follower performance and satisfaction with the leader		
						Value congruence	~2 hours ^b	Supported		Satisfaction with the leader	Follower value congruence mediated the relationship between TFL on follower performance and satisfaction with the leader		

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Table 3 (continued)

Study		Assumption #1: Studied follower change			Bass Mediators			Assumption #2: Change in follower psychological variable		Assumption #3: Tested whether change in follower explains the effects of TFL			
Authors	Sample	Y?	Type of study	# of observ.	ID	VI	SE	Studied variable	Time between first and last measurement	TFL predicts change in studied variable	Y?	Outcome	Findings
Kovjanic et al. (2012)	442 employees from multiple organizations in Switzerland		One-wave, temporal separation field study	1				Autonomy need satisfaction	4 weeks	Supported	✓	Job satisfaction	All three mediators mediated the relationship between TFL and follower job satisfaction
								Competence need satisfaction	4 weeks	Supported		Occupational self-efficacy	Follower competence need satisfaction mediated the relationship between TFL and follower occupational self-efficacy
								Relatedness need satisfaction	4 weeks	Supported		Commitment to the leader	Follower relatedness need satisfaction mediated the relationship between TFL and follower affective commitment to the leader
Lorinkova and Perry (2019)	260 employees of a large skilled trade company in mid-Atlantic United States		One-wave, temporal separation field study	1				Helping behavior ^a	2 weeks	Supported	✓	Group performance	Follower helping behavior mediated the relationship between TFL and group performance
								Felt obligation to work unit	2 weeks	Supported			Follower felt obligation to the work unit mediated the relationship between TFL and group performance
Lyons and Schneider (2009)	214 students from a Midwestern university in United States	✓	Two-wave pre- and post-observation lab experiment	2				Positive affect Negative affect	3 minutes ^b 3 minutes ^b	Not supported Not supported	✓	Performance (objective)	Leadership style had a direct rather than an indirect influence on task performance.
			Postintervention-only lab experiment	1			✓	Social Support Task-specific self-efficacy	3 minutes ^b 3 minutes ^b	Supported Supported			
Nübold et al. (2013)	81 students from various study disciplines		Postintervention-only lab experiment	1				Motivation (Objective)	Not reported	Supported	✓	Objective performance	TFL interacts with follower state core self-evaluations to influence follower performance. The effects of TFL on follower performance through follower motivation alone was not supported

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Table 3 (continued)

Authors	Study	Assumption #1: Studied follower change			Bass Mediators			Assumption #2: Change in follower psychological variable			Assumption #3: Tested whether change in follower explains the effects of TFL		
		Sample	Y?	Type of study	# of observ.	ID	VI	SE	Studied variable	Time between first and last measurement	TFL predicts change in studied variable	Y?	Outcome
Schaubroeck et al. (2016)	124 bank tellers from multiple branches of a large multinational bank in Hong Kong	✓ Longitudinal field study	3	✓	Behavioral beliefs	~12 months	Supported	✓	Service quality adherence	Follower behavioral beliefs mediated the relationship between TFL and follower service quality adherence. No support for follower perceived behavioral control as mediator	Performance	Follower behavioral beliefs mediated the relationship between TFL and follower performance. No support for follower perceived behavioral control as mediator	No support for follower perceived behavioral control as mediator
Tims et al. (2011)	42 employees from two consultancy agencies in the Netherlands	✓ Longitudinal field study	5	✓	Self-efficacy	5 days	Not supported	✓	Work engagement	No support for follower self-efficacy as mediator of the relationship between TFL and follower work engagement	Support for follower optimism as mediator of the relationship between TFL and follower work engagement	Support for follower optimism as mediator of the relationship between TFL and follower work engagement	No support for follower self-efficacy as mediator of the relationship between TFL and follower work engagement
Tucker et al. (2010)	183 team members from multiple teenage ice hockey teams	One-wave, temporal separation field study	1	✓	Team aggression (-) ^a	~4 months	Supported	✓	Player aggression (-)	Team aggression mediated the negative relationship between coach's TFL and player aggression	Performance	Follower identification with the work unit mediated the relationship between TFL and supervisor rated follower performance	Follower self-efficacy mediated the relationship between TFL and supervisor rated follower performance
Walumbwa et al. (2008)	437 bank employees	One-wave, temporal separation field study	1	✓	Identification with the work unit	6 to 9 months	Supported	✓	Performance	Follower identification with the work unit mediated the relationship between TFL and supervisor rated follower performance	Follower self-efficacy mediated the relationship between TFL and supervisor rated follower performance	(continued on next page)	No support for follower self-efficacy as mediator of the relationship between TFL and follower work engagement

Table 3 (continued)

Study		Assumption #1: Studied follower change			Bass Mediators			Assumption #2: Change in follower psychological variable		Assumption #3: Tested whether change in follower explains the effects of TFL			
Authors	Sample	Y?	Type of study	# of observ.	ID	VI	SE	Studied variable	Time between first and last measurement	TFL predicts change in studied variable	Y?	Outcome	Findings
Walumbwa and Hartnell (2011)	426 employees from a large automobile dealership	One-wave, temporal separation field study	1					Identification with the leader	3 weeks	Supported	✓	Performance	Follower identification with the leader partially mediated the relationship between TFL and supervisor rated follower performance
								✓ Self-efficacy	6 weeks	Supported			Follower self-efficacy partially mediated the relationship between TFL and supervisor rated follower performance
Wang and Howell (2012)	200 employees from multi-industry company in Canada	One-wave, temporal separation field study	1	✓				Group identification	2 weeks	Supported	✓	Group performance	Group identification did not mediate the relationship between TFL and group performance
								Leader identification	2 weeks	Supported		Collective Efficacy	Group identification fully mediated the relationship between TFL and collective efficacy
Zhang, Tsui, and Wang (2011)	973 employees from twelve Chinese companies	One-wave, temporal separation field study	1					Knowledge sharing ^a	1 month	Supported	✓	Group creativity	Leader identification fully mediated the relationship between TFL and follower individual performance
								Collective efficacy	1 month	Supported		Empowerment	Leader identification fully mediated the effects of TFL on follower empowerment

Note. TFL = Transformational leaders; ID = identification with the collective or leader; VI = value internalization; SE = self-efficacy

^a Not a psychological mediator

^b Length of experimental session

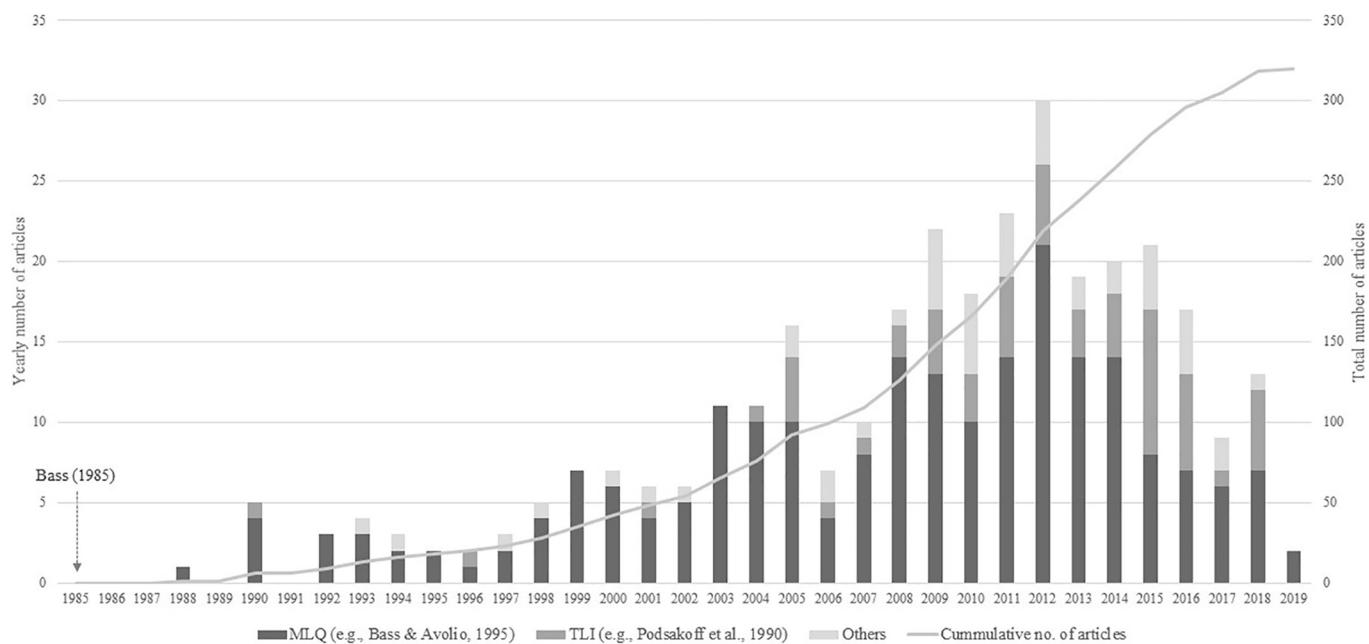


Fig. 1. Empirical research on transformational leadership by year since Bass's conceptualization.

Note. Numbers represent articles obtained from 25 journals.

self-efficacy—to ground extensions of transformational leadership theory to novel research questions (see, for instance, Chun, Cho, & Sosik, 2016; Kang, Solomon, & Choi, 2015; Nahum-Shani & Somech, 2011; Nemanich & Keller, 2007; Richardson & Vandenberg, 2005), in relatively few articles are these variables directly measured rather than assumed (26 out of 320 studies, or around 8%). Moreover, only eight of these studies employed a research design that involves either repeated-measures of follower transformation variables or temporal separation with measures/manipulations of transformational leaders, (three tests of collective identification, three tests of value internalization, and seven tests of self-efficacy).

In the only study to simultaneously explore all three of Bass's proposed follower psychological transformations, Dvir et al. (2002) conducted a field experimental study to assess the extent to which military leaders in Israel's Defense Forces who completed transformational leadership training would transform infantry subordinates. Their findings failed to support the second assumption concerning follower transformation. In fact, infantry personnel supervised by leaders who attended the transformational leadership intervention regressed in several of their personal developments over the 6-month timeframe.

On the other hand, Hannah et al. (2016) utilized a two-wave, repeated-measures field study design to explore the impact of transformational leadership on United States Army infantry personnel's value internalization and self-efficacy. Over the 14-week study window, Hannah et al. (2016) found evidence that not only did transformational leaders positively influence the development of these two follower psychological variables, but both self-efficacy and value-internalization mediated the relationship between transformational leaders and leader-rated followers' infantry performance.

Summarizing the set of articles from Table 3, we find a general lack of support for the second assumption. Considering the four studies that rely on repeated-measures field study or experimental research designs to study Bass's proposed follower psychological transformation, the only one to explore collective identification (Dvir et al., 2002) failed to find support. Of the three that assessed value internalization, again one (Dvir et al., 2002) failed to find support. Finally, two of the four (Dvir et al., 2002; Tims et al., 2011) assessments of follower self-efficacy were not supported.

Consistent with the notion that the field is in a mature stage of

theory development where theory extensions outpace tests of theory assumptions, the majority of articles that empirically assess follower change explore novel follower psychological variables (109 studies) as opposed to those proposed by Bass during early stages of theory development (26 studies). In Table 3 alone, 34 different follower psychological variables are explored, including trust in leader (Breevaart & Zacher, 2019), felt obligation to the work unit (Lorinkova & Perry, 2019), and work engagement (Breevaart et al., 2016).

Tests of Assumption 3

Only seven out of 320 primary empirical studies on transformational leadership from our literature search directly test the third assumption: that the specific, enduring follower transformations explain a pathway through which transformational leaders produce positive work outcomes. While the results for value internalization and collective identification are generally supportive of this assumption, self-efficacy plays a more tenuous role. In four cases (Hannah et al., 2016; Lyons & Schneider, 2009; Schaubroeck et al., 2016; Tims et al., 2011), researchers failed to find support for the role of this follower psychological variable.

Discussion

Our systematic literature review revealed a relative dearth of empirical attempts to validate all three major assumptions of the follower transformation linchpin of transformational leadership theory. Moreover, the limited evidence that does exist raises serious concerns with several generally accepted components of this theory. In light of our results, it is clear that we have not tested this theory with sufficient rigor and face inadequate evidence to justify paradigm consensus.

The distribution of studies in Table 2 emphasizes transformational leadership's status as what Edmondson and McManus (2007) refer to as *mature-stage theory development*. This should come as no surprise given the theory's rich, forty-year history. We would, thus, expect the observation that the majority of recent empirical investigations build upon paradigm consensus by extending the domain of mediating mechanisms and outcomes associated with transformational leaders.

To further explore the historical development of this theory, we

present a visual depiction of the accumulation of empirical transformational leadership research in Fig. 1. Counter to expectations based on Edmondson and McManus's (2007) evolution of theory development was the anachronistic nature of the limited evidence that does exist regarding theory assumptions. Instead of testing assumptions early in the lifecycle of transformational leadership theory, in what Edmondson and McManus refer to as *intermediate-stage theory development*, almost all tests of assumptions related to the linchpin of follower transformation occurred in the last decade. In fact, of the 24 articles that measure variables related to follower transformation with a research design that captures change through either repeated-measures or temporal separation, only two were published during the 20-year period following publication of Bass's influential development of the modern paradigm of transformational leadership.

Our review paints a picture of a radical leap from nascent theory to universally accepted paradigm, where the predictive power of the theory overshadowed its explanatory power. Our critical evaluation of the linchpin of transformational leadership raises significant concerns about previous interpretations and future applications of this theory. Applying Kuhn's (1970) philosophical work on the structure of scientific revolutions, the transformational leadership literature seems to be in a crisis of confidence. As such, we recognize the need for an intervention characterized by directly confronting four difficult questions:

Is transformational leadership dead?

Before offering a proposed agenda for future research, we must first tackle the question: "is there a future in transformational leadership research?" Fig. 1 presents disconcerting trends regarding recent scholarship and the outlook of this leadership theory. First, following a period of exponential growth in the 1990s and 2000s, annual publications of empirical transformational leadership peaked in 2012. Over the last three years, the rate of publication has declined by over 50%. Moreover, while paradigm consensus at the theory-level remains strong, there appears to have been a substantive shift away from—rather than towards—paradigm consensus at the operational-level. No fewer than thirteen different operationalizations of transformational leadership were identified in our literature review. In 2004, more than 86% of empirical studies utilized a single measure of transformational leaders—the MLQ. By 2019, the number has decreased year-over-year to 68%.³ One might identify rational explanations for these trends. For instance, it could be that access to free, publicly available, and psychometrically sound measures of transformational leadership (e.g., Transformational Leadership Inventory; Podsakoff et al., 1990) have spurred the relative decline in MLQ popularity. However, it is hard to ignore the role that scathing criticisms of fundamental flaws in transformational leadership theory in conjunction with the introduction of newer, shinier leadership constructs have played in this precipitously declining trend. If transformational leadership is not dead, it is surely dying. If steps are not taken to address the conditions responsible for its decline, a full recovery to previous levels of activity seems a foolish prognosis.

Should we revive transformational leadership theory?

Given the issues raised in this and other reviews, we must consider

³ A further analysis of trends in operationalizations of transformational leadership warrants two observations. First, the decline in MLQ-usage was almost entirely offset by an increase in usage of Podsakoff et al.'s (1990) Transformational Leadership Inventory; no other operationalization of transformational leadership has been used in more than 2% of empirical studies of transformational leadership. Second, even when researchers use measures other than the MLQ, they often convert non-MLQ measures into the dimensional labels used by the MLQ or suggest scale equivalence (e.g., Hill et al., 2012; McColl-Kennedy & Anderson, 2002; Parr, Hunter, & Ligon, 2013; Seo et al., 2012).

the rationality in attempting to salvage transformational leadership theory. On the one hand, as Merton (1973) noted, the hallmark of science is in its self-correction in the pursuit of truth and knowledge. On the other hand, there is a sea of difference between correcting a single scientific claim and correcting a theory that enjoyed paradigm consensus for more than twenty years and has been referenced or directly tested in nearly all leadership scholarship outlets to date. Even if possible, reviving transformational leadership theory will involve a Herculean effort.

Up to this point, our findings and recommendations dovetail with van Knippenberg and Sitkin's (2013) critique of transformational leadership. Here, we note a first significant divergence. Weighing the damages, van Knippenberg and Sitkin (2013) recommend completely abandoning transformational leadership. We wonder whether such an approach represents "throwing the baby out with the bathwater". If it can be salvaged, we see redeeming qualities in the underlying foundation of transformational leadership theory as an explanation for the process through which leaders play a role in transforming followers into qualitatively superior employees. As Lewin (1943) famously quipped, "there is nothing as practical as good theory". It is our perspective that transformational leadership, as envisioned by Burns, is a good theory that has been part of the collective consciousness of organizational science for decades. This is perhaps due to the parsimony of its sentiment that leaders can transform followers, ultimately aligning the goals of the followers with the goals of the collective organization to incite greater performance at individual, group, and organizational levels. The foundation of transformational leadership theory—elegant in its simplicity—is strong. Yet our review highlights significant concerns with the structural integrity of the levels built upon its foundation, in particular, the specification and operationalization of (a) leader behaviors that elicit follower transformation and (b) systematic ways in which followers are transformed.

Reviews of similar leadership theories—most saliently, authentic leadership (see Gardner, Cogliser, Davis, & Dickens, 2011) and servant leadership (see Van Dierendonck, 2011)—have highlighted these fields' difficulties progressing to mature-stage research due to the proliferation of parallel perspectives, propositions, and operationalizations during early stages of theory development (Gardner et al., 2011; Van Dierendonck, 2011). Despite the growing pains associated with the maturation process, alternative perspectives can create a "survival-of-the-fittest" research mentality which fosters opportunities for discovery and pruning weak ideas through competition for empirical support (Kuhn, 1970). We note that the transformational leadership field suffers from diametric issues: not enough competition of ideas and acceptance of major assumptions at face value. While we take the stance that transformational leadership is "good theory", we question whether we have satisfied along the way by bypassing the conflict often associated with typical early-stage research paradigms.

Can we revive transformational leadership theory?

van Knippenberg and Sitkin (2013)'s criticisms rest on their assertion that it is impossible to disentangle operationalizations of transformational leader behaviors from the process of transformational leadership. A second significant diversion from their critique is that we see disentanglement as a difficult but necessary step to reviving transformational leadership. One doesn't have to stray far from the transformational leadership literature to identify an example of scholars working through the labors of reviving a construct that suffers from the lack of a clear separation between the attributes and behaviors of leaders and their theorized outcomes (Antonakis et al., 2016; van Knippenberg & Sitkin, 2013; Yukl, 1998, 1999). Using signaling theory as the foundation, Antonakis et al. (2016) re-conceptualized charisma as a set of signals, thus offering a more precise definition of charisma without the tautological risks inherent in previous definitions. Transformational leadership historically faces similar threats to its validity.

Antonakis et al. (2016) write, "Charisma is a values-based, symbolic, and emotion-laden leader signaling" (p. 310), thus strategically separating the intent of the leader from the real effect. Such segregation of leader behavior from the influence the leader actually wields is additionally noted in research detailing the process through which individuals claim leadership via behaviors and others grant those individuals leadership due in part to perceptions of effective influence (DeRue & Ashford, 2010). We must not forget that while follower transformation is central to transformational leadership, so too is the leader.

A final significant departure from van Knippenberg and Sitkin (2013) is that where they offer a description of major flaws in transformational leadership theory, we suggest reasons for the why these issues arose. Importantly, embedded in the "why's" are opportunities to address these flaws:

- If the transformational leadership field made a radical leap from nascent theory to mature-stage research, then we need to change course by mandating a moratorium on extending transformational leadership theory until we accumulate sufficient evidence of the major theory propositions regarding follower transformation.
- If new evidence fails to support major propositions of transformational leadership theory, then we need to revert to nascent-stage research characterized by qualitative studies and iterative theory-building efforts.
- If we are revising major tenets of transformational leadership theory, then we need to make sure revisions address current shortcomings, most notably, conceptual ambiguity regarding the distinction between the process of transformational leadership and the qualities/actions of transformational leaders.
- If new theory is constructed, then we need to focus on devising and testing new operationalizations of theory constructs.

These suggestions are grounded in a systematic, deliberate de-evolution (from mature to intermediate to nascent) and subsequent re-evolution through Edmondson and McManus's (2007) conventional stages of theory development.⁴ Through this journey, we are afforded the luxury of being able to learn from previous gaffes by valuing longitudinal research designs that allow for direct tests of follower transformation and assuring that the challenges of each developmental stage are met before advancing to the aims of subsequent stages. Admittedly, this is easier said than done.

How do we revive transformational leadership theory?

In this section, we offer several specific avenues of future research that could contribute to tearing transformational leadership down to its foundation and rebuilding stronger theory, better measures, and more actionable leader and leadership models. Until the major transformational leadership issues are rectified and new paradigm consensus is achieved, we think it is prudent to refrain from theory-extension research grounded in untested assumptions regarding both the

⁴ While Edmondson and McManus (2007) offer a useful prescriptive approach to paradigm development, we note that scientific philosopher Thomas Kuhn presents a more descriptive account of how "normal science" occurs. In his treatise on scientific revolution, Kuhn (1970) suggests that once researchers accept a paradigm, they typically take theoretical assumptions for granted until a crisis of confidence occurs. At that stage, scientists either probe assumptions until the crisis is resolved or abandon the paradigm for new paradigms, resulting in scientific revolution. Both approaches lead to a similar explanation for the current state of affairs uncovered in this review (insufficient evidence for paradigm assumptions) and offer a similar call to action to address anomalies that have been uncovered. However, according to Kuhn, the history of transformational leadership scholarship is closer to the norm than an exception. We thank an anonymous reviewer for pointing this out.

operationalization of transformational leaders and the process of follower transformations.

The most obvious extension of this literature review is the need for rigorous tests of paradigm assumptions. Our literature review is meant to guide researchers regarding choices related to research design, study variables, and analytic strategies. In particular, we hope that as future research drawing on longitudinal and experimental designs and modeling changes in follower's collective identification, value internalization, and self-efficacy accumulate, the field can better assess anomalies in the transformational leadership paradigm. A meta-analysis of the transformational leadership process model would be an excellent way to probe major paradigm assumptions.

While our review differs from previous critiques in terms of its focus on the follower transformation process rather than transformational leader attributes and behaviors, it must be stated that rebuilding confidence in transformational leadership theory will require rectifying both issues. If, for instance, the MLQ and other measures of transformational leader dimensions are flawed, then interpreting evidence for follower transformation (based on associations between these flawed instruments and Burns' mediating mechanisms) is ill-advised.⁵ In this regard, we suggest that even testing the assumptions of transformational leadership theory (as suggested above) may be premature. Instead, we call for a return to the nascent-stage of theory development, characterized by the application of inductive research methodologies.

In returning to the nascent stage, our goal would be to re-examine the intrapersonal and interpersonal dynamics between leaders and followers with a focus on (a) the ways that followers are transformed and (b) the behaviors that induce these transformations. A key advantage of going back to the nascent stage is that it requires the use of inductive research. Inductive studies would be particularly beneficial to the criticisms we present in this review because they allow researchers to capture and flesh out follower psychological variables that reflect the critical and enduring changes initiated by transformational leaders. These may include observations of leader-follower interactions to identify transformational leader behaviors and interviews with followers to pinpoint the ways in which followers internalize the transformational efforts of their leaders. By applying grounded theory (Glaser & Strauss, 1967), transformational leadership scholars would stay as close to the natural phenomenon as possible, allowing themes to emerge organically. Through an inductive study of this theory, we may find that follower psychological variables alternative to the three that were originally theorized are transformed by leaders and new relationships among transformed variables more deeply explain how leaders transform their followers. Further, utilizing "member checks" (asking informants to read and provide feedback on grounded theory coding system) is the first obstacle to validity of this revived transformational leadership.

Another primary advantage of the grounded theory is the iterative approach between qualitative data and the literature because it can situate emerging concepts within the nomological framework of existing constructs. Doing so allows for inclusion of previously identified ways in which followers transform. For example, Bommer, Rich, and Rubin (2005) found that transformational leadership was able to reduce their followers' cynicism about organizational change. Moreover, Duan et al. (2017) found that by strengthening follower perceptions that their voices mattered, transformational leaders were able to increase their likelihood that their followers would engage in voice behavior.

Perhaps an ideal nascent study to investigate follower transformations and begin to examine attributes and behaviors of transformational leaders is through a longitudinal qualitative diary study wherein participants are prompted to reflect each evening on daily experiences with their leader (Gover & Duxbury, 2018, for example of a longitudinal qualitative study). Such a study design presents an opportunity to

⁵ We thank an anonymous reviewer for pointing this out

unveil how followers internalize the values espoused by the transformational leaders over time. Research on learning and development demonstrate that internalization may not be a one-time phenomenon; instead, repetition and practice encourage the internalization process (e.g., Moulton et al., 2006). Qualitative research, including a series of interviews or daily/weekly diary studies, are particularly advantageous in capturing this type of information.

Of course, in their daily reflections, followers would also identify particularly influential leader behaviors, allowing us to expand and refine our conceptualization of a transformational leader. In a similar example, Egri and Herman (2000) interviewed more than 70 leaders, conducted a content analysis of the responses and while they identified the notable "four I's," they also found evidence of additional transformational leader behaviors including collaboration, empowerment, and two-way communication. While these scholars used self-reported leadership styles, it is still illustrative of the opportunities for transformational leadership scholarship provided by inductive research.

A solid foundation built via grounded theory provides the stability for transformational leadership theory to evolve. The next hurdle for this theory is to replicate and extend the relationships found using inductive research. Though this review does raise awareness that replications of transformational leadership assumptions are lacking, it does not address more systemic problems related to the lack of incentives to publish replications. As Koole and Lakens (2012) note, unless journals become more open to publishing replications and scholars begin citing replications, there is little incentive for researchers to allocate efforts to replication studies. In this regard, we applaud recent efforts from editors of management science journals to communicate the value of replications and create avenues for replication studies to be published (e.g., Antonakis, 2017a, 2017b; Bamberger, 2019).

Scholars also need to test and refine main assumptions on the path to new paradigm consensus. Mixed-methodologies are best equipped to do this. An example mixed-method study focusing on follower transformation would test potential mediators identified via inductive studies, complementing traditional quantitative approaches to theory-testing with qualitative interviews to open up the black box of follower transformation. Rarely have we considered the dynamic process through which follower transformation occurs.

A hallmark of these types of studies (intermediate studies; Edmondson & McManus, 2007) is the integration of distinct and relevant theories to help explain previously or currently unexplainable processes and organize theoretical predictions. Scholars have previously recommended theories such as social learning theory (Bandura, 1977), social exchange theory (Blau, 1964; Graen & Uhl-Bien, 1995), and social identity theory (Ashforth & Mael, 1989) to explain why transformational leader behaviors result in positive follower psychological changes. Inherent in these are social experiences and while there is no doubt that leadership is interactive, the effects of leadership, those Bass and others have proposed transform followers, are likely less intrapersonal and more interpersonal. This distinction introduces opportunities to integrate other established theories to further illustrate how leaders influence followers (see Kovjanic et al., 2012), such as self-regulation theory (Lord, Diefendorff, Schmidt, & Hall, 2010) and theories about emotions (e.g., affective events theory; Weiss & Cropanzano, 1996).

Addressing the myriad issues with this theory will be a time-consuming journey requiring a collaborative effort. However, we recognize the opportunity inherent in remodeling a theory with such a simple, intuitive, and practicable base. We hope that by drawing on previous leadership research, focusing on follower transformation as the nexus of our understanding of the transformational leadership process during nascent theory-building phases of research, and remaining cognizant of the important milestones in the development of theoretical paradigms, we may create a richer theory of transformational leadership.

Conclusion

In closing, our systematic literature review raises concerns about the development of transformational leadership theory and the lack of empirical evidence for fundamental assumptions regarding follower transformation. Given the current state of the literature, we hope to stimulate difficult conversations about the future of transformational leadership scholarship. The trajectory of the programmatic research efforts will depend on navigating through these issues.

Declaration of Competing Interest

All authors contributed equally to this work.

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Review

Functional leadership in interteam contexts: Understanding ‘what’ in the context of why? where? when? and who? [☆]

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ARTICLE INFO

Keywords:

Leadership
Boundary spanning
Group social capital
Multiteam systems
Intergroup relations

ABSTRACT

Research on team leadership has primarily focused on leadership processes targeted within teams, in support of team objectives. Yet, teams are open systems that interact with other teams to achieve proximal as well as distal goals. This review clarifies that defining ‘what’ constitutes functionally effective leadership in interteam contexts requires greater precision with regard to *where* (within teams, across teams) and *why* (team goals, system goals) leadership processes are enacted, as well as greater consideration of *when* and *among whom* leadership processes arise. We begin by synthesizing findings from empirical studies published over the past 30 years that shed light on questions of what, where, why, when, and who related to interteam leadership and end by providing three overarching recommendations for how research should proceed in order to provide a more comprehensive picture of leadership in interteam contexts.

The use of teams¹ in organizations is ubiquitous (Mathieu, Hollenbeck, van Knippenberg, & Ilgen, 2017), and thus, a primary function of organizational leadership is to facilitate team success (Kozlowski, Mak, & Chao, 2016; Morgeson, DeRue, & Karam, 2010). Prior research on team leadership has focused primarily on identifying functional (i.e., effective; McGrath, 1962) leadership processes and relationships *within* teams without considering the larger systems within which teams are embedded (c.f. Hogg, van Knippenberg, & Rast, 2012). However, no team is a ‘self-sufficient island’—teams must interact with and receive resources from their embedding environments in order to succeed (Ancona, 1990; Arrow, McGrath, & Berdahl, 2000; Kozlowski & Klein, 2000). Indeed, formal as well as informal team leaders often engage in boundary management activities to support their teams, such as acquiring external resources, promoting team

interests, or interpreting the embedding environment (Ancona, 1990; Roby, 1961; Yukl, 2012; Zaccaro, Rittman, & Marks, 2001), and leadership is also needed to influence collaborative efforts across interdependent systems comprised of multiple teams pursuing shared goals (Carter & DeChurch, 2014; Ernst & Chrobot-Mason, 2011, a; Ernst & Chrobot-Mason, 2011, b; Mathieu, Marks, & Zaccaro, 2001; Pittinsky & Simon, 2007; Zaccaro, Marks, & DeChurch, 2012).

Despite many calls for researchers to adopt an ‘external’ perspective to the study of team leadership by conceptualizing teams as “open systems entailing complex interactions with people beyond their borders” (Ancona, 1990, p. 335), research on leadership in *interteam contexts* is relatively rare. For instance, studies based on the leadership theories that have received the most research attention in recent decades (i.e., Transformational Leadership Theory and Leader-Member

* Authors' note: The development of this paper was supported in part by funding from the National Science Foundation (SES, #1853470, #1853404), the National Institutes of Health (NIH, #UL1TR002378), and the National Aeronautics and Space Administration (NASA, #80NSSC18K0511). We would like to thank Kristen Campbell for her assistance with identifying articles that were considered for inclusion in earlier versions of this paper.

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¹ In this paper, the term “teams” is used interchangeably with the term “groups”. We acknowledge that there are often important distinctions between teams and groups in terms of the level of internal interdependence among members and the differentiation of members’ tasks (Kozlowski & Ilgen, 2006). However, in the context of organizations, the similarities between teams and work groups are more relevant to the content discussed (i.e., members of both work groups and teams interact, pursue shared goals, see each other as members of the same collective, and are seen by others as members of the same collective; Ancona, 1990).

Exchange Theory [LMX]; c.f. Dinh et al., 2014), typically investigate the role of *intragroup* leadership processes and relationships for individuals and small groups. These studies seldom consider how the multilayered interdependencies inherent to interteam situations (i.e., interdependencies within as well as between teams; Kirkman & Harris, 2017) coupled with differences in the priorities, identities, and capabilities of different teams need to be managed in order to minimize intergroup conflict and maximize positive outcomes for specific teams and the larger systems they operate within.

The relative lack of research attention paid toward leadership in interteam contexts is unfortunate given that such contexts present serious challenges and tensions for leaders that go beyond the demands of leadership within isolated teams. For instance, leaders operating in interteam contexts often face trade-offs and competing demands and may choose to promote intrateam relations and team goals at the expense of interteam relations and system goals, or vice versa (Pittinsky & Simon, 2007). Interteam contexts may also require that leaders facilitate appropriate patterns of interactions between interdependent teams (Cummings & Kiesler, 2005; Luciano, DeChurch, & Mathieu, 2018) while avoiding ‘over collaboration’ between teams which can result in inefficiencies, role overload and decreased motivation (Cross, Rebele, & Grant, 2016; Davison, Hollenbeck, Barnes, Sleesman, & Ilgen, 2012; Marrone, Tesluk, & Carson, 2007). These tensions are not captured adequately by models of team leadership that focus primarily on leadership processes targeted within teams in support of team-level objectives.

We propose that defining ‘functional’ leadership becomes more complex when researchers shift from studying leadership within isolated teams to studying leadership in interteam contexts where teams are embedded in larger interdependent systems. As Fig. 1 illustrates, defining functional leadership in interteam contexts not only involves clarifying ‘**what**’ leaders are, or should be, doing (e.g., enacting specific leadership behaviors, facilitating certain processes, relationships, and shared psychological states), ‘**who**’ is leading (e.g., formal leaders, formal leadership teams, informal leaders) and ‘**when**’ (i.e., under which circumstances), the multi-level nature of interteam contexts also demands more consideration of ‘**where**’ leadership processes are targeted (e.g., within teams, across team boundaries) and ‘**why**’ (e.g., to support team outcomes, to support system outcomes).

Using this framework to guide our review, we evaluate the degree to which empirical studies of leadership and/or the targets of leadership (e.g., interaction processes; psychological states) published over the past 30 years have addressed questions of *why*, *where*, *what*, *who*, and *when* related to leadership in interteam contexts. Although most leadership studies have taken an ‘internal’ perspective, several burgeoning streams of research in areas such as *group boundary spanning* (e.g., Ancona & Caldwell, 1990; Tushman & Scanlan, 1981), *group social capital* (e.g., Oh, Chung, & Labianca, 2004), *boundary spanning leadership* (e.g., Benoliel & Somech, 2015), *intergroup leadership* (Pittinsky & Simon, 2007), and *multiteam systems* (e.g., Mathieu et al., 2001; Zaccaro et al., 2012) are heeding calls to incorporate an external perspective by

investigating leadership processes targeted across team boundaries. Indeed, our review reveals that researchers have provided many insightful answers to the five questions in Fig. 1.

However, we also identified a number of limitations, assumptions, and divisions which pervade the extant literature on leadership in interteam contexts. Prior research has tended to progress in divergent directions, as evidenced by researchers’ use of different terminology (e.g., *intergroup leadership*; Pittinsky, 2009; *multiteam leadership*; Zaccaro & DeChurch, 2012), examination of different types of interteam interactions (e.g., *ambassadorial activities*; (Ancona & Caldwell, 1992, b, 1992, a); *interteam coordination*; Davison, Hollenbeck, Barnes, Sleesman, & Ilgen, 2012), and focus on objectives at different collective levels of observation (e.g., *team-level*; Marrone, Tesluk, & Carson, 2007; *system-level*; DeChurch & Marks, 2006). Studies within disparate research streams are revealing different pieces of the larger puzzle of functional leadership in interteam contexts. Our review aims to bring these puzzle pieces together in order to provide a more comprehensive understanding of this important phenomenon. In closing, we offer three recommendations for how future integrative research might provide greater insight into how leaders (formal and informal) can navigate the tensions of interteam contexts and promote the success of *both* teams and the broader organizational systems teams operate within.

Review approach

The purpose of this review is to clarify the nature of functional leadership in interteam contexts, integrate and critically evaluate relevant findings from prior research, and identify promising areas for future inquiry. Broadly, leadership is defined as a “process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives” (Yukl, 2006, p. 8). Thus, leadership processes are situated in relation to specific individuals and/or collectives (*where is leadership targeted?*) and are enacted to facilitate specific objectives (*why is leadership enacted?*). As we depict in Fig. 2, these two questions of *where* and *why* are useful for organizing studies of leadership processes in intergroup contexts into four categories.

As shown in the first quadrant (**Category 1**) of Fig. 2, leadership processes might be targeted *within* teams (i.e., directly in relation to team members) in support of *team-level* objectives (e.g., team performance, viability, innovation). The vast majority of empirical studies of leadership fall within Category 1. Examples include studies of team leaders supporting team learning and adaptation (Edmondson, 1999; Kozlowski, Gully, McHugh, Salas, & Cannon-Bowers, 1996; Wageman, 2001), shared team leadership and team performance (Zhu, Liao, Yam, & Johnson, 2018), the effects of transformational leaders on the effectiveness of individuals and teams (Jung, Yammarino, & Lee, 2009), and the dynamic delegation of leadership responsibility within teams (Klein, Ziegert, Knight, & Xiao, 2006).

However, leadership processes targeted *across* team boundaries in support of *team-level* objectives (**Category 2**) as well as leadership

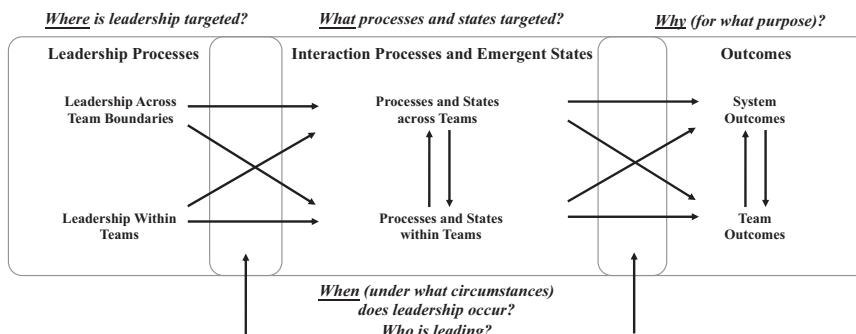


Fig. 1. Multi-level view of functional leadership in interdependent systems.

		Where?	
		Within Teams	Across Teams
Why?	Team Outcomes	Category 1: Internally-focused leadership for the team	Category 2: Cross-boundary leadership for the team
	System Outcomes	Influencing processes and states within teams to support team-level outcomes	Influencing processes and states across team boundaries to support team-level outcomes
Why?	Team Outcomes	Category 3: Internally-focused leadership for the system	Category 4: Cross-boundary leadership for the system
	System Outcomes	Influencing processes and states within teams to support system-level outcomes	Influencing processes and states across team boundaries to support system-level outcomes

Fig. 2. An organizing framework for studies of functional leadership in interteam contexts.

Note. Shaded boxes are the focus of the current review.

processes targeted within (**Category 3**) and across (**Category 4**) team boundaries in support of *system-level* objectives are also critical to organizational success. Many scholars have emphasized that ‘*external*’ or ‘*cross-boundary*’ leadership behaviors that connect teams to entities and resources in their embedding environments represent a critical category of functional leadership behaviors for teams ((Ancona & Caldwell, 1988, 1990); Balkundi & Harrison, 2006; Choi, 2002; Contractor, DeChurch, Carson, Carter, & Keegan, 2012; Elkins & Keller, 2003; Marrone, 2010; Oh, Labianca, & Chung, 2006; van Knippenberg, 2003; Yan & Louis, 1999; Yukl, 2012; Zaccaro et al., 2001). Further, many important objectives, including patient care (DiazGranados, Dow, Perry, & Palesis, 2014), disaster response (DeChurch et al., 2011), new product development (Marks & Luvison, 2012), and military operations (Davison, Hollenbeck, Barnes, Sleesman, & Ilgen, 2012), represent distal goals that require leadership processes to guide coordinated efforts within and across multiple teams (Mathieu et al., 2001).

Literature search

We used the 2×2 framework shown in Fig. 2 to guide our review of previous research on leadership in interteam contexts. In recent years, researchers have summarized studies of leadership processes targeted within teams in support of team objectives (Category 1) in multiple well-executed reviews of team leadership (e.g., Kozlowski et al., 2016; Mathieu et al., 2017; Morgeson et al., 2010) and specific leadership theories (e.g., LMX; Martin, Guillaume, Thomas, Lee, & Epitropaki, 2016; Transformational Leadership; Banks, McCauley, Gardner, & Guler, 2016; Wang, Oh, Courtright, & Colbert, 2011; shared leadership within teams; Zhu et al., 2018). Therefore, we focused our review on studies falling within one or more of the *other* three categories shown in Fig. 2.

The starting point for our literature search was 1990, corresponding with the appearance of articles calling for researchers to take an ‘*external*’ perspective to better understand the performance of teams (Ancona, 1990). To identify articles, we conducted a search across a variety of relevant online databases (Business Source Complete, ECONLit, E-Journals, Medline, PsycINFO, and Psychology and Behavioral Sciences Collection via the EBSCOhost research databases) for articles published between January 1990 and August 2019. We used this approach in order to ensure that we identified articles from a range of academic disciplines. We required that articles contain one or more of the following search terms in the abstract: inter-group or intergroup; inter-team or interteam; boundary spanning or boundary activity;

multi-team or multiteam; and between team(s). Additionally, we manually searched the reference sections of key publications (e.g., review articles, meta-analyses, empirical papers with high citation rates) on the topics of teams, multiteam systems, boundary spanning, and intergroup relations in order to identify additional articles. We limited the results of our search to peer-reviewed academic journals published in English. Our initial search yielded 2617 articles.

In the next step, we removed duplicate articles and conducted a *pre-screening process* of the articles’ titles and abstracts using the following inclusion criteria: (1) the research appeared to be an *empirical study* (i.e., qualitative/quantitative/mixed-methods); (2) the research investigated how *leaders* (formal and/or informal) (a) manage or engage in interaction processes across group boundaries (excluding the boundary between employees and customers), (b) affect intergroup relations, and/or (c) facilitate superordinate (interteam/system-level) outcomes, and/or the research investigated processes or psychological states that could be *targets* of cross-boundary leadership for team goals (Category 2) or leadership in support of system goals (Categories 3 & 4); (3) the research was conducted within a workplace context or a laboratory simulation of a workplace context; (4) the research focused on variables at the individual-, team-, and/or system-level of analysis (but were not studies of entire firms); and (5) the publication outlet’s impact factor was equal to or higher than 1.0 (based on the *Journal Citation Reports*, 2018). We chose this impact factor as an inclusion criterion to ensure that our review drew on studies that are generally representative of research in the field and met standardized criteria for research quality. Additionally, we excluded articles that did not consider outcomes at *collective* levels of analysis (e.g., studies showing that *individuals* who carry out boundary spanning activities gain personal benefits were excluded if they did not also discuss implications for collectives; e.g., Burt, 1992). Further, as the focus of this review is on cross-boundary leadership in the context of *work teams*, we followed the precedent of Hogg et al. (2012) and did not consider studies examining leadership across other demographic or social identity boundaries. This pre-screening process resulted in 407 articles of which 405 full texts were retrievable.

During the pre-screening process, we chose to err on the side of inclusion (based on information provided in the article title and abstract). In the final step of our process, the full text of each article was reviewed carefully by the authorship team to confirm its relevance to this review based on the inclusion criteria described previously. This vetting process resulted in a smaller subset of 160 articles. Table 1 provides a list of the journals and the numbers of articles within each

Table 1

Journal titles and numbers of articles organized by disciplinary area.

Applied Psychology, Management, Human Resource Mgt., Org. Studies (94)
Academy of Mgt. J. (20)
Org. Science (6)
Human Relations (5)
J. of Applied Psych. (5)
J. of Mgt. (5)
J. of Mgt. Studies (5)
Small Group Research (5)
Administrative Science Quarterly (4)
J. of Org. Beh. (4)
Leadership Quarterly (4)
Group & Org. Mgt. (3)
J. of Occupational & Org. Psych. (3)
Mgt. Decision (3)
European J. of Work & Org. Psych. (3)
J. of Business Research (2)
Org. Studies (2)
American J. of Community Psych (1)
Applied Psychology: An Int. Review (1)
British J. of Industrial Relations (1)
British J. of Mgt. (1)
Frontiers in Psych. (1)
Int. J. of Human Resource Mgt. (1)
J. of Mgt. & Org. (1)
J. of Leadership & Org. Studies (1)
J. of Managerial Psych. (1)
J. of Small Business Mgt. (1)
Org. Beh. & Human Decision Processes (1)
Personnel Psychology (1)
Personnel Review (1)
Scandinavian J. of Mgt. (1)
Team Performance Mgt. (1)
Innovation, Mgt. Science, Operations, Strategy & Technology Mgt. (27)
Creativity & Innovation Mgt. (3)
Int. J. of Project Mgt. (3)
J. of Engineering & Technology Mgt. (3)
J. of Product Innovation Mgt. (3)
R & D Mgt. (3)
European J. of Innovation Mgt. (2)
Information & Software Technology (2)
Project Mgt. J. (2)
European J. of Operational Research (1)
Int. J. of Operations & Production Mgt. (1)
J. of High Technology Mgt. Research (1)
J. of Technology Mgt. Research (1)
Research Policy (1)
Technology Analysis & Strategic Mgt. (1)
Health & Medicine (9)
Int. J. of Medical Informatics (2)
J. of Oncology Practice (2)
Health & Social Care in the Community (1)
Health Promotion Int. (1)
Health Services Research (1)
Int. J. of Environmental Research & Public Health (1)
Intensive Care Medicine (1)
Other Disciplines (e.g., Int. Business, Education, Cognition, Information Systems, Human Factors, Accounting, etc.) (30)
Human Factors (2)
Industrial Marketing Mgt. (2)
J. of Service Research (2)
Accounting Review (1)
ACM Trans. on Mgt. Information Systems (1)
Cognition, Technology & Work (1)
Communication Research (1)
Cross Cultural Mgt. (1)
Educational Administration Quarterly (1)
European J. of Marketing (1)
IEEE Trans. on Software Engineering (1)
Information Systems J. (1)
Int. J. of Business Communication (1)
J. of Information Technology (1)
J. of Int. Mgt. (1)
J. of Knowledge Mgt. (1)
J. of Mgt. in Engineering (1)
J. of Mgt. Information Systems (1)

Table 1 (continued)

J. of Marketing Mgt. (1)
J. of Public Administration Research & Theory (1)
J. of World Business (1)
Network Science (1)
Public Administration (1)
Public Mgt. Review (1)
Small Business Economics (1)
Social Networks (1)
Sociological Focus (1)

Note: n = 160 articles; Beh. = Behavior; Int. = International; J. = Journal; Mgt. = Management; Org. = Organizational, Organization; Psych. = Psychology; Trans. = Transactions.

journal included in our review. Notably, although many of the articles in this final list did not reference ‘leadership’ explicitly, they highlighted intrateam or interteam processes, states, or other attributes that are potential targets of leadership in interteam contexts.

Article coding

The first four authors extracted and coded each of the 160 articles to identify the ways in which each article addressed the core elements of functional leadership in interteam contexts (*why? where? what? when? and who?*). We coded the answers to these five questions into emergent sets of categories (see Table 2 for category examples). As a quality check, every article was reviewed by at least two authors, and any inconsistencies were discussed until consensus was reached. We also identified characteristics of the research designs used in each study. As Table 3 summarizes, the majority of articles presented quantitative research (64%); among these was a predominance of quantitative field studies (53%), which were predominantly cross-sectional (87%) using samples of working adults (90%). Studies of leadership (or targets of leadership) for team goals were more likely to use quantitative (78%) rather than qualitative methods (12%), studies of leadership for system goals were more evenly split between quantitative (53%) and qualitative methods (39%). We were encouraged to see studies using experimental designs (still only 10% of the total studies reviewed here) and mixed method approaches (9%). Additionally, many studies incorporated best practices for addressing common-method bias including crisscross designs, temporal separation, and/or multi-source data (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff, MacKenzie, & Podsakoff, 2012; Podsakoff & Organ, 1986).

Synthesis of research on leadership in interteam contexts

Our review revealed that most empirical studies have answered the question of ‘why’ leadership is enacted (i.e., for what purpose), by emphasizing one of two levels of collective objectives: (1) leadership supports *team-level* objectives; or (2) leadership supports *system-level* objectives, with only a small subset of studies emphasizing both team- and system-level objectives simultaneously. We used the questions of ‘why’ and ‘where’ leadership occurs (internally-focused or cross-boundary) in interteam contexts to organize and synthesize findings from prior research (see online Appendix A² for key findings from each of the 160 articles). In the following sections, we clarify how the extant literature has addressed the remaining three questions needed to understand ‘functional’ leadership in interteam contexts (*what? when? and who?*) for each category.

Category 1: Internally-focused leadership for the team

Although a comprehensive review of empirical studies focused

² doi: 10.17605/OSF.IO/AHTYF

Table 2

Five core questions specifying the nature of functional leadership in intergroup contexts.

Core questions	Exemplar answers derived from extant literature
1. Why is leadership enacted? (i.e., for what objective(s)?)	Team goals without mention of interteam interdependence (Ferguson, Ormiston, & Wong, 2019; Keller, 2001); team goals in intergroup competitions or cooperations (Bullinger, Neyer, Rass, & Moeslein, 2010; Carbonell & Rodríguez Escudero, 2019; van Bunderen, Greer, & van Knippenberg, 2018); team goals in collaborative interteam contexts (Brion, Chauvet, Chollet, & Mothe, 2012; Cha, Kim, Lee, & Bachrach, 2015; Drach-Zahavy, 2011; Grippa et al., 2018; Somech & Khalaili, 2014; Tasselli & Caimo, 2019); system goals (Curnin, Owen, & Trist, 2014; Millikin, Hom, & Manz, 2010; Schotter & Beamish, 2011; Zolper, Beimborn, & Weitzel, 2013); both team and system goals (Friedman & Podolny, 1992; Lee & Sawang, 2016; Lanaj, Hollenbeck, Ilgen, Barnes, & Harmon, 2013; Susskind, Odom-Reed, & Viccari, 2011)
2. Where is leadership targeted?	Within teams (Birkinshaw, Ambos, & Bouquet, 2017; Tippmann, Scott, & Parker, 2017; Zhang, Wu, & Henke, 2015); across team boundaries (Cuijpers, Uitdewilligen, & Guenter, 2016; Kratzer, Gemünden, & Lettl, 2008; Uitdewilligen & Waller, 2018)
3. What processes and states are targeted by leadership?	Communication (Bearman, Paetz, Orasanu, & Thomas, 2010), collaboration (Beck & Plowman, 2013), learning (Chan, Pearson, & Entrekkin, 2003), coordination (Newell & Swan), identity (Gray, Bunderson, Boumgarden, & Bechara, 2019), cohesion (Ferguson & Blackman, 2019), trust (Chen & Wang, 2008)
4. When is leadership occurring? (i.e., under what circumstances?)	During changes in organizational structure (Birkinshaw, Ambos, & Bouquet, 2017); when performing non-routine tasks (Chung & Jackson, 2013); while working in complex and dynamic environments (Curnin, Owen, & Trist, 2014; DeChurch et al., 2011; Gerber et al., 2016; Kellogg, Orlitzky, & Yates, 2006); during initial project phases (Hoegl, Weinkauf, & Gemuenden, 2014); when new resources are needed (Walman & Atwater, 1994); given certain levels of interteam interdependence (Benoliel & Somech, 2015; Glynn, Kazanjian, & Drazin, 2010; Kennedy, Sommer, & Nguyen, 2017; Litchfield, Karakitapoğlu-Ayguin, Gümüşluoglu, Carter, & Hirst, 2018; Widmann & Mulder, 2018)
4. Who is leading?	Formal team leader (Melo, Cruzes, Kon, & Conradi, 2013); multiple formal leaders of different teams (Gasson, 2005); formal leadership team (de Vries, Hollenbeck, Davison, Walter, & Van der Vegt, 2016; DeChurch & Marks, 2006); team members without formal positions of authority (Ingvaldsen & Rolfsen, 2012; Johannessen, McArthur, & Jonassen, 2015; Marrone, Tesluk, & Carson, 2007)

Table 3

Summary of methodological approaches in reviewed studies.

	Team objective(s) emphasized	System objective(s) emphasized	Overall
No. of studies	n = 73	n = 87	n = 160
Analytic approach	12% (9) qualitative methods; 78% (57) quantitative methods;	39% (34) qualitative methods; 53% (46) quantitative methods;	27% (43) qualitative methods; 64% (103) quantitative methods;
Sample	10% (7) mixed methods 92% (67) working adults; 7% (5) student samples; 1% (1) other	8% (7) mixed methods 89% (77) working adults; 9% (8) student samples 2% (2) other	9% (14) mixed methods 90% (144) working adults; 8% (13) student samples; 2% (3) other
Study design	4% (3) experiments; 70% (51) field/quasi-field; 11% (8) case studies; 15% (11) combination	15% (13) experiments; 38% (33) field/quasi-field; 29% (25) case studies; 9% (8) combination of designs; 3% (3) simulations; 3% (3) archival; 2% (2) secondary data	10% (16) experiments; 53% (84) field/quasi-field; 21% (33) case studies; 12% (19) combination of designs; 2% (3) simulations; 2% (3) archival; 1% (2) secondary data
Temporal design*	90% (46) cross-sectional; 10% (5) longitudinal	82% (27) cross-sectional; 18% (6) longitudinal	87% (73) cross-sectional; 13% (12) longitudinal
Common methods bias*	37% (19) mention explicitly; 27% (14) addressed through design elements; 14% (7) statistical tests	30% (10) mention explicitly; 21% (7) addressed through design elements; 15% (5) statistical tests	35% (29) mention explicitly; 25% (21) addressed through design elements; 14% (12) statistical tests
Endogeneity*	6% (3) mention explicitly; 2% (1) statistical tests	3% (1) mention explicitly; 3% (1) statistical tests	5% (4) mention explicitly; 2% (2) statistical tests

Note. * indicates calculations based on quantitative field studies.

solely on leadership targeted within teams in support of team objectives (Category 1) is beyond the scope of this review, we summarize and draw from Category 1 research in order to make comparisons between the ways in which researchers have addressed questions of ‘what,’ ‘when,’ and ‘who’ in Category 1 versus the other categories.

What? Identifying leadership processes targeted within groups has been a primary focus of leadership research for nearly a century. These studies typically leverage a functional perspective, arguing that team leadership is ‘effective’ if it ensures that all functions critical to task accomplishment and team maintenance are addressed (Fleishman et al., 1991; Hackman & Walton, 1986; McGrath, 1962; Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000).

Early influential studies organized leadership behaviors within groups into two broad categories: *task-oriented behaviors* such as planning, defining and clarifying objectives, problem-solving, and monitoring goal progress; and *person-oriented behaviors* such as showing concern for followers and expressing confidence in followers’ abilities

(e.g., Katz, Maccoby, Gurin, & Floor, 1951; Stogdill, 1948, 1974; Stogdill & Coons, 1957). Additionally, with the rise of theories such as Charismatic Leadership (House, 1977; Weber, 1947), researchers began to emphasize *change-oriented* leadership behaviors (Yukl, 2012), which are aimed at spurring and/or inspiring change within organizations.

The core idea that effective leadership within groups involves task-, person-, and change-oriented behaviors has continued to pervade more recent theories of leadership, such as Transformational/Transactional leadership theory (e.g., Bass, 1985, 1990; Bass & Avolio, 1993, 1994); Servant Leadership theory (Greenleaf, 1970, 1977); and relational theories, including LMX (Dansereau, Graen, & Haga, 1975; Graen, 1976; Graen & Cashman, 1975). For example, person- and change-oriented behaviors are central to a transformational leadership style (e.g., providing individualized consideration; articulating an inspiring vision for the future; Bass, 1985). Servant leaders are thought to engage in both person-oriented behaviors (e.g., demonstrate empathy, develop and empower followers) and task-oriented behaviors (e.g., problem-

solving, decision-making) guided by a deep understanding of the organization's mission (Liden, Panaccio, Hu, & Meuser, 2014). Graen & Uhl-Bien, 1995 argue that leaders should nurture high-quality LMX relationships with followers characterized by trust, liking, and respect and offer followers opportunities to develop through task-related roles and responsibilities. Moreover, less effective leadership styles, such as Laissez Faire leadership (Bass & Avolio, 1993) or Abusive Supervision (Mackey, Frieder, Brees, & Martinko, 2017; Tepper, 2000, 2007) are often depicted as the absence and/or opposite of task-, person-, and/or change-oriented leadership behaviors (e.g., a lack of structure; hostile rather than positive relationships).

Within teams, research suggests that task-oriented leadership behaviors can initiate structure for the team by (for example) clarifying team task requirements, establishing reward contingencies, specifying procedures, and providing feedback on task progress. Both task- and person-oriented leadership can help team members work effectively by facilitating the interpersonal interactions, cognitive architectures, feelings, and attitudes associated with effective teamwork (Burke et al., 2006). Research on teams has also emphasized the importance of change-oriented leader behaviors that support team innovation, creative performance (Gil et al., 2005; Spreitzer, De Janasz, & Quinn, 1999), and processes of collective transformation and learning (Kozlowski et al., 1996). For instance, leaders who leverage after-action reviews (Villado & Arthur Jr, 2013), establish a psychologically safe team climate (Edmondson, 1999), and/or facilitate a shared understanding of the task and team environment (e.g., through various task-oriented and relational-oriented behaviors), can help teams better recognize and learn from prior mistakes and prepare for future challenges (Garvin, Edmondson, & Gino, 2008).

Indeed, meta-analytic evidence has demonstrated that task-, person-, and change-oriented leadership processes are positively associated with a variety of organizational outcomes, including group performance (Burke et al., 2006; DeRue, Nahrgang, Wellman, & Humphrey, 2011; Judge, Piccolo, & Ilies, 2004). DeRue et al. (2011) showed that initiating structure (i.e., an aspect of task-oriented leadership) represented the strongest predictor of group performance whereas change-oriented behaviors (e.g., transformational leadership) and person-oriented behaviors (e.g., consideration) accounted for sizeable but lesser portions of the total variance.

When? Like many other areas of organizational scholarship (Gardner, Harris, Li, Kirkman, & Mathieu, 2017) as research on leadership within teams has matured, many leadership scholars have moved beyond simple categorization schemas of 'what leaders do' (e.g., task-, person-, change-oriented leadership) to specify critical boundary conditions or moderator variables that determine *when* leadership behaviors and/or relational processes within teams are more or less effective. For instance, classic theories, including Fiedler's (1967) contingency theory and House's (1971) path-goal theory proposed a variety of situational factors—both *internal* (e.g., group structure, task demands, team member attributes, state of relations between leader and team) as well as *external to the team* (e.g., turbulence, uncertainty, leader positional power)—that determine the effectiveness of leadership behaviors within groups. Recent empirical studies in Category 1 have echoed these core ideas by investigating a variety of internal moderators, including leader attributes (Hu & Judge, 2017), task demands (Farh & Chen, 2018), task interdependence (Aubé & Rousseau, 2005), virtuality (Purvanova & Bono, 2009), and team diversity (Salazar, Feitosa, & Salas, 2017), and external moderators, such as environmental uncertainty (Sung & Choi, 2012), organizational norms (Newell, David, & Chand, 2007), top management support (Hurt, 2016), and national culture (Salk & Brannen, 2000).

Researchers have also begun to emphasize the role of *time* as a key determinant of what constitutes 'functional' leadership for teams. For example, Kozlowski et al. (1996) conceptualized leadership as involving dual roles that can operate simultaneously: "(1) a *developmental role*, linked to the process of team evolution, and (2) a *task contingent*

role that shifts its functional emphasis in response to the dynamics of team task cycles" (p. 262). Whereas the developmental role involves a longer-term process through which leaders help team members meld into a cohesive, culturally unique entity, the task contingent role is a more dynamic process which involves developing team goals, strategies, and expectations during phases of low intensity or routine task conditions, and intervening during higher intensity, stressful phases. Morgeson et al. (2010) connected these ideas with Marks, Mathieu, and Zaccaro' (2001) argument that teams cycle through repeating phases of 'transition' and 'action' to identify functional leadership behaviors corresponding to these two task phases. Morgeson and colleagues argue that during transition phases, leadership should help compose the team, define the mission, establish expectations, structure and plan tasks, train and develop the team, and provide sensemaking and feedback. During action phases, leadership should monitor the team's progress toward goals, manage team boundaries, challenge the team, perform the team task, solve problems, provide resources, encourage team self-management, and support a positive social climate.

Who? Lastly, the question of 'who is leading?' (i.e., claiming and/or being granted leadership influence; DeRue & Ashford, 2010) has become increasingly relevant as organizations have embraced flatter decentralized and team-based work structures (Mathieu et al., 2017) where *informal* leaders and leadership processes often operate alongside or in the absence of *formal* leaders (Zaccaro, Heinen, & Shuffler, 2009). Indeed, although most studies of team leadership have focused on the role, actions, and relationships of formal leaders (e.g., team managers), researchers often depict leadership as a dynamic and emergent social process of influence, which can occur up, down, and across the organizational hierarchy (Carter, DeChurch, Braun, & Contractor, 2015; Cullen-Lester & Yammarino, 2016; Day, Gronn, & Salas, 2004; Follett, 1924; Hollander & Julian, 1969; Pearce & Conger, 2003). For example, a growing stream of research argues that there are benefits for teams who engage in *shared* forms of leadership – "a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals or both" (Pearce & Conger, 2003, p. 1). Meta-analyses have found that shared leadership is positively associated with teamwork processes and emergent psychological states, and accounts for unique variance in team performance beyond that accounted for by vertical (formal) leadership (D'Innocenzo, Mathieu, & Kukenberger, 2016; Nicolaides et al., 2014; Wang, Waldman, & Zhang, 2014).

Recently, several studies have suggested that identifying 'who' is doing 'what' 'when' (in terms of *time*) holds the potential to advance the understanding of functional leadership within teams substantially (e.g., Aime et al., 2014; Contractor et al., 2012). For example, Morgeson et al. (2010) posited that team leadership (during transition and/or action phases) might originate from *formal* and/or *informal* sources who reside *inside* or *outside* the team. Further, they proposed that different sources of leadership might be better suited to fulfill different leadership functions depending on the *phase* (transition/action) of team performance. For example, an external/formal leader may be best positioned to compose and monitor the team, establish expectations and goals, manage team boundaries, provide resources, and encourage self-management. In contrast, internal/informal leaders may be best suited to structure, plan, and perform the team task, solve problems, and support the social climate. Some activities, like providing feedback can be effectively fulfilled by all sources of leadership. Although these propositions have yet to be fully tested, they suggest many interesting lines of inquiry for future research.

Category 2: Cross-boundary leadership for the team

We identified 73 articles investigating cross-boundary leadership processes enacted in support of *team* objectives (Category 2). A subset of these articles discussed leaders, managers, and/or leadership processes explicitly ($n = 17$ articles). These studies convincingly

demonstrate that (formal) leaders often play an active role in managing interaction processes and relationships with external entities. However, the majority of articles (76%) did not invoke the notion of leadership explicitly, but rather, identified cross-boundary interaction processes, states, and/or interventions that could be targets of leadership in interteam contexts (and/or enacted by informal leaders). In combination, Category 2 studies help clarify *what* cross-boundary leadership processes are relevant to team outcomes, point to important boundary conditions for cross-boundary leadership (*when*), and begin to identify the ways in which responsibility for cross-boundary leadership might be distributed across different people (*who*).

What? The literature on ‘boundary spanning’ has provided substantial insight into *what* ‘external’ team activities might constitute cross-boundary leadership processes and/or might serve as targets of leadership in interteam contexts (Ancona, 1990; Joshi, Pandey, & Han, 2009; Marrone, 2010). In particular, Ancona and Caldwell’s seminal program of research (1988; 1990; 1992a; 1992b) identified several broad categories of external functions that link a group to its external environment, with the external environment referring to “actors or other teams residing within or outside of the boundary spanning team’s host organization” (Marrone, 2010, p. 914). *Scouting* activities—what Marrone (2010) refers to as ‘*information search*’—include collecting information and resources from relevant outside parties, constructing a mental model of the external environment (e.g., who does/does not support the team), and seeking feedback from members of other groups. *Ambassadorial* activities (or ‘*representational activities*’ in Marrone, 2010) reflect attempts to: open up lines of communication with other groups (even without a specific purpose), inform others about the team’s progress, negotiate and coordinate details of intergroup interactions (e.g., establishing give-and-take in intergroup exchanges), advocate for team needs (e.g., to those with greater power), and influence or ‘mold’ the external environment to suit the team’s agenda. *Guarding or sentry* activities involve managing (e.g., delaying, delivering, denying) the flow of information and resources *from* the group to external entities and protecting the team’s boundary by selectively allowing information to *enter* the team. Lastly, *task coordinator* activities involve synchronizing work efforts with other teams and monitoring joint progress and strategy toward the accomplishment of shared goals.

Although researchers have referred to external team activities in different ways and have offered different categorization schemes (e.g., compare Faraj & Yan, 2009; Somech & Khalaili, 2014; Marrone, 2010; Joshi et al., 2009; Ancona & Caldwell, 1998, 1992a), there is a clear consensus across prior research about the *relevance* of external activities for team outcomes ((Ancona & Caldwell, 1992, b, 1992, a); Marrone, 2010). External activities can have direct effects on team outcomes by acting as conduits for information and resources that enable effectiveness and innovation (Ancona, 1993; (Ancona & Caldwell, 1992, b, 1992, a); Choi, 2002; Marrone, 2010). For example, many studies have demonstrated positive relationships between external activities that support the acquisition of information, expertise, and resources with outcomes such as team creativity and innovation (e.g., Anderson & Kragh, 2015; Büchel, Nieminen, Armbruster-Domeyer, & Denison, 2013; Tippmann, Scott, & Parker, 2017). External activities can also have *indirect* effects on team outcomes by impacting processes and psychological states within teams (see Fig. 1). For instance, Henttonen, Johanson, & Janhonen, 2014 found that team identity strength mediates the relationships between both bonding (i.e., within teams) and bridging (i.e., with external entities) social network ties and team performance. They argue that whereas bonding ties support team identity by enabling similar attitudes and perceptions (and hence liking) within teams, bridging ties support team identity by offering team members information about ‘outgroups’ and thereby afford more elaborated intergroup social comparisons.

Notably, cross-boundary processes are not always *beneficial* for all team outcomes. For example, Ancona, (1990) distinguished different ‘types’ of teams based on the degree to which they leveraged cross-

boundary processes. ‘Informing’ teams remained isolated until they were ready to inform outsiders of their progress; ‘parading’ teams emphasized team building and achieving visibility while passively observing other teams; and ‘probing’ teams actively engaged outsiders, revised their knowledge through external contacts, initiated programs with outsiders, and promoted their teams’ achievements within their organizations. Although ‘probing’ teams were rated as the highest performers, these teams also suffered *short-term* decrements in member satisfaction and team cohesion. Other studies have shown that cross-boundary processes can have negative implications for team performance. For instance, in a study of the communication networks of 31 interdisciplinary hospital teams, Grippa et al., 2018 found that more effective teams were more inwardly focused and less connected to outside members as compared to less effective teams. Similarly, a study of inter-university project teams found that the degree to which team leaders and team members bridged structural holes (i.e., connected disconnected others; Burt, 1992) was negatively associated with team performance (Susskind, Odom-Reed, & Viccari, 2011). Indeed, promoting an external focus and encouraging team members to engage in cross-boundary processes may deplete limited resources (Choi, 2002), distract attention from critical internal processes, and ultimately diminish the cohesiveness of the team (Oh et al., 2006).

In fact, there is growing consensus that there are *trade-offs* inherent to cross-boundary processes for teams, and thus, functional leadership involves helping teams strike an appropriate balance of internal and cross-boundary interactions and team permeability. On the one hand, when team boundaries are *highly* permeable, team cohesiveness and coordination are likely to suffer. Effective team functioning may depend on members differentiating themselves as a coherent unit, separate from the broader environment, by establishing a workspace, rules for operating, and goals specific to the team (Choi, 2002; Sundstrom, DeMeuse, & Futrell, 1990). Actions by leaders that *reinforce* team boundaries and affirm teams’ unique identities can decrease the likelihood that members will experience identity threat when they interact with other teams (Connaughton, Williams, & Shuffler, 2012; Ernst & Chrobot-Mason, 2011, a; Hogg et al., 2012). On the other hand, if team boundaries are not *sufficiently* permeable, teams can experience isolation and may not benefit from the knowledge and expertise of other teams. For instance, several studies we reviewed referenced the ‘*not-invented-here*’ syndrome (Katz & Allen, 1982), which refers to a tendency for teams who have had success in the *past* to become insular, believe they have a monopoly on the field, and thus, reject new ideas and influence from outside sources. The not-invented-here syndrome can be a major barrier to the inflow of new knowledge and thus, can stifle continued team learning and creative performance (Chen & Wang, 2008). Therefore, leadership is needed to manage the permeability of team boundaries by both protecting and insulating teams from negative outside influences and additionally, by allowing resources and information to flow both into and out of the team as required by team task demands (e.g., Benoliel & Somech, 2015).

Indeed, the extant literature emphasizes that leaders and leadership processes play a primary role in managing (or enacting) external team activities. Leaders can support their teams by assuming responsibility for external activities. In this case, the external activities constitute ‘external’ or ‘cross-boundary’ leadership processes. For example, Takanashi & Lee, 2019 found that leaders of research and development (R&D) teams who engaged in boundary spanning behaviors were better able to mobilize external resources and enable their teams to achieve greater commercial success. The importance of leaders’ participation in external activities is further supported by meta-analytic evidence showing that higher performing teams tend to have leaders who are well-connected in social networks, both internal and external to the team (Balkundi & Harrison, 2006) and studies showing that projects led by formal leaders who actively engage in external project championing receive more support from the organization and are more successful (Markham, Green, & Basu, 1991; Waldman & Atwater, 1994). Evidence

also suggests that leaders who have strong network ties can gather political support and scan for ideas, and team leaders with many structural holes in their networks (i.e., indicating brokerage between contacts who are not connected to one another; *Burt, 1992*) tend to be better able to protect their teams from outside interference (*Brion, Chauvet, Chollet, & Mothe, 2012*).

Leadership processes can also help set up conditions *within* teams that facilitate connections between team members and outsiders. Research shows that leaders influence the strategies teams use to interact with their environments, and in turn, differences in teams' strategies help explain outcomes such as team performance and team member satisfaction (*Ancona, 1990*). *Edmondson, 2003* showed that effective team leaders not only use their positional status to reach out to other high-status individuals in the organization (i.e., span the team boundary), they also encourage team members to engage in boundary-spanning behaviors themselves by signaling the desirability of an external focus. Research has also shown that *empowering* (*Chuang, Jackson, & Jiang, 2016*) and *charismatic* (*Knipfer, Schreiner, Schmid, & Peus, 2018*) leadership behaviors within teams are linked to team external knowledge acquisition and the overall amount of team boundary-spanning behavior, respectively. Similarly, *Cha, Kim, Lee, & Bachrach, 2015* showed that teams with transformational leaders had higher internal teamwork quality and were perceived as more collaborative by members of *other* teams, suggesting cross-boundary processes may be smoother for teams with transformational leaders.

Researchers have also identified a number of interventions leaders might use to increase teams' engagement in cross-boundary processes. For example, *Chuang, Jackson, & Jiang, 2016* examined the effect of human resource management (HRM) systems in a sample of R&D teams. They find that when HRM systems support knowledge intensive teamwork, R&D teams have higher levels of external knowledge acquisition and internal knowledge sharing, and these effects are strongest when knowledge is less tacit and in the absence of 'empowering' leaders. *Foss & Rodgers, 2011* showed that assigning managers to cross-unit initiatives was associated positively with their ability to use new information from other units. Further, studies in Category 2 have identified attributes at both individual- and team-levels that might be targets of leadership influence, such as individuals' task experience (*Dahl & Pedersen, 2005*), depth of functional expertise (*de Vries, Walter, Van der Vegt, & Essens, 2014*), and focus on goals with a 'global impact' (*Pedersen, Soda, & Stea, 2019*), and teams' functional diversity (*Ancona & Caldwell, 1992, a*), interdependence (*Benoliel & Somech, 2015*) and climate (*Shin, Kim, & Hur, 2019*).

When? With the awareness that cross-boundary processes can have positive, negative, null, and/or mixed effects on team outcomes, researchers are seeking to better understand the boundary-conditions or moderators that determine *when* cross-boundary interactions are most beneficial for teams. Paralleling research on leadership within teams (Category 1) studies in Category 2 have suggested that aspects of both the *internal* team environment and the broader *embedding* environment can determine the effectiveness of cross-boundary processes for teams. These studies are beginning to uncover how leaders might 'strike the right balance' by capitalizing on the benefits of cross-boundary processes for teams while mitigating the costs.

With regard to the *internal* state of the team, some researchers have considered how team properties, such as team task demands, or the levels of task interdependence determine the necessity of cross-boundary interactions. For example, *Chung & Jackson, 2013* found that the relationship between external work relationships on team performance depends on the *routineness* of the tasks that are performed. When teams performed higher novelty tasks, the density of *both* internal and external networks were predictive of team performance; whereas performance on highly routine tasks did not benefit from dense external network connections.

The internal psychological state of the team can also determine the effectiveness of cross-boundary processes. For instance, psychological

properties associated with the 'not-invented-here' syndrome can reduce the effectiveness of cross-boundary processes by leading teams to discount the influence and ideas offered by outsiders. In support of this argument, *Carbonell & Rodríguez Escudero, 2019* found the level of team *cohesion* moderated the effect of boundary spanning such that boundary spanning was less beneficial for highly cohesive teams. Likewise, *Dokko, Kane, & Tortoriello, 2014* showed that R&D teams with strong *team identification* are less able to recombine knowledge from the external environment and generate creative ideas. In contrast, strong identification with an overarching superordinate group (e.g., a division) enhanced team creative generativity. Suggesting that the relationship between internal team psychological states and the benefits of cross-boundary processes is complex and non-linear, *Bullinger, Neyer, Rass, & Moeslein, 2010* showed that in a competitive environment, teams with *either* very high or very low orientations toward cooperation with other teams (but not moderate) were most innovative.

In contrast to Category 1, very few Category 2 studies have considered how the *timing* of cross-boundary processes might impact their utility. *Ancona & Caldwell, 1990* found that ambassadorial activities appeared to be most relevant during the creation and diffusion phases of a team project. They suggest that a strategy that works early in the life of a group may not support positive performance over time. Yet, the vast majority of studies we reviewed did not consider the types of temporal elements (e.g., phase of team performance, current task demands, developmental stage, team history) that have been the focus of recent leadership within teams (e.g., *Aime et al., 2014*; *Kozlowski et al., 1996*; *Morgeson et al., 2010*).

The nature of a team's external environment can also shape the effectiveness of cross-boundary processes for teams. For example, *Faraj & Yan, 2009* found that under organizational conditions of high resource scarcity and task uncertainty, teams engaged in *increased* boundary activities—such as spanning, buffering, and reinforcing—in order to secure resources and develop psychological safety among team members. In another socio-structural study, *Gleibs & Haslam, 2016* found that team members' willingness to support a leader's strategy for intergroup relations was dependent upon the current social context (i.e., social relations), and the team's status. When social relations were unstable, low status groups were more likely to support competitive leaders, but high-status groups were more likely to support cooperative leaders. Their findings underscore that leader effectiveness is contingent upon the social environment surrounding the team, as this alters how leaders are perceived internally.

Who? An equally important factor influencing the effectiveness of cross-boundary leadership may be *who* is assuming (or is granted) responsibility for cross-boundary leadership. Empirical research supports the active role that formal leaders play in cross-boundary leadership by directly engaging in cross-boundary activities on behalf of their team (e.g., *Ancona, 1990*; *Liu, Schuler, & Zhang, 2013*; *Pryor & Henley, 2018*). For example, *Ancona & Caldwell, 1990* found that leaders engaged more frequently in ambassadorial, scouting, coordinating, and guarding activities than other members of the team. Further, *Hirst & Mann, 2004* showed that boundary spanning behaviors performed by formal leaders had a *stronger* relationship with team performance than boundary spanning behaviors performed by team members.

However, a number of other studies have suggested benefits of distributing responsibility for boundary spanning across multiple members of the team (*Ancona et al., 2002*; *Contractor et al., 2012*; *Elkins & Keller, 2003*). *Marrone, Tesluk, & Carson, 2007* demonstrated that teams are more effective when *more* team members are engaged in boundary spanning. The authors posit that the presence of multiple boundary spanners may reduce the demands placed on individual team members, increase the amount of resources brought into the team, reduce task uncertainty, and improve team member mental models regarding the external environment. Likewise, *Ferguson & Blackman, 2019* found that boundary spanning was related to team cohesion and performance in top management teams and this relationship was

magnified as an increasing number of team members—aside from the CEO—participated in boundary spanning activities. Currently, however, both the extent to which formal versus informal leaders should engage in cross-boundary leadership and the extent to which ‘boundary-spanning’ behaviors reflect the phenomenon of ‘leadership’ remain poorly understood.

The effectiveness of teams’ external activities may also depend on the specific *patterns* of relationships that leaders (formal/informal) have with people in the external environment (Balkundi & Harrison, 2006; Tushman & Scanlan, 1981). For example, Büchel, Nieminen, Armbruster-Domeyer, & Denison, 2013 found that new product development teams were most innovative when team members had trusting relationships with external ‘project champions,’ and broad (non-redundant) knowledge relationships. Oh, Chung, & Labianca, 2004 advanced the concept of *group social capital* in order to explain the importance of patterns of cross-boundary connections for team performance. Their results suggest that groups were most effective when group members had a moderate level of internal informal socializing relationships and a large number of ties to the leaders of other teams. Continuing this line of inquiry may prove invaluable to understanding the patterns of cross-boundary leadership relationships that promote team functioning.

Categories 3 and 4: Internally-focused and cross-boundary leadership for the system

In contrast to most studies within Category 1, studies of leadership in support of system goals rarely investigated and/or theorized about leadership (or targets of leadership) processes targeted *within* teams (Category 3) without *also* considering how these processes impact cross-boundary processes or states (Category 4). Therefore, reflecting the literature, we present findings from Categories 3 and 4 within a single section. We identified 86 articles that emphasized the achievement of superordinate *system-level* objectives requiring interdependent interactions across *multiple* teams. Thirty of these articles (35%) discussed leaders or leadership processes explicitly, and a small subset ($n = 7$ articles) evaluated both team- and system-level objectives simultaneously. Scholars have long recognized the importance of collaboration across multiple groups (e.g., teams, organizational units) for organizational success (Blake, Shepard, & Mouton, 1964; Brett & Rognes, 1986; Thompson, 1967). However, the majority (72%) of the studies we identified that focused on system-level objectives were published during the last decade, suggesting an increasing interest in the drivers and outcomes of interteam collaboration in interdependent systems.

What? Three separate, but conceptually related, areas of research have emerged over the past two decades which clarify *what* leaders and leadership processes need to accomplish in order to support superordinate goals. The first two areas, which we refer to as ‘*intergroup leadership*’ research (Hogg et al., 2012; Pittinsky, 2009; Pittinsky & Simon, 2007) and ‘*boundary spanning leadership*’ research (Ernst & Chrobot-Mason, 2011, a), respectively, have origins within social psychological theories of intergroup relations (Tajfel & Turner, 1979; Turner, 1985). These two domains focus explicitly on leaders and leadership processes in intergroup contexts and highlight the psychological challenges leaders are likely to face when leading multiple differentiated groups (e.g., identity threat, anxieties, misaligned goals, questions regarding the leaders’ priorities and loyalties). The third area, ‘*multiteam system functioning*’ (Mathieu et al., 2001; Shuffler, Jiménez-Rodríguez, & Kramer, 2015; Zaccaro et al., 2012), has its origins within industrial/organizational psychology and organizational behavior and draws heavily from theories of team functioning (Hackman & Morris, 1975; McGrath, 1964) and organizational design (e.g., Thompson, 1967). Although leadership is not always the primary focus of multiteam system research, most multiteam system studies explicitly or implicitly investigate leadership (in the functional sense) as a factor contributing to system functioning.

Studies of intergroup leadership, boundary spanning leadership, and multiteam systems all have in common an emphasis on conveying the *difficulties* associated with facilitating collaboration in interdependent systems comprised of multiple groups or teams. It is not uncommon for teams to succeed individually but fail collectively as a system due to critical misalignment and collaboration problems between teams (Marks, DeChurch, Mathieu, Panzer, & Alonso, 2005). Indeed, numerous studies began by highlighting interteam collaboration challenges. One recurring theme reflects the challenges associated with collaboration across teams with very *different* characteristics (e.g., geographic locations, norms, goals, priorities, areas of expertise; Luciano et al., 2018). For example, Alter, 1990 found that functional differentiation between teams in an interorganizational service delivery context created conflict and inhibited coordination. Likewise, Gerber et al., 2016 illustrated how clinical research systems struggled to coordinate due to a lack of collective identity, low cohesion, and differing goals between teams which ultimately bred competition. Similarly, in a study of university-firm R&D teams, Takanashi & Lee, 2019, found that teams struggled to overcome differences in culture, goals, and values, resulting in tensions that constructed barriers to collaboration.

Many studies also highlighted collaboration difficulties associated with *change* either within the system or external to the system. For example, in a study of multi-agency emergency management systems, Curnin, Owen, & Trist, 2014 described how dynamics inherent to the operating environment placed demands on teams to share information and make decisions quickly, hindering collaboration. Problems associated with dynamism have also been observed during crisis response as emergency medical services and emergency department teams must coordinate their efforts in a rapidly changing environment. Accordingly, Reddy et al., 2009 highlight how environmental dynamism in emergency response can make it difficult for geographically distributed teams to provide context during their between-team communications, negatively impacting system-wide collaboration. Likewise, Taneva, Grote, Easty, & Plattner, 2010, found that one of the most common causes of breakdowns in perioperative patient care was interteam coordination failures stemming from rapidly changing environments.

Luciano et al. (2018) theorize that the *reason* why differences between teams and excessive dynamism (e.g., uncertainty, fluidity, change) make interteam collaboration challenging is that these forces enhance the boundaries between teams and cause disruptions for system functioning. In turn, strong team boundaries and system disruptions can lead constituent members to orient their interactions toward fellow teammates and away from members of other teams, thus limiting the development of the *interteam* behavioral processes (e.g., coordination) and affective/motivational and cognitive psychological states (e.g., psychological safety, shared mental models) needed to achieve shared goals. However, as Luciano et al. emphasize, “this is not to suggest that low differentiation is the solution” (p. 1087). The differences between teams and the dynamic nature of complex environments are often the very reason multiteam systems are established in the first place. Thus, leadership and other boundary-related coordination mechanisms (i.e., potential targets of leadership) are needed in order to manage behavioral processes and psychological states within and across teams. Echoing Luciano and colleagues’ argument that differences between teams should not be minimized, but instead, should be encouraged, Lanaj, Foulk, & Hollenbeck, 2018 found that multiteam systems perform most effectively when lower level component teams hold different preferences for risk-taking from their formal leadership teams. When component teams are allowed to hold and express differences in opinion from formal leaders the system may be more likely to learn and evaluate ideas during interteam communication and less likely to fall prey to ‘groupthink’ (Janis, 1971).

Interteam states and processes as targets of leadership. Paralleling research on leadership within teams in support of team objectives (Category 1) many of the studies we reviewed in Categories 3 and 4 highlighted behavioral processes and psychological states within, and

especially across, component team boundaries as key targets of leadership influence. For example, a few articles explored how 'boundary spanning' activities, defined broadly, are relevant to system objectives. [Floyd & Wooldridge, 1997](#) found that middle managers' boundary spanning was related to their own strategic influence as well as the performance of the system as a whole. [Glaser, Fourné, & Elfring, 2015](#) highlight how overlapping boundary spanning ties between middle managers and top management team members facilitates innovation across a multi-group business unit. Further, in a study of innovation in science and technology parks, [Corsaro, Ramos, Henneberg, & Naudé, 2012](#) illustrate how boundary spanning drives resource transfer in interorganizational collaboration, supporting innovation.

Several studies emphasized the importance of interteam communication quality and quantity to system performance. For instance, [Arnett & Wittmann, 2014](#) found that communication quality was positively associated with knowledge exchange between groups. [Kratzer, Gemünden, & Lettl, 2008](#) examined the quantity of informal communication between teams. Interestingly, they found that there was an inverted U-shaped relationship between informal interteam communication and the creativity of multi-team R&D projects. The authors posit that although frequent interteam communication may lead to improved transfer of information, extremely high levels of interteam communication may prove to be a distraction, reducing individual autonomy and creativity, as well as overall efficiency.

However, the majority of studies in Categories 3 and 4 depict *interteam coordination* (i.e., synchronization of actions across teams; [Marks, DeChurch, Mathieu, Panzer, & Alonso, 2005](#)) as the most critical behavioral process associated with system outcomes, particularly within research on multiteam systems. Moreover, research on multiteam systems emphasizes that *leaders* and leadership processes play a primary role in facilitating interteam coordination. The majority of studies of leadership in multiteam system contexts have investigated leadership originating from a *formal leadership team* (i.e., an 'integration' team) that is situated hierarchically above other component teams.

For example, [DeChurch & Marks, 2006](#) experimental study showed that training formal leadership teams on how to develop strategy as well as monitor and communicate information related to the multiteam task across teams fostered interteam coordination and system performance. Using the same simulation, [Murase, Carter, DeChurch, & Marks, 2014](#), demonstrated that the development of system-wide shared mental models about interteam coordination is a key mechanism linking leadership teams' communication about strategy to interteam coordination and performance. [Bick, Spohrer, Hoda, Scheerer, & Heinzl, 2018](#) also discuss the importance of shared mental models in multiteam contexts. The authors found that team processes such as planning led to mental model convergence and a lack of similar mental models prohibited effective coordination between teams. Findings from [Firth, Hollenbeck, Miles, Ilgen, & Barnes, 2015](#) also emphasize the importance of shared mental models across teams. Their work showed that frame-of-reference training (i.e., training that reduced inconsistencies across teams regarding how shared problems are conceptualized) benefited within-team coordination, between-team coordination and multiteam system performance.

Formal leadership teams (or other formal boundary spanning mechanisms) are thought to be particularly critical in multiteam system contexts given the large size and complex processing demands of these systems ([Davison, Hollenbeck, Barnes, Sleesman, & Ilgen, 2012](#)). Indeed, Davison and colleagues demonstrated that unbridled coordination through mutual adjustment (operationalized as attending to the same element of a simulation at the same time) between lower level component teams was negatively associated with system performance. However, mutual adjustment processes between formal boundary spanners and leadership team members benefited system performance. Similarly, a study by [de Vries, Hollenbeck, Davison, Walter, & Van der Vegt, 2016](#) demonstrated that intrapersonal functional diversity (i.e.,

breadth of intraindividual knowledge) facilitates horizontal coordination but inhibits aspirational behavior. However, this effect is moderated by vertical coordination, such that the negative effects of intrapersonal functional diversity are not realized in the presence of vertical coordination between component teams and the formal leadership team. [Lanaj, Hollenbeck, Ilgen, Barnes, & Harmon, 2013](#) also found that decentralized planning structures (i.e., where plans are developed within lower level component teams first before being passed to the leadership team) had some benefit for system performance attributable to enhanced proactivity and aspiration levels, but also resulted in an overall negative effect attributable to risk taking and coordination failures.

In addition to behavioral processes and shared cognitions, many of the studies we reviewed emphasized the need for leadership processes to relieve *affective* and/or *motivational* barriers associated with interteam collaboration. For example, intergroup leadership theory ([Pittinsky & Simon, 2007](#)) suggests that leaders need to be mindful of the anxieties group members may experience when working with other groups and emphasizes that intergroup collaboration can threaten the distinctiveness of group identities and/or lead group members to feel that the value of their own group's identity is diminished ([Hewstone & Brown, 1986](#)). Pittinsky and Simon proposed that leaders may improve intergroup relations by encouraging contact between members of different groups, managing resources and interdependencies to reduce or prevent competition and conflict, promoting shared 'superordinate identities' as well as 'dual identities' to meet members' needs for distinctiveness and belonging, and fostering positive intergroup attitudes.

Several studies provide support for this idea. [Richter, West, van Dick, & Dawson, 2006](#) demonstrated that the relationship between group identity and effective intergroup relations was positive at high levels of system identification but not at low levels. Likewise, [Gumusluoglu, Karakitapoglu-Aygün, & Scandura, 2017](#), found that benevolent leaders fostered team identification to the benefit of team innovative behavior, and simultaneously, fostered a cross-team identity positively influencing interteam innovative behavior. [Cuijpers, Uitdewilligen, & Guenter, 2016](#) further illustrated that system identity was more important for multiteam system processes and performance than team identity. Similarly, [Porck et al., 2018](#) showed that organizational identification supported intergroup strategic consensus whereas team identification can overpower it. In contrast, [Porck et al., 2019](#) argued that superordinate identification develops feelings of uncertainty that deplete team members' cognitive resources. Supporting their hypotheses they find (using the same laboratory simulation context as several other multiteam system studies; e.g., [Davison, Hollenbeck, Barnes, Sleesman, & Ilgen, 2012](#); [Firth, Hollenbeck, Miles, Ilgen, & Barnes, 2015](#); [Lanaj, Hollenbeck, Ilgen, Barnes, & Harmon, 2013](#)) that team identification was positively associated with system performance, whereas system identification was negatively associated with system performance. Moreover, these effects were stronger under conditions of high task complexity and weaker under conditions of low task complexity. These mixed results suggest there are both downsides as well as upsides to team and system identification and begs the question of what role leadership should play in helping to balance and/or alleviate the apparent tensions in order to ensure optimal team and system functioning.

[Hogg et al. \(2012\)](#) also questioned the benefits of creating a *superordinate* identity and proposed that intergroup leaders should instead help groups develop *intergroup relational identities* (i.e., identities defined by the relationships between one's own team and other teams). They argue that intergroup relational identities can allow teams to maintain their distinctiveness, while also promoting effective collaboration. Empirical studies have not verified how leaders might facilitate the development of intergroup relational identities. However, theoretical work suggests that leaders can promote these identities through their *rhetoric* (e.g., by communicating about what resources the different teams might bring to and receive from intergroup

interactions), by *modeling* positive intergroup relations through their own cross-boundary processes, and by *facilitating* interactions among members of different teams (Ernst & Chrobot-Mason, 2011a; Hogg et al., 2012). By forming positive interpersonal relationships with members of each group, a leader may role-model desired intergroup relations and foster intergroup trust. However, leaders also need to be aware of and manage group members' perceptions of their intergroup behaviors. On the one hand, leaders may be perceived as less effective within their own groups if they are seen as being overly supportive of another group's goals, identity, or status (Hogg et al., 2012). On the other hand, a leader who exhibits an over-emphasis on activities within teams can undermine the team's ability to collaborate effectively with others (Pittinsky & Simon, 2007).

Similarly, Ernst and Chrobot-Mason's work on boundary spanning leadership (Ernst & Chrobot-Mason, 2011a; 2011b) proposed that leaders can use a series of interrelated strategies to promote collaborative psychological relationships between groups. The first strategy, 'managing boundaries,' begins *within* teams and consists of two steps: buffering and reflecting. The goal of buffering is to protect a team from undue outside influences, affirm the team's identity, and promote a sense of safety and security among team members. Teams then engage in reflecting by clarifying their own values, priorities, expertise, roles, and needs and prepare to share this information with members of other teams. Ernst and Chrobot-Mason argue that these *internally focused* leadership behaviors prepare teams to effectively engage with other entities within and beyond their organization as collaborative partners and help team members avoid identity threat. Second, they propose that it is important to have members of different groups connect on a personal level (i.e., without a focus on intergroup differences) to foster interpersonal trust.

In addition to (team, system, and/or intergroup relational) identities, several studies have identified other affective and motivational constructs within and across teams that might be targets of leadership influence in support of superordinate goals. For example, emerging research highlights the impact of states such as anxiety and psychological safety on system effectiveness. Park & DeShon, 2018 for example, studied how the quality of group discussions influences competition, fear, and greed between groups. Notably they find that groups who engaged in structured discussions were more likely to have high quality discussions, which in turn reduced greed and fear, and decreased the likelihood of competing with outsiders. In a study of ad hoc multiteam system aircrews, Bienefeld & Grote, 2014 found that psychological safety *within* teams mediated the effects of leader inclusiveness on team members' speaking up behavior within teams and boundary-spanners' speaking up across team boundaries. Interestingly, team boundary-spanners' perceptions of leader inclusiveness and psychological safety between teams had no effect on speaking up between teams; rather, it was the boundary spanners' perceptions of within team psychological safety that mattered most. Fleștean, Curșeu, & Fodor, 2017 also investigated psychological safety, exploring the influence of power disparity. The authors find that high power disparity positively influences system performance by engaging team members in a higher level of information processing, but also has negative effects on performance as it stifles perceptions of psychological safety and fosters a negative affective climate.

A subset of studies has explored the effects of motivational constructs such as goals, priorities, and collective efficacy. In a study of a semiconductor plant, Millikin, Hom, & Manz, 2010 illustrated that systems comprised of highly cohesive component teams that engaged in *self-management* (i.e., setting goals, focusing on intrinsic rewards, engaging in positive self-talk) were the most productive. In a case study of the response to the space shuttle Columbia disaster, Beck & Plowman, 2013 found that establishing, communicating, and monitoring shared superordinate goals was pivotal for the emergence of collaboration between teams. *Goal alignment* both within and between teams appears to be another important motivational factor. For instance, Meth,

Lawless, & Hawryluck, 2009 found that one of the greatest sources of conflict in intensive care units is the presence of incompatible and/or inconsistent goals regarding patient care across the various healthcare teams that comprise the unit, ultimately resulting in reductions in quality of care. Unfortunately, some research has shown that different teams are not necessarily *aware* of the fact that their goals are misaligned. For instance, Power & Alison, 2017 observed that different agencies in an emergency response system prioritized different goals (i.e., approach goals vs. avoid goals). Despite the observed goal conflicts, however, participants *believed* that their interagency goals were aligned with one another (according to their ratings of goal alignment), suggesting that members of different teams may be unaware of goal conflicts.

When? Studies in Categories 3 and 4 suggest that many factors can act as boundary conditions determining the effectiveness of specific leadership processes within and across teams. These factors may originate within teams (e.g., strength of team identification, Gümüşluoglu, Karakitapoğlu-Aygün, & Scandura, 2017), across teams (e.g., level of interteam interdependence), and in the embedding environment (e.g., system dynamism; Uitdewilligen & Waller, 2018).

For instance, several studies have emphasized that the nature of *interteam interdependence* can play an influential role for various functions and outcomes both within and across teams. Marks, DeChurch, Mathieu, Panzer, & Alonso, 2005 showed that interteam processes were more critical at high levels of interteam interdependence than at lower levels where teams functioned under greater autonomy. In another study by Glynn, Kazanjian, & Drazin, 2010, team identification and team members' perceptions of interteam interdependence interacted to predict intentions to innovate such that individuals with high team identification *and* high interteam interdependence perceptions had *lower* intentions to innovate.

Recent work by Kennedy, Sommer, & Nguyen, 2017 utilized computational modeling and virtual experiments to investigate how leaders facilitate multiteam system communication across differing levels of team interdependence and project complexity. Their results show that the level of interdependence between teams influences the frequency with which leaders must make changes to communication plans in response to changing project complexity. Specifically, whereas systems with low to moderate interteam interdependence may rely on similar paths of communication for tasks of varying complexity (i.e., e-mail, video conferencing, sharing information indirectly through leadership), multiteam systems with high interteam interdependence must adapt their mix of communication tools depending on task complexity to prevent communication channels from becoming overburdened.

A number of Studies in Categories 3 and 4 have also begun to explore how leadership processes need to shift depending on the *timing* or *phase* of task performance. For example, DeChurch & Marks, 2006 evaluated leadership teams' use of strategizing behaviors during transition phases (e.g., gathering information, establishing roles and responsibilities, planning), and coordination behaviors during action phases (e.g., orchestrating actions, adapting roles and responsibilities to meet changing task demands, managing the flow of information). Other research has examined the critical role of leader planning during transition phases (Lanaj, Hollenbeck, Ilgen, Barnes, & Harmon, 2013) and the importance of effective team boundary management, especially in the *early* conceptual phases of a collaborative project to prevent teams from falling behind schedule (Hoegl & Weinkauf, 2005).

Further, Park & DeShon, 2018 found that discussion leaders who advocate for cooperation between teams are better able to influence team members *early* in the formation of a group when members are receptive to normative power. However, over time, high-quality internal discussions were more important for decreasing team members' feelings of greed and fear, and therefore their desire to compete with outsiders. In another recent study Quiroz, Brunson, & Bigras, 2017 present an in-depth case study of the dynamic processes of mutual adjustment that occurred between two professional teams participating

in a multicomponent community-based intervention (CBI). During the initial stages of collaboration, mutual adjustment involved division of roles and responsibilities based on areas of expertise, withdrawal from partner's area of expertise, and a relative paucity of direct interaction between groups. Interestingly, after a shock to the system, these rules transformed. Rather than dividing work based on expertise, the teams worked together directly to find a solution; new links were created to enhance intergroup communication; and groups came to function with a coherent joint approach to intervention. In combination, these studies exemplify the growing acknowledgement that the timing of leadership is a critical determinant of leadership effectiveness.

Who? A few studies have begun to illustrate the potential importance of *informal* leadership influence processes in the context of superordinate goals. For example, Kratzer, Gemünden, & Lettl, 2008 study of multi-team R&D projects found that there are benefits to a moderate overlap in formal and informal communication structures. A case study of subsea operations in the oil industry, found that when formal leaders were inaccessible, individual team members would respond by performing leadership functions without explicit delegation by the formal leader (Johannessen, McArthur, & Jonassen, 2015). Whereas another a case study found that formal and informal leadership structures were put in place both within and between teams to ensure the success of school reform in complex environments, which require cross-sector collaboration and leadership structures that leverage the expertise of the functional groups (Malin & Hackmann, 2019). These studies illustrate the often-complementary relationship between formal and informal leadership.

However, informal leadership processes are not always effective in the context of system goals. For instance, supporting the implementation of a formal leadership team (Davison, Hollenbeck, Barnes, Sleesman, & Ilgen, 2012), Ingvaldsen & Rolfsen, 2012 examined how shared leadership and rotating group spokespersons can be used as alternatives to hierarchical control in autonomous work groups using a qualitative case study of a manufacturing firm. They found that the two alternatives tend to under-perform as they weakened the system's ability to regulate non-routine situations and evaluate integral processes. Their findings underscore the need for further research clarifying why informal leadership emerges, as in some circumstances informal leadership may prove to be detrimental. Another example comes from Newell & Swan, 2000, who conducted a case study of a multidisciplinary research system. They argued that high levels of trust were necessary to facilitate the levels of communication needed to generate scientific innovation; however, the system experienced a severe distrust, power struggles, a lack of accountability across sites, and a high level of ambiguity for lower-level group members. These findings suggest that even in the presence of formal authority structures, power struggles and informal influence processes might disrupt system functioning.

Three recommendations for advancing integrative research on leadership in interteam contexts

Our review demonstrates that leadership scholars are increasingly answering calls (e.g., Ancona, 1990; Hogg et al., 2012; Pittinsky & Simon, 2007) to adopt an external perspective by examining how team members and leaders reach beyond team boundaries to support team outcomes (e.g., Marrone, 2010; Oh, Chung, & Labianca, 2004; Oh, Labianca, & Chung, 2006) and coordinate with other teams as part of interdependent systems (e.g., Davison, Hollenbeck, Barnes, Sleesman, & Ilgen, 2012; DeChurch et al., 2011; DeChurch & Marks, 2006). Researchers have made great strides in terms of clarifying *what* interaction processes, states, and leadership behaviors comprise 'functional' leadership in interteam contexts, as well as *why* and *where* leadership is enacted. However, our review also revealed that research is far from offering a complete picture of leadership in interteam contexts as studies have progressed within separate siloed literatures that emphasize

leadership processes needed to support team or system objectives, but not both. Further, our review identified critical limits to our current understanding of *when* certain leadership processes are most appropriate and *who* (i.e., which people) should assume responsibility for leadership. Therefore, in the following, we build on these limitations to offer three overarching recommendations for future research that aims to move the field from collecting pieces of a jumbled puzzle to completing a coherent picture of leadership in interdependent organizational systems.

#1 - Clarify how leaders balance 'what' across levels of 'why' and 'where'

The studies we reviewed convincingly demonstrate that leadership processes within and across team boundaries are relevant to the achievement of both team- and system-level collective goals. However, the extant literature hints at the idea that the leadership processes that support team goals might *not* always support system goals, or vice versa. For example, whereas the literature on boundary management emphasizes that leaders enable team success by securing external resources that support team objectives and by protecting the team from outside demands ((Ancona & Caldwell, 1988, 1992, b); Choi, 2002), the literature on multiteam systems has argued that leadership processes need to ensure that all component teams in the system act in pursuit of shared superordinate goals, regardless of whether teams 'win' individually (Lanaj, Hollenbeck, Ilgen, Barnes, & Harmon, 2013). Examining team or system success in isolation makes it challenging for researchers to provide practically relevant guidance for how leadership can support success across *both* collective levels. Thus, our first recommendation is for future research to integrate across research areas in order to better clarify how leaders *balance* the competing demands of interteam contexts. In order to do so, we propose four key advancements.

First, and most obviously, we believe that it is imperative for studies of leadership in interdependent systems to measure and theorize about performance at *multiple* levels of observation. The failure of most studies of cross-boundary processes to examine both team and system outcomes in the same research study is especially problematic given arguments made repeatedly in studies falling within Categories 2, 3, and 4 that what is 'good for the team' and what is 'good for the system' may be at odds with each other. Leaders at all levels in organizations have to navigate inherent tensions which result from multilevel goal hierarchies, multilayered goal and task interdependencies (Kirkman & Harris, 2017), and political and relational dynamics that knit together organizational systems. It is impossible to evaluate empirically how leaders balance these competing demands without evaluating outcomes at multiple collective levels.

Second, we identified many discrepancies across the different categories of research in terms of *what* leadership processes are emphasized most often. We suggest that developing a comprehensive understanding of how leaders balance the demands of interteam contexts may require more integration of the ideas about 'what leaders do' in these siloed areas of research. For example, in Category 1, researchers emphasize the importance of *task-, person- and change-oriented* leadership behaviors for team performance (Burke et al., 2006; DeRue et al., 2011; Judge et al., 2004). However, examining the behaviors discussed in Categories 2, 3, and 4, reveals an overwhelming emphasis on *task-oriented* behaviors (e.g., information search/scouting, guarding/sentry, task coordination, strategy development). The lack of attention toward person- and change-oriented behaviors is an important oversight as leveraging person-oriented and change-oriented leadership behaviors might be imperative in intergroup contexts characterized by competing priorities. For example, change-oriented leadership behaviors (e.g., offering an inspiring vision) might allow the leader of one team to reduce his or her own goal conflicts by shifting the goals *others* prioritize to better align with his or her own priorities. Studies of leadership in the context of superordinate goals (Categories 3 and 4) may also benefit

from leveraging more of the nuances of ‘boundary management’ activities identified in Category 2. For example, although task coordination is heavily emphasized in studies of multiteam systems, other interteam processes that have been shown to support team performance, such as the degree to which teams scout information, represent their work to others, and guard/protect their borders (Ancona & Caldwell, 1992, b) are largely ignored. Again, skill in these more ‘politically-oriented’ behaviors may be essential to leaders’ abilities to navigate the tensions of interteam contexts.

Third, many studies in Categories 2 and 4 suggest that certain cross-boundary processes might have *non-linear* effects for team or system objectives. For example, the literature on boundary spanning emphasizes that team leaders should help their teams strike an appropriate balance of team permeability (Benoliel & Somech, 2015). Likewise, the literature on multiteam systems suggests that although coordination between teams through direct mutual adjustment is often necessary, inefficient patterns of interteam coordination that are not well-matched to task demands can be harmful (Davison, Hollenbeck, Barnes, Sleesman, & Ilgen, 2012; Marks, DeChurch, Mathieu, Panzer, & Alonso, 2005). These previous investigations which have uncovered non-linear effects of ‘beneficial’ team interteam phenomena point to a need for future research to continue this line of inquiry, particularly in light of mounting evidence that many phenomena exhibit a ‘too much of a good thing’ effect (Pierce & Aguinis, 2013). We also encourage research to identify specific recommendations for leaders about how to establish the ‘optimal’ levels of team and interteam states and processes.

Finally, we emphasize that, as researchers, we cannot assume that it is clear *which* goals will take priority. Leadership, in this review, has been functionally defined as meeting the needs of the team and/or the system to enable goal-fulfillment. However, this is the functional ideal—in reality it is less clear which ‘needs’ leaders will focus on meeting. One specific pathway to understand how leaders may navigate tensions created by conflicting team/team or team/system goals is to consider leaders’ accountability. Accountability refers to the “perceived expectation that one’s decisions or actions will be evaluated by a salient audience and that rewards or sanctions are believed to be contingent on this expected evaluation” (Hall & Ferris, 2011, p. 134). Notably, rewards and sanctions do not need to be material in nature (e.g., pay or performance evaluations), but rather, can come in the form of implications for one’s social reputation (see review by Hall, Frink, & Buckley, 2017).

We expect personal and professional dynamics in many workplaces to produce accountability structures that differ widely from what one might expect based on formal hierarchies or workflow processes. Individuals’ are driven to maintain good standing in the eyes of those they deem to be key constituents (Tetlock, 1999), thus, how individuals prioritize team and system goals may be governed by their perceived accountability to different actors or groups in the organization. For example, leaders may need to give an account of their actions to not only superiors, but also peers, and subordinates. Relatedly, a key ‘role’ of leadership may be to communicate what is important and to whom members are accountable. Organizations might assume certain ‘prescribed’ objectives are also ‘perceived,’ but that is not always the case, and leaders (formal and informal) can significantly impact local perceptions of what is important (e.g., within teams). Despite being described as “the adhesive that binds social systems together” (Frink & Klimoski, 1998, p. 3), our review found that discussions of accountability are absent from studies of leadership in interteam contexts.

#2 - Elaborate ‘what’ in the context of ‘when’

Many of the studies we reviewed demonstrated the growing maturity of the leadership field by exploring critical boundary conditions of leadership processes which originate within teams, between teams, and/or in the embedding environment. However, we also identified significant opportunities to advance knowledge about leadership in

interteam contexts by examining additional moderators—particularly with regard to leadership processes spanning team boundaries. Therefore, our second recommendation is to better elaborate ‘what’ leaders do in the context of ‘when.’ We highlight a few examples below.

First, like most areas of organizational research, there is an obvious need to better understand how leadership processes within and across teams play out across *time*. We found almost no research in Category 2 investigating how the timing of cross-boundary activities might impact team outcomes. In contrast, research on multiteam systems has begun to consider how interteam leadership processes might need to be matched to the phase of system task performance (DeChurch et al., 2011; DeChurch & Marks, 2006; Lanaj, Hollenbeck, Ilgen, Barnes, & Harmon, 2013). However, across all categories of our framework, we found a preponderance of short-term and cross-sectional studies (see Table 3). It is difficult to make firm recommendations for leaders based on short-term studies of leadership and collaboration given evidence suggesting teams and systems change in meaningful ways over time (Gersick, 1991; Kozlowski et al., 1996). In fact, in one of the few studies of cross-boundary processes across time, Ancona (1990) showed teams that use ‘probing’ strategies suffered *short term* decrements in team satisfaction but performed the best in the long term.

Notably, cross-sectional designs can also severely undermine the ability to assess causality and *endogeneity* concerns. Briefly, endogeneity concerns exist when the effect of x on y cannot be interpreted because it includes omitted causes and results due to a variety of study design flaws, including omitted variables, omitted selection, simultaneity, common-method variance, and measurement error (for an in-depth review of endogeneity see Antonakis, Bendahan, Jacquot, & Lalivé, 2010; Antonakis & House, 2014). Although it appears (see Table 3) that researchers often address one potential source of endogeneity (i.e., by using multi-source data), there are additional recommendations that can help address other sources. First, increased use of appropriate control variables, which Antonakis et al. (2010) defined as “exogenous sources of variance that do not correlate with the error term” (p. 1099), can help address omitted variable bias. Second, increasing the use of experimental or quasi-experimental designs could allow researchers to disentangle causal effects (Stone-Romero, 2008). Further, none of the studies we reviewed utilized *field experiments*. Field experiments have been used in other disciplines, including economics, for a considerable period of time (some would argue since the 1920s; Levitt & List, 2009). Although the use of field experiments is less prevalent in the realm of leadership research (with notable exceptions e.g., Dvir, Eden, Avolio, & Shamir, 2002), there are substantial benefits of using field experiments that could reduce potential concerns regarding causality and endogeneity and might be a fertile ground for testing theory central to leadership in intergroup contexts in a controlled and rigorous way.

Second, although qualitative studies of multiteam systems often emphasize that task demands and system memberships can shift dynamically over time, quantitative studies, especially those conducted in laboratory settings, have tended to model multiteam systems with extremely stable memberships and task demands that operate on relatively short (3–4 h) time frames. Thus, we identified a need for quantitative studies of interdependent systems to consider how leadership processes might support major *changes* in task demands and system memberships. Important questions include: What leadership processes allow high functioning systems to remain so when power dynamics shift as teams that were more central to system task demands become less central? What leadership processes are most effective in dynamic interdependent systems where team membership is highly fluid (i.e., teams are aggregating and disaggregating as a system in response to environmental changes)?

Third, additional research is warranted that evaluates how the *types* of system tasks might determine the most effective patterns of leadership and teamwork processes. Teams and systems tackle a variety of types of tasks ranging from more conceptual (e.g., intellective tasks, decision-making tasks, creativity tasks, cognitive conflict tasks) to more

behavioral (e.g., planning, resolving mixed motives, competitions, psycho-motor tasks; McGrath, 1984). However, whereas the qualitative (e.g., case studies) of multiteam systems we reviewed considered both highly conceptual (e.g., innovation) as well as highly behavioral (e.g., disaster response) system demands, the majority of the quantitative empirical studies we reviewed focused exclusively on behavioral tasks (e.g., military simulations; Davison, Hollenbeck, Barnes, Sleesman, & Ilgen, 2012; DeChurch & Marks, 2006; de Vries, Hollenbeck, Davison, Walter, & Van der Vegt, 2016; Marks, DeChurch, Mathieu, Panzer, & Alonso, 2005; Murase, Carter, DeChurch, & Marks, 2014; Lanaj, Hollenbeck, Ilgen, Barnes, & Harmon, 2013; Firth, Hollenbeck, Miles, Ilgen, & Barnes, 2015; Lanaj, Foulk, & Hollenbeck, 2018; Porck et al., 2019). Interestingly, an overarching conclusion from these studies appears to be that a multiteam system will function best when team identification is strong, teams are rather insular, and interteam coordination processes are handled almost exclusively by a select set of boundary spanners and members of formal leadership teams. However, in the context of creativity tasks, studies from Category 2 have suggested that when teams are overly insular and believe they have a monopoly on a particular domain, they may be unwilling to be influenced by the contributions offered by ‘outsiders’ and consequently, may suffer creativity decrements (Dokko, Kane, & Tortoriello, 2014; Carbonell & Rodríguez Escudero, 2019). Further, whereas studies of team boundary spanning have suggested that teams engage in *more* boundary activities during times of task uncertainty (Faraj & Yan, 2009), theoretical work on multiteam systems suggests that team members may engage in *less* interteam interaction under situations of high task uncertainty (Luciano et al., 2018). Clearly more research is needed to disentangle these inconsistencies and provide more targeted recommendations for leaders.

Relatedly, we believe that exploring how leadership processes should be matched to the nature of *interteam interdependence* (driven by task demands) is a promising avenue for future research. Pairs of interdependent teams in organizational systems might be engaged in *pooled* (additive), *sequential*, *reciprocal*, and/or *intensive* forms of interdependence at certain points in time (Kennedy, Sommer, & Nguyen, 2017; Marks, DeChurch, Mathieu, Panzer, & Alonso, 2005; Mathieu et al., 2001). These different forms of interteam interdependence may be used as a preliminary guide for structuring leadership processes between teams (e.g., determining ‘*who*’ should enact leadership and ‘*what*’ processes are most critical) and for helping leaders understand how to prioritize goals (establish ‘*why*’ for the team) when they face potential trade-offs across levels of a multiteam goal hierarchy. That is, when teams are pursuing shared goals that require pooled forms of interdependence, they work separately, but may benefit from an *awareness* of what other teams are doing. Under these circumstances, emphasizing *team* level goals is a top priority and external leadership processes (and/or boundary activities) may be kept to a minimum. However, as pairs of teams move toward highly *intensive* forms of interdependence driven by superordinate goals, leadership processes may need to shift toward enhancing collaborative psychological states between teams that support joint problem solving and integration of ideas without also losing sight of team-level goal accomplishment, and may need to involve more (formal and informal) leaders. Unfortunately, only a small subset of the studies we reviewed described the nature of interteam interdependencies in great detail, particularly within Category 2. Thus, in order to build an evidence base related to these propositions, we strongly suggest that future research *specify* the nature of the interteam interdependencies between pairs of teams when examining team and leadership processes.

#3 - Evaluate ‘*who*’ should (or is likely to) enact ‘*what*’ ‘*where*’

Quantitative studies of leadership within teams in support of team goals (Category 1) are finding that informal leadership (provided by members of the group) is important and often, augments formal

leadership to improve team effectiveness (e.g., Aime et al., 2014; Carson, Tesluk, & Marrone, 2007; D’Innocenzo et al., 2016; Klein et al., 2006; Nicolaides et al., 2014; Wang et al., 2014). However, across the other three categories of research, we found a paucity of quantitative investigations of informal leadership. This is unfortunate because qualitative case studies across all three areas have often found that informal leadership processes do, in fact, exist in interteam contexts (Biefeld & Grote, 2014; Johannessen, McArthur, & Jonassen, 2015; Malin & Hackmann, 2019), and may not always support team or system objectives (Ingvaldsen & Rolfsen, 2012). Therefore, our third recommendation is for future research to more carefully evaluate the *antecedents* and *outcomes* of informal leadership influence in interteam contexts.

For example, in the context of studies within Category 2, researchers have depicted cross-boundary processes as functions that formal leaders might enact and additionally, as functions that can be distributed among multiple team members (Marrone, Tesluk, & Carson, 2007). However, the studies we reviewed typically measured the overall ‘amount’ of team boundary spanning without considering which team members are enacting those processes (Ancona et al., 2002; Elkins & Keller, 2003; Ferguson & Blackman, 2019). The few exceptions to this trend suggest that there are meaningful effects when the *patterning* of team members’ boundary spanning behavior is taken into account (Büchel, Nieminen, Armbruster-Domeyer, & Denison, 2013; Oh, Chung, & Labianca, 2004). Given the complex, multifaceted nature of most modern workplaces, targeted, purposeful, and coordinated patterns of boundary spanning efforts are likely to yield more positive results than unstructured activities, left solely to chance. Leadership in interteam contexts should work to ensure that the right people within the team are connecting with the right *other* people external to the team and that the cross-boundary actions of team members are not unnecessarily duplicated or working at cross-purposes. Research is needed to provide more targeted guidance about how teams can best distribute responsibility for cross-boundary processes to support collective goals.

The vast majority of quantitative studies in Categories 3 and 4 have investigated leadership influence *after* a formal leadership team has been established. There are certainly numerous benefits to having a formal leadership team that is devoted to achieving the shared superordinate goal of the system and is focused exclusively on managing all interteam coordination demands (Davison, Hollenbeck, Barnes, Sleesman, & Ilgen, 2012; DeChurch & Marks, 2006; Firth, Hollenbeck, Miles, Ilgen, & Barnes, 2015). Unfortunately, not all systems contain a formal leadership team, at least not during the initial stages of system performance. Moreover, even when formal leadership teams are established, there may be power dynamics at play and disagreements about which goals should be prioritized (Newell & Swan, 2000). Indeed, Lanaj, Foulk, & Hollenbeck, 2018 findings that formal leadership teams and lower level component teams can hold (and express) different preferences for risk taking hint at the possibility that ‘leadership’ influence can emanate from formal as well as informal sources.

Therefore, we strongly suggest that future research should seek to better understand *why* informal leadership influence processes arise within and across teams—particularly in the context of interdependent teams whose joint efforts *could* be used to achieve important societal or organizational goals. Doing so could help illuminate whether the patterns of leadership influence that are associated with high levels of system performance under certain circumstances are also the patterns that are *likely* to arise. Moreover, should researchers find that the patterns of leadership that are likely to emerge are *not* the patterns of leadership that are most effective, understanding the antecedents of these social systems could help point toward organizational interventions.

For example, the design of organizational structures and workflows as well as decisions regarding goals, reward systems, and personnel (e.g., new hires or inter-unit transfers) are often not made with the explicit purpose of influencing how employees interact with each other;

nevertheless, these decisions by formal leaders shape how networks of relationships (including informal leadership) develop in the workplace (Antonakis & House, 2014; Brass, 2001; Brass & Krackhardt, 1999). These decisions "fundamentally alter the internal social structure of organizations by fluctuating the pool of human capital (i.e., composition), altering employee interaction patterns (i.e., configuration), and changing the nature of employee relationships (i.e., content)" (Method, Rosado-Solomon, & Allen, 2018; p. 726). Thus, formal leaders should include in their calculus how decisions regarding personnel assignments, work design, goals, and performance evaluations might shape the development of relationships among employees that impact the achievement of collective goals (Cullen-Lester, Maupin, & Carter, 2017).

Notably, simply prescribing patterns of cross-boundary activities needed to achieve team and system goals may not be sufficient and could even be detrimental (e.g., employees may respond negatively if they feel the organization is trying to control or prescribe whom they should talk to, develop friendships with, or try to influence). Thus, we argue that leaders would be better served to focus on understanding how they can set up the 'facilitating conditions' (Hackman, 2012) that support the emergence of beneficial networks of informal influence in interdependent systems (i.e., conditions that allow groups to chart their own course in support of both team and system goals) as opposed to attempting to prescribe formalized structures in their entirety. For instance, research suggests that actions of formal leaders signal whether it is advisable for members of their team to form cross-boundary relationships. Leaders encourage cooperation or, conversely, competition with their rhetoric and the goals and structures they emphasize (Kaiser, Hogan, & Craig, 2008). For example, leaders who emphasize intra-organizational comparisons may improve performance for their team by increasing motivation, but this decision may also evoke feelings of rivalry with others (Kilduff, 2014; Kilduff, Elfenbein, & Staw, 2010) and lead to destructive competitive emotions (e.g., envy; Nickerson & Zenger, 2008) and behaviors (e.g., dishonesty; Charness, Masclat, & Villeval, 2013; Chan, Li, & Pierce, 2014; excessive risk taking; Kacperczyk, Beckman, & Moliterno, 2015).

Future research might also draw inspiration from the fields of economics (e.g., retirement savings), healthcare (e.g., exercise or food choices), and marketing (e.g., product purchases) to learn how leaders might 'nudge' employees toward making decisions that will help their team and the broader organizational system in which the team is embedded when developing, maintaining, and altering their workplace relationships. Recently, Tawse, Patrick, and Vera (2019) proposed that nudges (i.e., "any aspect of the choice architecture that alters people's behavior in a predictable way", Thaler & Sunstein, 2008, p. 6) might be used to encourage strategic leaders to shift their attention from planning activities to the hard work of strategy implementation. They proposed that nudges may be used to create an implementation mindset by removing planning distractions and using verbal framing to strengthen managers' willpower. Future research might focus on identifying nudges that leaders might use to encourage desirable cross-boundary behaviors. Although the aim is not to 'prescribe' the development of specific relationships, formal leaders still need to have a clear picture of what types and patterns of cross-boundary connections are needed in order to achieve collective goals across levels so that they might create conditions that encourage employees to form these relationships themselves.

Conclusion

Enacting leadership in interteam contexts is often a balancing act and a moving target—and so is the study of leadership in interteam contexts. We applaud previous researchers who have taken on the immensely complex challenge of delineating the nature of 'functional' leadership in interteam contexts. We hope this review serves as a foundation for future research that connects ideas and perspectives

across disparate areas of inquiry in order to further clarify how formal and informal leaders and leadership processes within and across teams support organizational objectives across team and system levels.

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Review

Leader-follower transgressions, relationship repair strategies and outcomes: A state-of-the-science review and a way forward



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ARTICLE INFO

Keywords:

Leader transgressions
Follower transgressions
Relationship repair strategies
Apology
Forgiveness

ABSTRACT

A growing body of literature has focused on transgressions in the workplace and more recently, with respect to leader-follower relationships. Despite the important implications of leader and follower transgressions and relationship repair for work outcomes, there has not been a systematic review that examines the broad spectrum of leader and follower transgressions and most importantly adopts a dynamic relational process perspective. We view transgressions as key events in leader-follower relationships that trigger re-evaluation of the relationship, relationship repair processes and influence work outcomes. The purpose of this review is threefold. First, to provide a state-of-the-science review of the growing literature. Second, to offer a critical analysis of leader and follower transgressions in terms of conceptualization, methodological issues and theoretical underpinnings. Third, to outline a research agenda addressing leader-follower transgressions, relationship repair processes and outcomes based on relationship science.

Introduction

Relationship fractures and transgressions in the workplace have received considerable attention in organizational research (e.g., Basford, 2014; Elangovan & Shapiro, 1998; Liden, Anand, & Vidyarthi, 2016; Olekalns, Barker, & Vogus, 2019). Transgression events threaten workplace relationships and may cause irreparable damage and dissolution. A focal work relationship is that between a leader and a follower and transgression events in this context can potentially have serious implications for work-related outcomes such as well-being, engagement, performance, and retention (e.g., Basford, Offermann, & Behrend, 2014; Byrne, Barling, & Dupré, 2014; Krantz, 2006; Shapiro, Boss, Salas, Tangirala, & Von Glinow, 2011; Stouten & Tripp, 2009).

Prior integrative research on workplace transgressions has focused on work relationships in general (Ferris et al., 2009; Liden et al., 2016; Olekalns et al., 2019) and has offered important insights on relational processes such as relationship resilience and trust repair (e.g., Kramer & Lewicki, 2010). However, there has been limited emphasis on the leader-follower dyad and the specific implications of leader-follower transgressions. The implicit assumption underlying previous general reviews is that leader-follower relations are similar to other relationships in organizational contexts and that any general insights can also

be applied to the leadership domain. Given the abundance of studies focusing on relationship-based leadership perspectives (for a review see Epitropaki, Martin, & Thomas, 2017; Martin, Epitropaki, Erdogan, & Thomas, 2019), with Leader-Member Exchange (LMX) being the second most prolific research area in the leadership domain (e.g., Bauer & Erdogan, 2015), such an assumption downplays the complexity of leader-follower relationships. We argue that leader-follower transgressions warrant special attention as there are some fundamental differences between leader-follower relationships and other workplace relationships which we describe below.

The leader-follower relationship is characterized by power asymmetries due to hierarchical status differences that can influence the outcomes of the transgression and the relationship repair strategies employed. Prior research on forgiveness has shown that the more powerful the partner, the less likely it is for him/her to forgive (e.g., Fincham, Hall, & Beach, 2006) and the more likely it is for him/her to seek revenge (e.g., Aquino, Tripp, & Bies, 2006). Also, leader-follower relationships are characterized by high levels of interdependence (Hollander, 1992; Thomas, Martin, Epitropaki, Guillaume, & Lee, 2013; Tjosvold, 1989). The follower depends upon the leader for a wide range of resources (such as affiliation, service, goods, money, information, status) but also the leader depends upon the follower for resources such

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as high levels of performance (Wilson, Sin, & Conlon, 2010). Such high interdependence has important implications for relationship maintenance acts following a transgression.

We are only aware of one major review that has focused on leader transgressions (Krylova, Jolly, & Phillips, 2017) and no reviews that address follower transgressions or, importantly, emphasize *both* leadership and followership perspectives. Krylova et al. (2017) provided a very good review of integrity-based transgressions and adopted mainly a leader-centric view of transgressions. They specifically reviewed the literature on leader's integrity-based wrongdoing and subsequent damage to followers' trust and moral identity. In doing so, they synthesized existing research on integrity-based wrongdoing with the experimental philosophy literature on moral cognition (e.g., Cushman, 2008). The aim of our review is to focus on a broad spectrum of transgressions and adopt a relational lens in order to cast light on *both* leader and follower transgressions, relationship repair strategies and work-related outcomes.

We aim to make three key contributions: First, we critically review existing definitions and typologies, discuss theoretical underpinnings, address methodological issues and offer suggestions for increased definitional clarity and methodological advancement. Second, we provide a state-of-the-science review of the growing literature. We review existing research on both leader *and* follower transgressions, relationship repair processes and outcomes, identify points of convergence and gaps in the literature. Third, we outline a future research agenda by offering an integrative process model of leader-follower transgressions, relationship repair strategies, boundary conditions and outcomes based on insights from the multidisciplinary literature on relationship science. We try to uncover the nuances of the phenomenon of transgressions, its dynamic and events-based nature and its implications for individual, dyadic and group outcomes in organizational settings. We believe that our review is timely and can significantly extend our understanding of what happens when things go wrong in leader-follower relationships as well as how (and under which conditions) the relationship can be repaired.

Conceptualization of leader and follower transgressions

Definitions and typologies

Interpersonal transgressions have been generally defined as "... actions taken by others against a person that go beyond the limits of normative social intercourse and, therefore, violate various social and moral codes" (Jones, Moore, Schratter, & Negel, 2001, p. 234). In the broad workplace relationships literature, in addition to 'transgressions' (e.g., Abrams, Travaglino, Marques, Pinto, & Levine, 2018; Shapiro et al., 2011; van Houwelingen, van Dijke, & De Cremer, 2015), we find similar terms such as 'betrayals' (e.g., Elangovan & Shapiro, 1998; Kramer & Lewicki, 2010; Krantz, 2006; Reina & Reina, 2006), 'offenses' (e.g., Aquino, Tripp, & Bies, 2001) and 'trust violations' (e.g., Schweitzer, Hershey, & Bradlow, 2006) to denote actions that cause harm to a potential victim (or victims) at work.

Leader transgressions have been defined similarly to interpersonal transgressions as "leaders' actions, at work, whose appropriateness is questionable when judged by norms associated with workplace-related policies, procedures, or practices and/or with codes of interpersonal conduct" (Shapiro et al., 2011, p. 412). Basford (2014) further focused on supervisor transgressions at work and defined them as "... supervisor's actions in the workplace that are perceived to violate work norms, including those relating to policies, procedures, practices, or interpersonal conduct" (p. 81). Basford argued that examining supervisor transgressions versus general leader transgressions is relevant due to the unique nature of the supervisor-subordinate relationship. In his view, employees will experience different interactions with leaders at various hierarchical levels (Zaccaro & Marks, 1999) and thus the implications of supervisory (i.e., direct manager's) transgressions will not

be the same as CEO or senior leaders' transgressions. Basford thus indirectly acknowledged the complex and multi-level nature of leader transgressions, but this is not reflected either in his definition or typology of transgressions. To the best of our knowledge, there does not exist a separate definition of follower transgressions.

When it comes to specific transgression typologies, one of the earliest categorizations of workplace transgressions (not necessarily focused exclusively on leaders), is that by Bies and Tripp (1996, 2004). Namely, they suggested that *workplace offenses* can be categorized as: (a) goal obstruction (e.g., actions obstructing an employee's achievements); (b) violation of rules, norms and promises (e.g., taking credit for other's performance or ideas); and (c) status and power derogation (e.g., hypercritical, over-demanding, harsh superiors). In the trust literature, there is a well-established distinction between *competence-* and *integrity-based* trust violations or transgressions (Dirks, Kim, Ferrin, & Cooper, 2011; Ferrin, Kim, Cooper, & Dirks, 2007; Kim, Cooper, Dirks, & Ferrin, 2013; Kim, Dirks, Cooper, & Ferrin, 2006; Kim, Ferrin, Cooper, & Dirks, 2004). *Competence-based transgressions* involve unintentionally harming the followers due to the lack of knowledge, skills or resources (Kim et al., 2004) whereas *integrity-based transgressions* entail intentionally offending or inconveniencing followers because of selfishness, dishonesty or discrimination (Kim et al., 2006; Mayer, Davis, & Schoorman, 1995).

In the leadership literature, Shapiro et al. (2011) offered a typology of eight leader transgressions: (a) *absenteeism/negligence of duty* (e.g., the leader neglecting duties and/or being absent from the organization during expected work hours); (b) *verbal/physical abusiveness* (e.g., the leader shouting at employees or using offensive language); (c) *discrimination* (e.g., the leader treating male and female followers differently); (d) *favoritism* (e.g., the leader defending preferred followers when they break rules); (e) *dishonesty* (e.g., the leader lying on reports, taking credit for other's achievements); (f) *incompetence* (e.g., the leader not employing correct procedures while performing duties); (g) *interpersonal sabotage* (e.g., the leader impeding followers' promotion to secure their own position in department); and (h) *miscellaneous*. Shapiro et al. (2011) further identified that more than half of the leader-transgressors were just one or two hierarchical levels above the participants and the most frequent type was dishonesty-related transgressions.

Other typologies include the one by Basford (2014) who identified eleven supervisory transgression types and further classified them on a spectrum ranging from active to passive. *Active transgressions* were considered those that the supervisor commits by intentionally behaving in a certain way, such as performance criticisms and demeaning insults. On the other side of the spectrum, *passive supervisor transgressions* are those that arise from the lack of supervisor action, effort, or behavior, such as undersupplied resources, and underprovided recognition. Grover, Hasel, Manville, and Serrano-Archi (2014) also classified transgressions into two types, *recoverable* and *unrecoverable*. They generally classified competence-based transgressions as recoverable and integrity-based transgressions as unrecoverable but further highlighted the importance of acknowledging factors and conditions that allow for recovery such as intentionality.

In the leadership literature, there are no specific typologies of follower transgressions, but we can borrow insights from the literature on workplace deviance and counterproductive work behaviors. Robinson and Bennett (1995) defined employee deviance as "... voluntary behavior that violates significant organizational norms and in so doing threatens the well-being of an organization, its members, or both" (p. 556) and identified four types of deviance, two organization-focused, i.e., production deviance (e.g., leaving early), property deviance (e.g., stealing from the company) and two interpersonal co-worker focused, i.e., political deviance (e.g., gossiping about co-workers) and personal aggression (e.g., verbal abuse). Grusy and Sackett (2003) have also offered a taxonomy of eleven counterproductive work behaviors: (a) theft and related behavior; (b) destruction of property; (c) misuse of

information; (d) misuse of time and resources; (e) unsafe behavior; (f) poor attendance; (g) poor quality work; (h) alcohol use; (i) drug use; (j) inappropriate verbal actions; and (k) inappropriate physical actions. It is important to note that the above typologies are not directly focused on the leader-follower relationship. The transgression target is either the organization in general (such as stealing from the company, leaving early and wasting resources) or the co-workers (such as gossiping about co-workers and blaming co-workers) and there is no explicit acknowledgement that these are examples of deviance in leader-follower interactions. However, subsequent empirical studies have explicitly linked leadership with employee deviance behaviors (Mayer, Thau, Workman, Van Dijke, & De Cremer, 2012; Park et al., 2019). For example, Mitchell and Ambrose (2007) added supervisor-directed deviance to Bennett and Robinson's (2000) model and adapted their interpersonal deviance items to indicate behaviors targeted against the supervisor (instead of the co-worker). Other studies (e.g., van Gils, Van Quaquebeke, van Knippenberg, van Dijke, & De Cremer, 2015) argued that leaders serve as representatives for their organization and thus follower organizational deviance can be viewed as leader-targeted. Based on this literature, we argue that employee deviance typologies can offer some general insights on the possible content of follower transgressions.

We summarize all the above typologies in Table 1.

As it becomes evident from Table 1, when attempting to synthesize these diverse typologies into a unified framework, three broad types of leader-follower transgressions emerge: (a) transgressions violating the existing task accomplishment and performance norms, such as incompetence, absenteeism and negligence of duty which we classify as *task-focused transgressions*; (b) transgressions violating norms of interpersonal interaction and hurting a person's self-esteem, such as interpersonal sabotage and verbal abuse, labeled *person-focused transgressions*; and (c) transgressions which violate moral and ethical norms such as dishonesty and discrimination, labeled *ethics-focused transgressions*.

Table 1 offers a comparison of existing typologies under this tripartite framework of task-, person- and ethics-focused transgressions. As we can see in Table 1, there are inevitably overlaps and redundancies among typologies. For example, Basford's (2014) category of inequitable behavior encompasses Shapiro et al.'s (2011) discrimination and favoritism themes. Shapiro et al.'s (2011) absenteeism/negligence of duty category encompasses aspects of Basford's (2014)

undersupplied resources, since employees in both categories are not provided with sufficient support. Furthermore, Basford's (2014) false accusations contain elements of Shapiro et al.'s dishonesty and interpersonal sabotage themes, as well as the categories of recognition and unfair employment decisions. One difference between Shapiro et al.'s (2011) categories of leader transgressions and Basford's (2014) categories of supervisor transgressions is that the category of leader *incompetence* did not arise as a common theme in Basford's study. Basford (2014) suggested that this discrepancy arose due to the change in the focal transgressor - from the leader in general to the supervisor. We can also see that some established typologies such as the competency vs. integrity violations framework (Kim et al., 2004) do not include person-focused transgressions i.e., behaviors that violate interpersonal norms and 'attack' a person's self-concept and self-esteem.

We further observe that the power and hierarchical status differences characterizing leader-follower relationships become more evident in certain transgression types than others. For example, performance criticisms, undersupplied resources, underprovided recognition, unfair employment decisions, favoritism and abuse of power are more likely to be leader-based transgressions. On the other hand, transgression types such as dishonesty and incompetence can equally apply to both leaders and followers. Our tripartite framework offers a broad taxonomy for both leader and follower transgressions and does not explicitly acknowledge issues related to power or hierarchical status differences. We nonetheless discuss such issues in detail in later sections where we present our integrative framework ([An integrative model of leader-follower transgressions, relationship repair strategies and outcomes from an interdependence theory perspective](#) section) and most specifically in relation to the relationship repair strategies a transgressor or a victim may employ after a transgression.

When reviewing past typologies, we also notice that attempts to qualitatively differentiate between transgression types, such as Grover et al. (2014)'s classification of transgression typologies into recoverable (competence-based) and unrecoverable (integrity-based) mix boundary conditions and attributional processes in the content of transgressions. Recovery is not an inherent characteristic of the transgression type but dependent upon the victim's attributions and the transgressor's behavior. The exact same transgression (e.g., dishonesty) may be recoverable if the victim makes, for example, an external attribution and/or the transgressor engages in a relationship repair strategy such as an apology

Table 1
A classification of existing transgression typologies.

Existing typologies	Task-focused	Person-focused	Ethics-focused
GENERAL			
Robinson and Bennett (1995)	<ul style="list-style-type: none"> Production deviance 	<ul style="list-style-type: none"> Personal aggression 	<ul style="list-style-type: none"> Property deviance
Bies and Tripp (1996, 2004) Kim et al. (2004) Fraser (2010)	<ul style="list-style-type: none"> Goal obstruction Competence-based trust violations Performance issues Unmet expectations Ineffective leadership Unwillingness to acknowledge responsibility Structural issues 	<ul style="list-style-type: none"> Violation of rules, norms and promises Disrespectful behaviors Communication issues 	<ul style="list-style-type: none"> Political deviance Status and power derogation Integrity-based trust violations Incongruence (of values)
Shapiro et al. (2011)	<ul style="list-style-type: none"> Absenteeism/negligence of duty Incompetence 	<ul style="list-style-type: none"> Indifference Separation Distrust Verbal or physical abusiveness Discrimination Interpersonal sabotage Demeaning insults Inconsiderate treatment Disregard of opinions Underprovided recognition Lack of caring Interference 	<ul style="list-style-type: none"> Dishonesty Favoritism Dishonesty
Basford (2014)	<ul style="list-style-type: none"> Performance criticisms Undue demands Undersupplied resources 		<ul style="list-style-type: none"> False accusations Unfair employment decisions Inequitable behavior Inappropriate contextual selections Deception Abuse of power
Grover et al. (2014)	<ul style="list-style-type: none"> Incompetence 		

but it will be irrecoverable if no action is taken. Similarly, the distinction of active and passive transgressions offered by Basford (2014) mixes intentionality and the attributional processes a victim will engage into within the transgression content. This creates a ‘messy’ and confusing picture of leader-follower transgressions.

The impression that a reader gets when reviewing existing typologies is that of continuously ‘re-inventing the wheel’ and although the insights on the content of transgressions are valuable, they do not help move the field forward towards addressing more interesting theoretical questions and dynamic phenomena. We hope that our tripartite framework can offer an overarching framework of leader and follower transgressions that future research can utilize to delve deeper into this complex phenomenon.

The way forward on definitional issues

From the previous discussion it becomes evident that existing definitions and typologies of transgressions adopt a narrow and static view, a ‘slice in time’ lens of a complex temporally unfolding phenomenon. Existing definitions (e.g., Shapiro et al., 2011) generally define transgressions as leader actions that violate organizational norms (such as workplace-related policies, procedures, or practices and/or codes of conduct) but fail to capture: (a) the transgression content, i.e., whether the transgressions are task-, person- or ethics-focused; (b) the relational nature of leader-follower transgressions. Past definitions mainly view transgressions as actions that violate organizational norms and do not acknowledge the importance of leader-follower relationship norm violations; and (c) their event-based occurrence and dynamic essence. Past definitions remain silent regarding the temporal nature of transgressions. We define leader (follower) transgressions as *leaders' (followers') actions that violate the established task-focused, person-focused or ethics-focused norms and expectations in the leader-follower relationship*. *Transgressions are key events in a leader-follower relationship which diverge from the stable or routine features of leader-follower interactions and trigger re-evaluation of the relationship*.

Transgressions represent critical incidents (Flanagan, 1954), negative events (Lavallee & Campbell, 1995), a jolt (Meyer, 1982), ‘discontinuous happenings’ (Morgeson, Mitchell, & Liu, 2015, p. 519) or a shock in the leader-follower relationship and are thus far from routine and continuous. Given their event-based occurrence, the transgression event strength (Morgeson et al., 2015) is of importance. Characteristics such as criticality (“is the transgression event of high severity?”), novelty (“is the leader or follower transgression a new and unexpected occurrence?”) and disruption (“does the transgression involve a discontinuity in the leader-follower relationship? What behaviors need to change due to the transgression? What relationship routines need to be adjusted?”) need to be taken into account when studying leader-follower transgressions. Events of low severity, low novelty and low disruption are unlikely to even enter the potential victim's (leader or follower) awareness sphere and thus their implications for the leader-follower relationship and organizational outcomes will be minimal. On the other extreme, transgression events of high severity, high novelty and high disruption are likely to be *anchoring events* (Ballinger & Rockmann, 2010) in the leader-follower relationship. Anchoring events are marked by extreme emotional and instrumental content, are encoded in autobiographical memory and have significant effects on the individual, the relationship and work-related outcomes. Such high impact transgression events can serve as anchors based on which subsequent leader-follower exchanges and relational events will be evaluated.

On the other hand, events of high severity and disruption but low novelty will imply some form of abusive supervision and destructive leadership in general (e.g., Tepper, 2007). Thus, transgression event novelty (or transgression frequency) can be a qualifying condition that differentiates leader-follower transgressions as ‘discontinuous happenings’ that diverge from routine leader-follower interactions (per our

previous definition) from abusive supervision, destructive leadership (e.g., Schyns & Schilling, 2013) and toxic followership (e.g., Padilla, Hogan, & Kaiser, 2007) phenomena where norm-violating behaviors are routine and stable patterns of leader-follower interaction. Abusive leadership is a broad literature that has been the topic of several reviews (e.g., Mackey, Frieder, Brees, & Martinko, 2017; Martinko, Harvey, Brees, & Mackey, 2013; Tepper, 2007) and falls beyond the scope of this review.

In sum, our definition extends existing conceptualizations of leader-follower transgressions by acknowledging that: (a) they can be qualitatively different in terms of task-, person- or ethics-focused content; (b) they are fundamentally of a relational nature as they take place in the context of leader-follower relationships; and (c) they are not static ‘snapshot’ phenomena but instead discontinuous events in the leader-follower relationship that can trigger relationship re-evaluation processes over time.

Relationship repair strategies

After addressing transgression content and definitional issues in the previous section, we now shift the lens of our review to the relationship repair strategies that leaders and followers can employ after a transgression event.

Transgressor strategies

Prior literature on relationship conflict and trust repair (e.g. Lewicki & Brinsfield, 2017; Ren & Gray, 2009) has mainly identified four dominant strategies that transgressors can use in restoring damaged relationships and trust: (a) offer *accounts* for a violation in an attempt to deny, reduce, or explain their culpability; (b) offer an *apology*, (c) demonstrate *concern* for the victim, and (d) show *penance*. The role of the transgressors in promoting (or impeding) prosocial transformation and forgiveness through their actions has also been highlighted by Rusult, Olsen, Davis, and Hannon (2001). They defined *amends* as the transgressor's inclination to accept responsibility for a transgression, offering sincere apology and genuine atonement. Amends may exert beneficial effects on victim cognition and emotion, thereby enhancing the probability of prosocial victim transformation. For example, by discussing the incident in a concerned apologetic manner, the transgressor may help the victim develop feelings of empathy, thereby promoting a more positive emotional state, or may identify extenuating circumstances, thereby promoting less malevolent attributions regarding the transgressor's motives (Fincham, Paleari, & Regalia, 2002; McCullough et al., 1998).

One of the common relationship repair strategies that has been examined in the existing literature is the transgressor (mainly the leader) offering an apology. Apology is defined as a statement by which the offender acknowledges the transgression and asserts their responsibility for it (Leunissen, De Cremer, Reinders Folmer, & van Dijke, 2013). As noted by Basford et al. (2014), apologies are a “forgiveness-seeking strategy” (Waldron & Kelley, 2008, p. 112), and the most frequently used technique when individuals pursue forgiveness (Kelley, 1998). Basford et al. (2014) provide two theoretical explanations as to why apologies are effective in eliciting forgiveness and repairing relationships. In Goffman's (1971) view, apologies enable offenders to disassociate their bad self from their good self. Apologizing enables an individual to detach the part of the self that is transgressive from the part of the self that is regretful thus enabling the good self to be forgiven. Along with this “splitting of the self” theory (Goffman, 1971, p. 113), other theories provide arguments as to why apologies are often viewed as effective image-restoration and relationship repair tactics. According to correspondent inference theory (Jones & Davis, 1965), victims make presumptions about offenders considering the extent to which the transgression is under the offender's control and the extent to which the offender benefits from it. By apologizing the offender may

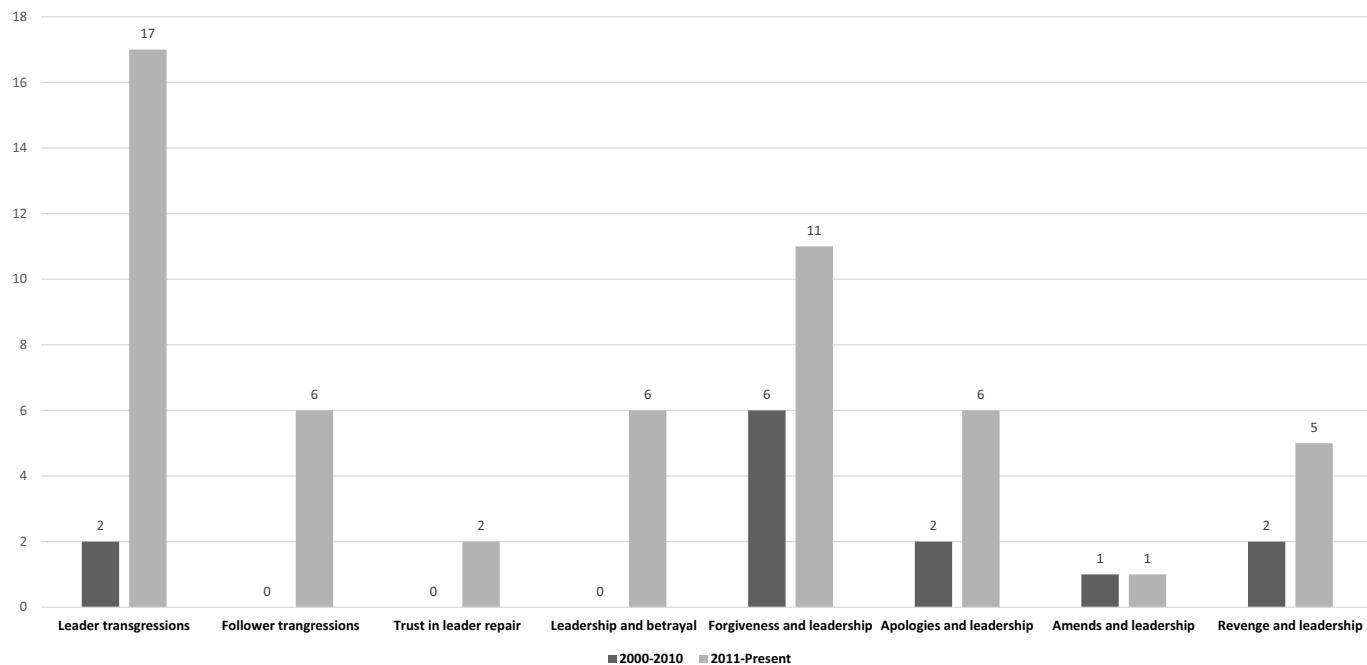


Fig. 1. Frequency count of articles containing leadership transgressions, follower transgressions, trust in leader repair, betrayal, forgiveness, apologies, amends and revenge, in the article title or abstract in 10 year increments since 2000.

convey the message that the harm was not intentional, that its consequences are also harming the offender, and that the offender merits forgiveness. Even though these two theories differ in some respects, they are aligned on the view that apology should facilitate forgiveness (Basford et al., 2014).

In addition to being just a verbal expression of remorse, Grover, Abid-Dupont, Manville, and Hasel (2019) observe that higher-quality apologies involve empathy, acceptance of responsibility and compensation in the form of penance (Fehr, et al., 2010). In their conceptual model of leader-follower reconciliation, Andiappan and Treviño (2011) identified sincere apology as a repair effort that leads to forgiveness. This notion has been supported by meta-analytic evidence which implies a strong link between apology and forgiveness (Fehr, Gelfand, & Nag, 2010).

Victim strategies

Forgiveness is a rapidly growing area of research that holds promise for understanding leader-follower relationship development after a transgression (Fincham et al., 2006). Existing forgiveness conceptualizations are quite diverse (e.g., Enright et al., 1996; Exline & Baumeister, 2000; Finkel, Rusbult, Kumashiro, & Hannon, 2002) but they share an important common feature, i.e., the assumption that forgiveness is a complex transformational process, which involves prosocial change regarding a transgressor on the part of the transgression recipient. As McCullough, Fincham, and Tsang (2003) point out "... nearly every theorist appears to concur that when people forgive, their responses (i.e., thoughts, feelings, behavioral inclinations or actual behaviors) towards a transgressor become more positive and/or less negative" (p. 540). Maio, Thomas, Fincham, and Carnelley (2008) further tested the idea that the process of forgiveness is intrinsically different across diverse relationships and found important asymmetries in associates of forgiveness across parent-child and parent-parent relationships. They also pointed out that forgiveness is an evolutionary adaptation that protects relationships and that unforgiveness is related to avoidance behavior.

Scholars have begun to investigate forgiveness in organizational contexts, including the notion of leader-follower forgiveness. In their

review, Cameron and Caza (2002) underline the power that forgiveness has on individual and collective outcomes. In a similar vein, Caldwell and Dixon (2010) argue that love, forgiveness and trust are the core values of contemporary organizational leaders who strive to maximize value for organizations while enabling employees to realize their full potential. Fehr and Gelfand (2012) pointed to levels-of-analysis issues when studying forgiveness in organizational settings and proposed the concept of *forgiveness climate* which they defined as "... the shared perception that empathic, benevolent responses to conflict from victims and offenders are rewarded, supported and expected in organizations" (p. 666). Along similar lines, Bies, Barclay, Tripp and Aquino (2016) further argued that forgiveness must be studied as a multilevel phenomenon, embedded in context, as "...a part of a system of interconnecting psychological, social, structural, and cultural relations" (p. 246).

Review of existing research

Procedure and general findings

Given the importance of leader-follower transgressions, we conducted a detailed search of the leadership-related transgressions literature to assess the current state of the field. To identify publications for inclusion in our review, we searched Web of Science and EBSCO databases. The specific search keywords we used were "leader" or "leadership" ("follower" or "followership") 'and' one of the following terms: "transgressions", "betrayal", "offenses", "trust violations", "relationship repair", "trust repair", "forgiveness", "apologies", "amends" and "revenge". Our first search yielded 453 results. We then excluded papers that were not written in the English language, conference papers, dissertations, books and book chapters. This second search yielded 399 papers. We then focused on papers published in the fields of *psychology (applied, social, multidisciplinary)*, *business and management* as our emphasis is on leader-follower relationships in organizational contexts. The result of this second step was 90 articles. We then read the title, abstract and main content of each of these papers. This final step revealed 67 relevant articles published since 2000 that have focused on leadership and followership transgression-related constructs and it is

evident that this number is rising (see Fig. 1). Interestingly, our search did not yield any relevant papers prior to 2000. As can be seen in Fig. 1, the majority of articles (19 articles) have adopted a leader-centric perspective focusing mainly on leader transgressions whereas there is only a very small proportion (6 articles) explicitly examining follower transgressions. A substantial part of the literature has examined relationship repair strategies, with forgiveness (17 articles) and apologies (8 articles) being the two dominant streams. It also becomes evident that there is a substantial growth of this literature in the last eight years which we anticipate will continue.

In analyzing the literature, one of the first observations is that there is a fragmentation of the leader-follower transgressions and the relationship repair literatures. Transgressions and relationship repair strategies have evolved as separate lines of research and there is limited integration between the two streams. Researchers have either examined leader-follower transgressions and their outcomes or relationship repair strategies (such as apologies) and outcomes. Relatively few studies have attempted to examine the dynamic relational process that unfolds after a leader or follower transgression has taken place, the transgressor's and the victim's actions and reactions and relationship outcomes (e.g., Byrne et al., 2014; Radulovic, Thomas, Epitropaki, & Legood, 2019). This fragmentation becomes evident in the keyword co-occurrence analysis we did as part of our review using VOS viewer (Van Eck & Waltman, 2010, 2019). Fig. 2 visualizes the co-occurrence networks of the most important terms extracted from the body of literature on leader-follower transgressions we have reviewed and presented in Fig. 1. In VOS Viewer, constructs are represented by their label and by a circle. The size of the label and the circle of an item is determined by

the weight of the item. Lines between items represent links. The closer two constructs are positioned to each other, the stronger their relatedness (van Eck & Waltman, 2019). In order to construct this visual construct map, we utilized three pieces of information from the papers included in this review: keywords, title and abstract.

As can be seen in Fig. 2, 'transgressions', 'forgiveness' and 'apologies' emerge as nodes with high co-occurrence frequencies but the communication (or overlay) between these streams of literature is limited (as is evident by the few lines connecting the two constructs and by the different colors each node is represented). There is, thus, a need for an integrative framework addressing the dynamic relational processes underlying leader-follower transgressions in organizational environments.

We now proceed with a closer examination and a more detailed discussion of the reviewed papers and summarize findings on Table 2. Table 2 is structured around types of transgression (task-, person- or ethics-focused), who the transgressor is (leader or follower), the transgression target (individual, dyad, group or third party), relationship repair strategies and outcomes.

A first observation from Table 2 is that the vast majority of transgressions in the current literature are ethics-focused with most dominant one that of dishonesty. Leader dishonesty transgressions included deceiving followers, abusing their power, making promises while being aware they cannot keep them, cheating, offering a bribe in order to influence decision making, and many others. Ethics-focused transgressions thus appear to dominate the existing literature.

Table 2 further confirms our VOS analysis finding of a disconnect between research on transgression typologies and research on

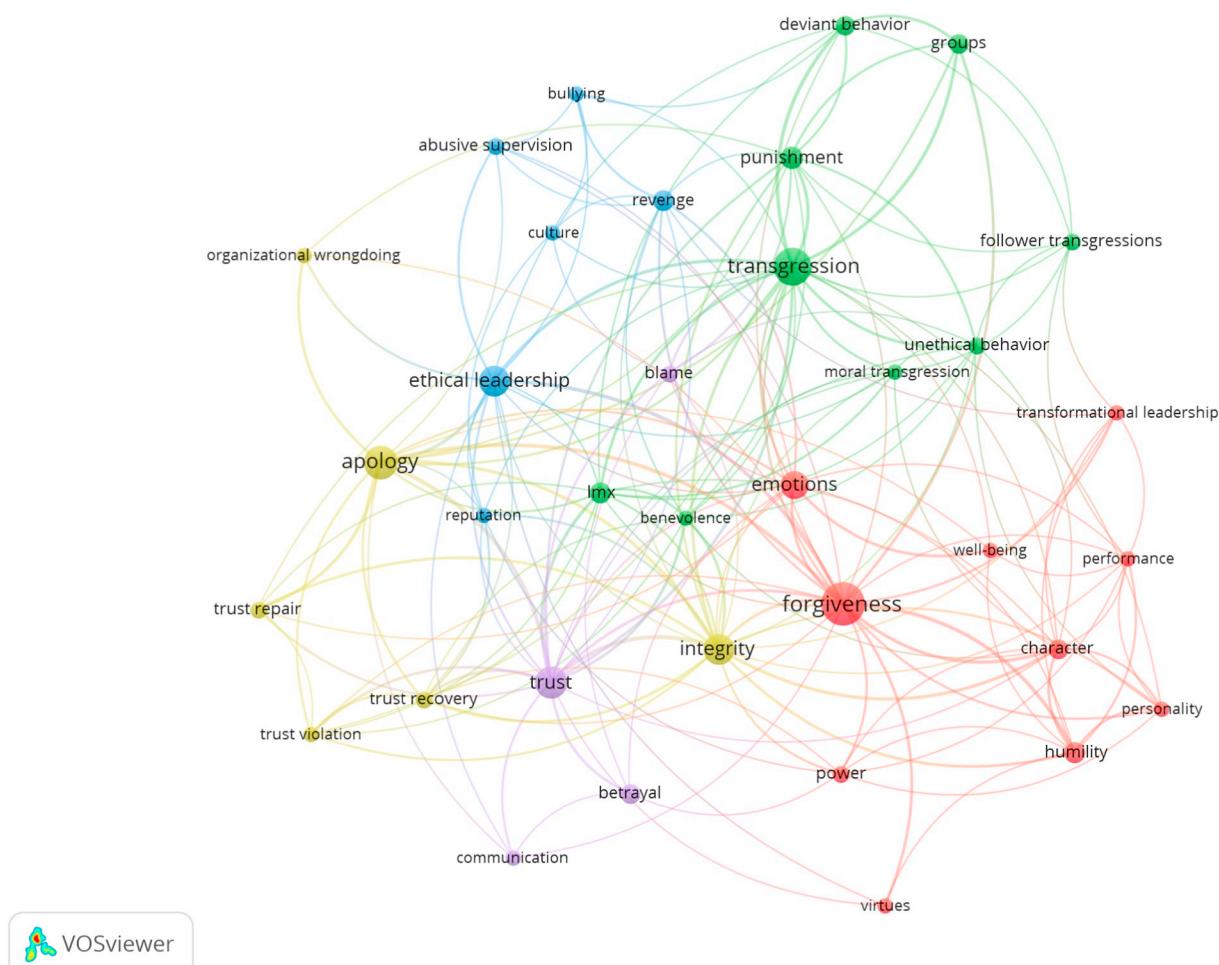


Fig. 2. Keyword co-occurrence mapping of the leader-follower transgressions and relationship repair literature.

relationship repair processes and outcomes. There are seven studies examining leader ethics-based transgressions (mainly dishonesty), a relationship repair strategy (apology) and outcomes together (i.e., Bagdasarov, Connelly, & Johnson, 2019; Byrne et al., 2014; Grover et al., 2019; Grover & Hasel, 2015, 2018; Radulovic et al., 2019; Zheng, van Dijke, Narayanan, & De Cremer, 2018) and one study examining a task-focused transgression (incompetence), a relationship repair strategy (penance) and outcomes (Dirks et al., 2011). The vast majority of studies have examined the direct relationship between leader follower transgressions and outcomes.

Furthermore, none of the reviewed studies examined more than one transgression type and a few studies asked participants to think of leader transgressions in general without specifying the content. For example, Shapiro et al. (2011) asked participants to "... think about a leader in their employing organization who had done something that caused them to feel disappointed in him/her as a leader due to actions at work whose appropriateness was questionable" (p. 415) and then to

open-endedly describe what their leader had done. Shapiro et al. (2011) content-coded these transgressions into the eight types presented in our section on typologies. They subsequently found that leaders who were perceived to be more competent and inspirational were less punitively evaluated by employees for leader transgressions. LMX (i.e., leader-follower relationship quality) was found to be a significant mediator. Furthermore, employees who punitively evaluated their leaders were more likely to have turnover intentions and to psychologically withdraw from their organization. Similarly, Radulovic et al. (2019) in their field studies asked participants to think of leader transgressions they had experienced before completing the surveys. In their Study 3, they asked participants to specifically think of the eight transgression types proposed by Shapiro et al. (2011) before answering.

With regards to *transgression target*, the majority of studies presented in Table 2 focus on the dyad (whether the follower has experienced a transgression on behalf of the leader and vice versa) (Basford, 2014; Shapiro et al., 2011; van Houwelingen et al., 2015) and few studies

Table 2
Overview of articles focusing on leader and follower transgressions, relationship repair strategies and outcomes.

Transgression types	Transgressor	Transgression target	Relationship repair strategies	Transgression outcomes	Methodology	Indicative papers
TASK-FOCUSED Incompetence						
	Leader	Dyad/Group	None	Procedural fairness, Harm severity, Trustworthiness, Trust	Experimental	Haesevoets et al. (2016)
	Leader	Not specified	None	Discouragement, Demotivation	Qualitative	Thanem (2013)
	Leader	Group	Penance	Trusting intentions	Experimental	Dirks et al. (2011)
	Leader	Group	Apology	None	Case-study	Cels (2017)
	Follower	Dyad	None	Leader disciplinary behavior	Critical incidents and experimental	van Houwelingen et al. (2015)
	Follower	Dyad	None	General trust, Ability, Benevolence, Integrity	Experimental	Wang and Murnighan (2017)
Negligence of duty	Leader	Dyad	None	Ethical leadership perceptions, LMX, Moral reasoning	Experimental	Tumasjan et al. (2011)
	Leader	Third-party	None	Evaluation, Accrual, Conferral	Experimental	Abrams, Travaglino, Randsley de Moura, and May (2015)
	Leader	Dyad		Perceptions of the leader as being worthy of being followed, stress	Experimental and survey	Liborius (2017)
	Follower	Dyad	None	Followers' perceptions of the leader's worthiness of being followed, Followers' OCB, Followers' voice behavior	Experimental	Liborius (2014)
PERSON-FOCUSED Verbal abusiveness						
	Leader	Dyad	None	Subordinate injustice perceptions	Critical incidents and experimental	Liang et al. (2018)
	Leader	Third-party	None	Evaluations (friendliness, likability, warmth, approachability), Inclusion (in the team in the future), Punitiveness/bonus distribution, Prototypicality accrual, Conferral	Experimental	Abrams et al. (2013)
	Leader	Dyad	None	Tolerance, Condemnation, Moral emotional responses, Attributions to abusive behaviors	Experimental	Wang and Chan (2019)
	Leader	Dyad	Forgiveness, Diminished avoidance and revenge	None	Experimental and critical incidents	Zdaniuk and Bobocel (2015)

(continued on next page)

Table 2 (continued)

Transgression types	Transgressor	Transgression target	Relationship repair strategies	Transgression outcomes	Methodology	Indicative papers
ETHICS_FOCUSED						
Dishonesty	Leader Leader	Dyad Group	Apology Apology	Follower well-being Perceived integrity, Willingness to risk Forgiveness, Trust	Critical incidents & experimental Experimental	Byrne et al. (2014) Bagdasarov et al. (2019)
	Leader	Dyad	Apology			Grover et al. (2019)
	Leader Leader	Group Group	None None	Punishment recommendation Evaluations (friendliness, likability, warmth, approachability), Inclusion (in the team in the future), Punitiveness/bonus distribution, Prototypicality accrual, Conferral	Experimental Experimental	Karelaia and Keck (2013) Abrams et al. (2013)
	Leader	Third-party	None	Transgression perceptions and judgements of transgressor	Experimental	Randsley de Moura and Abrams (2013)
	Leader	Group	None	Punishment severity, Punishment recommendation, Attribution of blame	Experimental	Bauman et al. (2016)
	Leader	Group	None	Ethical leadership perceptions		Marquardt, Brown, and Casper (2018)
	Leader	Dyad	Forgiveness	Relational effort, Job satisfaction, Subjective-well-being	Survey and experimental	Radulovic et al. (2019)
	Leader Leader	Group Dyad	Forgiveness (Withholding) forgiveness	None Transgressor compliance	Experimental Critical incidents, autobiographical recall and experimental	Stouten and Tripp (2009) Zheng et al. (2018)
	Leader Leader	Group Group	Apology Apology	Forgiveness Satisfaction with the leader	Case-study Experimental	Grover and Hasel (2015) Grover and Hasel (2018)
	Follower Follower	Group Dyad	None None	Disciplining employee behavior Leader disciplinary behavior	Experimental Critical incidents and experimental	Desmet et al. (2015) van Houwelingen et al. (2015)
	Follower	Group	None	Punishment severity, Punishment recommendation, Attribution of blame	Experimental	Bauman et al. (2016)
	Follower	Group	None	General trust, Ability, Benevolence, Integrity	Experimental	Wang and Murnighan (2017)
	Follower	Group	None	Perceived leader integrity and benevolence, Trust in leader	Experimental	Shao (2019)
Discrimination	Leader	Third-party	None	Evaluation, Accrual, Conferral	Experimental	Abrams et al. (2015)
	Leader	Group	Apology	None	Case-study	Cels (2017)

focus on group-level (e.g., a CEO transgression towards the organization or the leader taking credit for his/her work team ideas) (Dirks et al., 2011; Karelaia & Keck, 2013). An explicit acknowledgement of the transgression target can contribute to a more nuanced understanding of leader-follower transgressions by taking into account the multi-faceted nature of the specific phenomena.

The role of *transgression severity* has been addressed in a few studies (although not presented in Table 2). For example, offence severity has been found to be an important determinant of punitive actions that people are willing to impose on deviant leaders (Karelaia & Keck, 2013). Byrne et al. (2014) found that offence severity moderated the positive association between leader apologies and follower's psychological well-being. Furthermore, offence severity moderated the association between leader apologies and their positive emotions and psychological health. More recently, Grover et al. (2019) examined the conditions under which apologies facilitate restoration of trust in the leader-follower relationship. It was found that the impact of apologies on forgiveness and subsequent trust depended on leaders' intentions and the severity of the trust violation's outcomes. Transgression severity

is thus an important moderating variable that needs to be taken into account in empirical investigations of leader-follower transgressions.

Finally, we could not find any longitudinal studies in the leader-follower transgressions literature. Only Radulovic et al. (2019) used a time-lagged design in one of their three studies to examine the mediating role of forgiveness in the relationship between LMX and follower attitudes and subjective well-being. Thus, time and the temporal nature of leader-follower transgression events have been completely ignored by existing research.

Outcomes of leader and follower transgressions

With regards to outcomes, the articles examined a variety of outcomes such as turnover intentions (Shapiro et al., 2011), psychological withdrawal (Shapiro et al., 2011), trusting intentions (Dirks et al., 2011), moral reasoning (Tumasjan, Strobel, & Welpe, 2011), attributions of blame (Bauman, Tost, & Ong, 2016), among others. From a multilevel perspective, most of these outcomes can be positioned on the individual (Shapiro et al., 2011) or dyadic level (Bauman et al., 2016)

and none of the studies has explicitly addressed group-level outcomes. In a field study of 162 employees, [Shapiro et al. \(2011\)](#) found that leaders who were perceived to be more competent and inspirational were less punitively evaluated by employees for leader transgressions. Furthermore, employees who punitively evaluated their leaders were more likely to have turnover intentions and to psychologically withdraw from their organization.

[Abrams, Randsley de Moura, and Travaglino \(2013\)](#) have examined forgiveness as an outcome in situations of transgressive captains and players in sports teams and tested the hypothesis that people forgive serious transgressions by ingroup leaders but not by other group members or outgroup leaders. Across five studies, they found evidence for a double standard in evaluations of the transgressive targets. In-group leaders were granted special license to transgress (transgression credit). More recently, [Abrams et al. \(2018\)](#) once again found support for the deviance credit hypothesis. Their studies showed that ingroup leaders benefited from both accrual of prototypicality and conferral (based on mere occupancy of the leadership role) of the right to depart from existing norms. [Zheng et al. \(2018\)](#) have also examined forgiveness as an outcome and specifically argued that a victim's withheld (vs. expressed) forgiveness promotes transgressor compliance when the victim has low power, relative to the transgressor. In the case of high-power victims there were high levels of compliance from the transgressor, regardless of whether they expressed or withheld forgiveness.

[Tumasjan et al.'s \(2011\)](#) study examined ethical leadership perceptions as an outcome of leader transgression and found social distance to moderate the extent to which leaders are perceived as ethical after moral transgressions. They further found ethical leadership to influence LMX. [Karelai and Keck \(2013\)](#) examined punishments after transgressions and found an interactive effect of deviance severity and leader status on recommended and actual punishments. Leadership status was found to protect its holders in the case of low-severity transgressions but was a liability in the case of high-severity transgressions. [Bauman et al. \(2016\)](#) also studied punishments and found that people were less punitive when low-ranking transgressors imitated high-ranking members of their organization (i.e., a trickle-down model of transgression). However, imitation only reduced punishment when the two transgressors (high- and low-ranking) were from the same organization, when the two transgressions were similar and when it was unclear whether the high-ranking transgressor was punished. [Wang and Chan \(2019\)](#) utilized moral licensing theory and found that when leaders demonstrated prior unethical behaviors, followers, who were the victims of the leaders' transgressions, felt liberated to act in transgressive ways.

Regarding follower transgressions, our literature search yielded only six articles that addressed follower transgressions and findings are also summarized in [Table 2](#). [Desmet, Hoogervorst, and Van Dijke \(2015\)](#)'s studies looked at follower punishment and showed that increased market competition made leaders' disciplining of ethical transgressions contingent upon the transgression's instrumentality to the organization. Leaders tended to punish the same ethical transgression less when it resulted in profit for the organization than when it resulted in loss. [van Houwelingen et al. \(2015\)](#) examined whether leaders may be unwilling to enforce moral norms and punish followers because of a negative attitude towards these norms. Their studies showed that leaders that construe norms on relatively low (i.e., concrete) levels are more likely to see norms as obstacles, whereas leaders that construe moral norms on high (i.e., abstract) levels have a more positive view of norms and are thus more willing to punish transgressing followers. [Wang and Murnighan \(2017\)](#) also examined follower punishment and uninvolved observers' trust in the leader. Their studies showed that observers trusted leaders who administered large or medium punishment more than leaders who administered no punishment when transgressors deserved punishment. They also showed that people trusted punishers more than non-punishers, but only when punishers' motives were not personal revenge.

[Shao \(2019\)](#) examined leaders' expression of moral anger as an outcome and tested two paths through which leader moral anger affects follower trust: a character-based path and a relationship-based path. The results from two experimental studies did not provide support for the character-based path but provided some support for the relationship-based path between leader moral anger and follower affective trust. It becomes evident from [Table 2](#) that the majority of studies examined leader's punishment of the transgressing follower as the main outcome and that follower transgression outcomes are mainly on the individual and dyadic level (the leader's behaviors or emotions towards the transgressing follower). Once again, no group-level outcomes have been examined. [Wang and Murnighan \(2017\)](#)'s study, however, has looked at third-party reactions (uninvolved observers) and offers an interesting extension beyond the leader-follower dyad. It is highly problematic that the current literature totally overlooks the impact of followers' transgressions on leader-specific outcomes or leaders' perceptions of the leader-follower relationship. The leader's punishment of the transgressing follower (which has been the main outcome examined) is still a follower-centric outcome. Existing research thus gives the erroneous impression that leaders are impervious to followers' transgressions. Recent research has called for a more interactional perspective and highlighted the need to shift the focus and examine follower influences on leader outcomes such as well-being (e.g., [Wirtz, Rigotti, Otto, & Loeb, 2017](#)). Future research examining the impact of follower transgressions on leaders' psychological states, behaviors and attitudes can advance our understanding of the mutual interplay of leader-follower transgression phenomena.

Relationship-repair strategies

In this section we review strategies for relationship repair from both the transgressor (leader or follower) and victim (leader or follower) perspective found in the reviewed studies. As can be seen in [Table 2](#), two key main strategies are observed. With regards to transgressor strategies, 'leader apologies' are the main focus of existing studies. When it comes to victim strategies, 'forgiveness' emerges as a key strategy and an important relationship maintenance mechanism.

Transgressor strategies

In their survey-based study, [Basford et al. \(2014\)](#) investigated how followers evaluate leader apologies and how these perceptions influence work-related outcomes. Specifically, they examined leader trustworthiness and its impact on subsequent leader apology, perceived humility and perceived transformational leadership. This serial multiple mediation process, in turn, influenced trust in leader, satisfaction with supervision, LMX relationship quality and organizational commitment. Forgiveness was shown to mediate the link between leader apology and the outcomes including LMX.

In another survey-based study, [Byrne et al. \(2014\)](#) found that leader apologies had a positive impact on followers' psychological well-being and emotional health, which was moderated by offence severity. Their second study showed that leader apologies had a positive impact on their own psychological well-being, positive emotional health and authentic pride. Furthermore, the nature of transgression moderated the link between leader apologies and leaders' positive emotions and authentic pride, while offence severity moderated the association between leader apologies and their positive emotions, psychological health, and authentic pride ([Byrne et al., 2014](#)).

[Cels \(2017\)](#) investigated public apologies that corporate and government leaders made following organizational transgressions. Their qualitative case-research showed that leaders use ethical leadership strategies developed for the organizational context and adopt them to the public context. In particular, the study identified four strategies that leaders employ: "articulating values in relation to past and future", "defining the wrongdoing", "constructing moral communities", and "differentiating responsibilities" ([Cels, 2017](#), p. 759).

In a similar vein, [Grover and Hasel \(2015\)](#) examined how leaders recover following public revelations of their sexual indiscretions. Using qualitative case-research, the authors found that the survival of a scandal depended on several factors, including the extent to which the indiscretion deviated from accepted norms, the extent to which the behavior differed from leader's expressed values, the leader's power, and whether the leader engaged in atonement. The connectedness of these elements showed that atonement was possible if the behavior was neither too severe nor beyond their character and the leader was powerful enough. Drawing on this research, [Grover and Hasel \(2018\)](#) examined how leader's ethical behavior outside of work impacts follower attitudes towards them. A scenario-based study showed that ethical leaders are hurt by sex scandals more than unethical leaders, and that meaningful apologies are fruitful for personal responsibility but not for transgressions rooted in an official abuse of power.

Interestingly, [Stouten and Tripp \(2009\)](#) showed that following a transgression, followers profit more from apologizing and asking for forgiveness than leaders do. In two experiments using a social dilemma context where the norm of equality was violated, they showed that apologizing and asking for forgiveness led to less negative affect, more forgiveness and less revenge for follower transgressors but not leader transgressors. The authors explain these results by noting that leaders and followers are held to different rules and fairness violations can be tolerated from leaders but not from followers ([Stouten & Tripp, 2009](#)).

Victim strategies

More recently, scholars have begun to investigate forgiveness in LMX relationships. [Thompson and Simkins \(2017\)](#) investigated the impact of two distinct forgiveness motives, self-oriented and other-oriented, on LMX relationship quality. In the authors' view, self-oriented forgiveness motive is rooted in self-interest and rational calculation while other-related forgiveness motive is rooted in empathy and compassion for the offender. A field study involving undergraduate professionals and a time-lagged study involving graduate professionals from the USA found that high-quality LMX relationships and interpersonal citizenship behavior can be enhanced by both types of forgiveness motives. The authors further demonstrate that the link between forgiveness motive and LMX can be enhanced by one's disposition. In particular, proactive personality enhanced the impact of self-oriented forgiveness motive on LMX, and empathic concerns enhanced the impact of other-oriented forgiveness motive on LMX.

Drawing on the relationship science literature, [Radulovic et al. \(2019\)](#) proposed and tested a model of forgiveness in LMX relationships. A field study involving employees in various organizations in both individualistic and collectivistic countries (i.e., UK, Australia, Serbia, Greece) showed that higher quality LMX relationships led to higher follower's job satisfaction and subjective well-being via greater follower's forgiveness and subsequent follower's relational efforts (e.g., constructive communication). Furthermore, an experimental scenario study involving undergraduate students showed that LMX positively affected forgiveness and that forgiveness climate was a significant moderator. Lastly, a time-lagged study involving working professionals from the USA found that the indirect effect of LMX relationship quality on follower outcomes was enhanced by forgiveness climate. In general, their three studies elucidate the process of forgiveness in LMX relationships and demonstrate that forgiveness can be used as a relationship maintenance strategy that generates positive outcomes following a workplace transgression.

In summary, it becomes evident from the above discussion that existing research has focused on a narrow repertoire of transgressor and victim relationship repair strategies, namely apology and forgiveness. Expanding the lens to include other relationship repair strategies such as accounts and penance could offer valuable insights in the future. In addition, prior research has been completely mute on whether leaders engage in relationship repair strategies when they are themselves victims of follower transgressions. Do leaders employ forgiveness as a

relationship repair strategy, under which circumstances and with what outcomes (follower, relationship and group-related)? This is an interesting question for future research to tackle.

Theoretical underpinnings of the reviewed studies

Prior studies have utilized a wide range of theories to cast light on leader and follower transgressions. Scholars such as [Abrams et al. \(2013, 2018\)](#) have drawn from the idiosyncrasy credit theory of leadership and social identity theory (e.g., [Hogg, 2001](#)) to address how in-group prototypical leaders are granted 'deviance credit' by their followers. Drawing from idiosyncrasy credit theory of leadership, [Shapiro et al. \(2011\)](#) investigated the conditions under which leaders avoid punitive evaluations for their offenses. [Radulovic et al. \(2019\)](#) utilized social exchange and LMX theories to investigate forgiveness as a relationship repair strategy and its positive outcomes. [Karellaia and Keck \(2013\)](#) have used role schema theory to investigate the extent to which deviance severity and perceived rights and responsibility of leaders influence punitive actions directed at deviant leaders. [Bauman et al. \(2016\)](#) have drawn on social learning theory and psychological theories of blame to explain how unethical behavior by higher-ranking individuals modifies the ways in which people respond to lower-ranking individuals who then commit the same offence. [Stouten and Tripp \(2009\)](#) have drawn on equity theory and social dilemma research to investigate the reactions of group members following the violation of equality norm by either a leader or a follower. [Zdaniuk and Bobocel \(2015\)](#) have used the insights from idealized influence leadership to investigate whether leaders who nourish follower collective identity enable forgiveness among employees. Drawing on deterrence theory, [Zheng et al. \(2018\)](#) showed that withholding rather than expressing forgiveness enables the victims to gain offender compliance when the victim has low power compared to the offender. The framework of ethical leadership is also widely used among scholars. For example, [Cels \(2017\)](#) investigated how executives demonstrate ethical leadership when public apologies are needed.

On the basis of the above discussion, the absence of a coherent theoretical framework for examining leader-follower transgressions is evident. We will later attempt to offer such an overarching theoretical framework by drawing from [Rusbult's \(1980\)](#) interdependence theory and relationship science.

Measurement and methodological issues

As can be seen in [Table 2](#), a variety of methodologies have been employed to study transgressions and relationship repair strategies such as *critical incident technique* ([Basford, 2014; Byrne et al., 2014; Shapiro et al., 2011](#)), *interviews* ([Grover et al., 2014; Thanem, 2013](#)), and *surveys* ([Byrne et al., 2014; Shapiro et al., 2011](#)) whereas the vast majority of studies have utilized *experimental designs* (e.g., [Abrams et al., 2013; Desmet et al., 2015; Dirks et al., 2011; Randsley de Moura & Abrams, 2013; Shao, 2019; Wang & Murnighan, 2017](#)). Indeed, more than half of the articles presented in [Table 2](#) used experimental designs, most often experimental vignette methodologies (EVM). This is not surprising considering the fact that EVM has been a popular method in ethical decision-making studies (e.g., [Pierce, Aguinis, & Adams, 2000](#)). EVM is a suitable methodological approach to study leader-follower transgressions as it allows for experimental control over the manipulated antecedent and can offer important insights on the causal relationship between transgressions and outcomes. Nonetheless, EVM has shortcomings and especially the lack of scenario realism and result generalizability have been raised as a major criticism. EVM can suffer from limitations related to "hypothetical studies" ([Lonati, Quiroga, Zehnder, & Antonakis, 2018](#)) that do not elicit actual behaviors as they do not have real-world tradeoffs or payoffs (e.g., [Antonakis, 2017](#)). These include misrepresentation of self-report assessments, proneness to demand effects and social desirability responses, among others. [Aguinis](#)

and Bradley (2014) suggested that the realism can be improved if the level of immersion of the participants increases. They suggested use of audio, video and pictures as a way to increase the realism of leader-follower vignettes. Also, virtual reality technology (VRT) is another media type that can be used to present more immersive and realistic vignettes. Lonati et al. (2018) also advised researchers using EVM to employ "non-traditional stimulus materials, which can enhance the psychological realism and the immersion in hypothetical experimental environments" (p. 22). Another shortcoming of EVM is the threat of omitting important variables, given that the number of variables that can be manipulated and examined in an EVM study is small. This issue becomes evident in the studies reviewed in Table 2 as all experimental studies presented focus on one transgression type and a few transgression outcomes or one relationship repair strategy and a few related outcomes. Thus, such methodology cannot capture the complex, dynamic and multifaceted nature of leader-follower transgressions, relationship repair strategies and outcomes in organizational settings. EVM is still a useful methodology in this particular research domain as it can offer insights on whether a causal relationship exists but cannot help us understand *how* the leader-follower transgression processes unfold over time.

To answer the second question, different methodologies need to be employed. First, the use of sequential experiments, in which the postulated chain of cause-effect relationships is examined cumulatively in separate experiments, can help to test process models and also alleviate the problem of endogeneity bias (Antonakis, Bendahan, Jacquart, & Lalive, 2010; Fischer, Dietz, & Antonakis, 2017). Second, longitudinal multi-wave studies and latent growth model designs can be utilized to explore transgression dynamics over time. Also, experience sampling methodology and daily diary (ESM/DD) methods can be used to understand within-person processes (such as emotions after a transgression event) over time. Such methods have been widely used to study dynamic within-person processes involving affect, behavior, workplace events and transient phenomena in organizational settings (Fisher & To, 2012). A specific ESM approach that could be suitable for leader-follower transgressions research is *event-contingent reporting* which requires study participants to provide a response each time a discrete event of a particular type (in our case a leader or follower transgression) occurs. Despite its advantages such as ecological validity, examination of within-person phenomena and memory bias reduction, ESM is not without limitations (Scollon, Kim-Prieto, & Diener, 2003). Self-selections bias and sample attrition are important shortcoming as the heavy demand placed on participants may bias the final sample towards highly conscientious individuals. Reactivity may also be problematic for ESM studies as the repeated assessments may lead participants to pay unusual attention to transgression incidents which may unduly magnify the transgression effects.

Leadership research can further benefit from utilizing event-study analysis methodologies commonly used in economics (e.g., Campbell, Lo, & MacKinlay, 1997). Economists are often asked to measure the effect of an economic event on the value of a firm and their event-study analysis starts with a clear definition of the event of interest, identification of the *event window* and subsequent choice of a 'short horizon' versus a 'long horizon' method of study (Kothari & Warner, 2008). Leader-follower transgressions studies in applied settings need also to clearly define the transgression event of interest and carefully choose the transgression event window the study will examine.

Qualitative methodologies such as *process studies* can be further utilized as they utilize ethnographic, discourse analysis and other methods to uncover how and why things emerge, develop, grow, or terminate over time (Langley, Smallman, Tsoukas, & Van de Ven, 2013). Narrative analysis (e.g., Clandinin, 2006; Elliot, 2005) can offer an in-depth look at people's experiences of leader and follower transgressions via their own stories and narratives. Such analyses can be further supplemented by computer-aided text analysis (CATA) methods that can enable the quantitative analysis of narrative data based on

word frequencies. CATA methods hold considerable promise for leader-follower transgressions research due to its high internal, external and construct validity but issues related to measurement error variance need to be also addressed by prospective studies (McKenny, Aguinis, Short, & Anglin, 2018).

As we also see in Table 2, field studies are generally rare (e.g., Byrne et al., 2014; Radulovic et al., 2019; Shapiro et al., 2011) due perhaps to the difficulty of obtaining organizational approval to study transgressions. Field studies are also constrained by the lack of an established measure of leader-follower transgressions that can be used in organizational surveys. Despite the multiple typologies discussed in Definitions and typologies section there is lack of a coherent framework utilized in survey research and prior field studies mainly asked whether transgressions have been experienced (without focusing on specific types) (e.g., Radulovic et al., 2019). We believe that our tripartite transgression framework (discussed in Definitions and typologies section) offers a useful platform for the development of such a scale and for a more systematic measurement of transgression phenomena in applied research.

Furthermore, it is important to acknowledge the dyadic and at the same time multilevel nature of leader-follower transgression phenomena. Prior research has highlighted the misalignment of theory and methodology examining such dyadic phenomena (Krasikova & LeBreton, 2012) and the *pseudo-unilaterality* (i.e., failing to take into account both members of the dyad perceptions and behaviors) prevailing in existing research. We observe such pseudo-unilaterality in the context of leader-follower transgressions research. Most studies measure victim (most often follower) perceptions of the transgressive incident as well as their subsequent behaviors and outcomes whereas very few studies additionally focus on the transgressor's perceptions and behaviors after the event (e.g., engaging in some form of a relationship repair strategy such as apology). Such an approach disregards the fundamentally relational nature of leader-follower transgressions. Transgressions are dyadic situations in the sense that they occur within work relationships between individuals (leaders and followers) who are primarily nested within dyads and further nested in higher level units such as teams and organizations (Krasikova & LeBreton, 2012). Methodologies such as the Actor-Partner Interdependence Model (APIM) as well as One-With-Many (OWM) models can be useful in studying leader-follower transgressions. Whereas APIM designs focus on unique dyads that do not share members with other dyads, OWM designs focus on dependent dyads in which multiple partners (e.g., followers) share a focal person (e.g., a leader). In organizational contexts, we normally encounter dependent leader-follower dyads and thus OWM models may be more appropriate. Reciprocal OWM designs in particular consider multiple perspectives on an interpersonal interaction or relationship and provide a more complete picture of the multifaceted nature of relational phenomena. Also, repeated measures OWM models can cast light on how a leader-follower relationship is unfolding after a transgression incident.

As a general comment, in all quantitative approaches discussed in the previous sections, endogeneity issues need to be addressed. Endogeneity refers to situations when a predictor variable is correlated with the error term of the outcome variable (see Antonakis et al., 2010; Hughes, Lee, Tian, Newman, & Legood, 2018). Endogeneity biases can mainly result due to (a) omitted variables, (b) designs that do not take account of simultaneity and (c) measurement errors (Hughes et al., 2018; Podsakoff & Podsakoff, 2019). Endogeneity biases can potentially render results uninterpretable (Antonakis, Bendahan, Jacquart, & Lalive, 2014) and thus they need to be explicitly addressed. For example, a cross-sectional study examining followers' perceptions of leader's transgressions (predictor), a relationship repair strategy such as forgiveness (mediator) and turnover intentions (outcome) would be affected potentially by all three endogeneity biases. The cross-sectional design cannot address causality and simultaneity, there will be measurement error due to common method variance and followers'

perceptions of the leaders' transgressions are likely to be influenced by a series of exogenous variables such as their personality, Implicit Leadership Theories, positive and negative affect and so forth. Randomized control experiments are considered to be 'the gold standard method' for estimating causal effects (e.g., Antonakis et al., 2014) and thus the experimental designs that have been widely employed in leader-follower transgressions research (see Table 2) potentially help overcome endogeneity issues. With regards to field studies, instrumental variables can be used to combat endogeneity biases. Instrumental variables are exogenous predictors (i.e., influencing but not being influenced by the variables in the model) of an endogenous predictor. Examples of instrumental variables include individual differences (e.g., personality), demographic or biological factors (e.g., sex, age), or geographic factors. None of the studies we reviewed explicitly performed instrumental variable analyses such as 2SLS and this is an important limitation of existing research in this domain.

Leader and follower transgressions research can further advance by borrowing methodologies from other scientific fields. For example, agent-based modeling methodologies (Bonabeau, 2002), currently used across various disciplines (such as finance, marketing, medical sciences, and the social sciences), can potentially be utilized to capture the complex, dynamic, interactive processes underlying leader-follower transgression and relationship repair phenomena. Agent-based systems modeling (ABSM) is a powerful simulation technique that allows researchers to model phenomena in which multiple individuals (i.e., agents) situated in a social system (in our case leaders and followers) influence one another through their interactions (Serban et al., 2015). Specific events (such as a transgression incident) can be modelled and the process of how lower-level interactions (such as those taking place in a leader-follower dyad after a transgression) can yield higher-level outcomes (such as team outcomes) over time can be captured (e.g., Acton, Foti, Lord, & Gladfelter, 2019). Grand, Braun, Kuljanin, Kozlowski, and Chao (2016) state that the first step in an ABSM analysis is "... a narrative theory of what individuals do, think, feel, that gives rise to a higher level outcome." (p. 1354). The integrated model we present in [An integrative model of leader-follower transgressions, relationship repair strategies and outcomes from an interdependence theory perspective](#) section can provide the basis for such a narrative theory of the leader-follower transgressions process that could potentially be modelled in ABSM.

Finally, leader and follower transgressions research can borrow methodologies from neuroscience. Prior neuroscientific research has studied brain activation patterns in the process of forgiving and has found specific brain areas to be associated with forgiveness and specifically the left ventromedial prefrontal cortex, posterior cingulate gyrus and right temporo-parietal junction (Billingsley & Losin, 2017). Strang, Utikal, Fischbacher, Weber, and Falk (2014) used fMRI methodology to investigate brain processes involved in receiving an apology and active forgiveness of an ambiguous offence. They found that receiving an apology yielded activation in the left inferior frontal gyrus, the left middle temporal gyrus, and left angular gyrus and that forgiving judgments activated the right angular gyrus. Although neuroscience research on transgression-related topics and forgiveness remains in its infancy, the scope for future research clarifying the neural mechanisms underlying transgression and relationship repair mechanisms is vast.

Theoretical integration and future research directions

In previous sections, we reviewed existing literature on leader-follower transgressions, relationship repair strategies and outcomes and critically discussed the current state of the particular research domain with regards to its definitional, theoretical and methodological challenges. The need for a unified theoretical framework that can help capture the dynamic relational process of transgressions and repair processes over time became evident. Below we offer an integrative

model that synthesizes the existing literature and utilizes insights from [Rusbult's \(1980\)](#) interdependence model as its theoretical foundation.

Interdependence theory and insights from relationship science

Theory and research from the multidisciplinary literature on relationship science (otherwise referred to as close or personal relationships, see [Berscheid, 1999](#)) can enhance our understanding of relationship maintenance processes in leader-follower relationships following a transgression. While some distinctions between personal and workplace relationships exist, there is arguably sufficient overlap for cross-fertilization (e.g., Loignon, Gooty, Rogelberg, & Lucianetti, 2019; Mayseless, 2010; Thomas, Martin, Epitropaki, et al., 2013). For example, both close non-work and leader-follower relationships are typified by mutual influence, high trust, reciprocal liking, coordinated goals, responsiveness, and the provision of various kinds of resources and support (see Thomas, Martin, Epitropaki, et al., 2013). In addition, the relationship science literature emphasizes a number of generic relationship maintenance strategies that could be fruitfully generalized across virtually all kinds of relationships ([Berscheid, 1999](#); [Martin, Epitropaki, Thomas, & Topakas, 2010](#)).

Interdependence theory is the central theoretical framework in relationship science and in a similar vein to LMX theory it is guided by the logic of social exchange and reciprocity ([Epitropaki, Martin, & Thomas, 2017](#)). [Rusbult's \(1980\)](#) investment model stems from interdependence theory and its central principle is that dependence on the relationship is a function of both the extent to which the relationship meets the individual's most important needs and the quality of alternatives for satisfying such needs. Dependence in turn leads to relationship commitment which is enacted by both parties adopting maintenance strategies to ensure that the relationship is perpetuated at the desired level ([Rusbult, 1980](#)). The investment model broadly differentiates between two forms of relationship maintenance mechanisms: cognitive and behavioral. Cognitive maintenance strategies serve to diminish the negative impact of transgressions on relationship perceptions and can be likened to a first line of defence against relational damage. The cognitive approach treats relationship transgressions as, in part, socially constructed, and thus as much in the eye of the beholder as in the behavior of the beheld ([Thomas, Martin, & Riggio, 2013](#)). In contrast, behavioral maintenance strategies are more effortful and involve either the inhibition of destructive behavior or the promotion of constructive behavior in response to transgressions. Behavioral maintenance tactics are more likely to be needed in the face of serious relationship transgressions that cannot be easily condoned or explained away (e.g., ethics-focused transgressions).

It is important to note that the literature on leader-follower transgressions has largely overlooked the role of cognitive maintenance strategies. Here we briefly review three kinds of cognitive maintenance tactics (for a more detailed discussion, see [Maio & Thomas, 2007](#)). First, people can idiosyncratically interpret the transgression in ways that enables them to maintain a positive view towards the leader-follower relationship. For example, [Murray and Holmes \(1993\)](#) found that ostensibly negative behavior (e.g., adversarial and judgmental) can be interpreted as positive behavior (e.g., willingness to be a straight talker and confront important issues), and that this flexible reinterpretation can help to maintain relationship perceptions over time. That said, the relabelling of transgressions is likely to be psychologically taxing, and in the case of serious offenses may not be always possible without appearing misguided ([Maio & Thomas, 2007](#)).

Second, it may be possible to recast the transgression by considering it in the broader context of other positive behavior. This tactic of reintegration is akin to saying, "Yes, but...". In other words, the transgression is acknowledged but offset by desirable characteristics. [Murray and Holmes \(1993\)](#) provide examples of such integrative thinking in their research on close relationships. Couples were asked to write

narratives describing both the development of their relationship and their partners' greatest faults which revealed many serious character flaws (and implied transgressions). Nevertheless, the significance of such faults was downplayed by integrating them with compensatory virtues, and the capacity to engage in such integrative thinking predicted greater relationship stability. Based on this logic, those people who cognitively cluster transgressions and compensatory positive behavior together may more effectively maintain leader-follower relationships than those who cluster them separately (Murray & Holmes, 1999).

Finally, it may be possible to reconstrue the transgression by attributing it to a benign cause that diminishes the transgressor's responsibility for the offence. This tactic of reattribution can be likened to saying "Yes, because...". For example, research on close relationships reveals that some people attribute their partner's most egregious behaviors (e.g., jealous rages; controlling behavior) to important virtues (e.g., loving; caring). People can also discount such behavior by attributing it to some temporary, external causal factor. Indeed, such congenial attributions can result from in-depth cognitive processing in which people consider the extent to which the perpetrator transgresses in different situations and across time (Hovland, Janis, & Kelley, 1953).

In contrast, the literature on transgressions in leader-follower relationships has paid some attention to the role of behavioral maintenance strategies. In line with the investment model, and as reviewed above, there is growing recognition that certain behavioral tactics used by both the transgressor (e.g., apology) and the victim (e.g., forgiveness) can be effective in repairing the leader-follower relationship. Here we highlight the role of accommodative behavior, a victim-instigated relationship maintenance strategy that has received considerable attention in the relationship science (but not the leadership) literature (e.g., Fletcher, Thomas, & Durant, 1999; Rusbult, Verette, Whitney, Slovik, & Lipkus, 1991). In the context of relationship transgressions, accommodative behavior represents the willingness to restrict the urge to reciprocate in kind and instead to respond constructively.

Theory and research on behavioral accommodation is rooted in the investment model and the exit-voice-loyalty-neglect typology of relationship conflict (e.g., Rusbult et al., 1991). According to this typology, the four possible responses to a transgression can be distinguished on the basis of two dimensions: activity vs. passivity and destructiveness vs. constructiveness. Exit reactions are actively destructive (e.g., retaliation; seeking revenge; terminating the relationship), whereas voice reactions are actively constructive (e.g., constructive dialogue; adopting a problem-solving approach). Loyalty reactions are passively constructive (e.g., minimising or shrugging off the problem; patiently waiting for progress) whereas neglect reactions are passively destructive (e.g., stonewalling; disengaging from the relationship) (Rusbult et al., 2001). The good manners model of relationship conflict suggests that it is less important that people display constructive behaviors, rather that they do *not* display destructive behaviors due to the disproportionately harmful effect of destructive acts (Gottman, 1998). Thus, behavioral accommodation helps maintain relationships by 'nipping problems in the bud', and in doing so it prevents a downward spiral of negative reciprocity that is destructive to relationships.

As discussed earlier, a central principle the investment model is that of partner dependence which in turn leads to relationship commitment and the adoption of relationship maintenance strategies (Rusbult, 1980). Applying this logic to leader-follower relationships there are good reasons to believe that followers should be more motivated to maintain the relationship than leaders. First, leaders typically have better access to important resources (e.g., money, information, status) than followers, and therefore followers are likely to be more dependent on leaders than leaders are on followers. Second, given that a leader has many followers but followers only have one leader, a leader has disproportionate access to alternative relationships for meeting his/her needs. Hence, if a follower routinely transgresses, rather than undertake

the psychologically difficult process of repairing the relationship, a leader could transfer this investment to an alternative (more rewarding) follower. Followers, by contrast, are in essence 'stuck' with the leader. The upshot of this discussion is that leader-follower relationships are likely to be more important to followers than to leaders, and thus followers should be more inclined to engage in maintenance strategies than leaders.

An integrative model of leader-follower transgressions, relationship repair strategies and outcomes from an interdependence theory perspective

Let us now examine what happens after a leader or follower transgression event has taken place. From an interdependence perspective (e.g., Rusbult & van Lange, 2003), in the aftermath of a transgression, the victim (whether the leader or a follower) may find it difficult to depart from the negative affect associated with the incident. When victims experience negative transgressor-directed emotions, such as anger, a reduced motivation to engage in relationship repair strategies can be expected. Conversely when victims experience positive transgressor-directed emotions such as empathy, an enhanced motivation to forgive can be expected (Worthington Jr., 2006). Reconciliation following a significant transgression entails mutual investment, whereby both partners exert significant, coordinated effort to achieve a desired end state, i.e. restored dyadic functioning. Critical in the process is the pre-transgression relationship commitment (Rusbult et al., 2001). According to Finkel et al. (2002) strong commitment promotes positive mental events, pro-relationship motives and forgiveness. A second component of commitment involves long term orientation and forgiveness might be a conscious or unconscious means of maximizing long-term self-interest. A third component of commitment involves broadened interpersonal interests. In committed relationships, the motives of self and partner may become compatible to the extent that departures from self-interest benefitting the partner are not experienced as antithetical to self-interests (e.g. Agnew, Van Lange, Rusbult, & Langston, 1998). Commitment may thus inspire other-oriented actions that benefit the relationship, and therefore the self.

In order to understand leader-follower transgressions and relationship repair processes we propose an integrative model in the leader-follower relationship context. This model is presented in Fig. 3.

Guided by Rusbult's investment model (Rusbult et al., 2001), as well as the research of Fehr et al. (2010), we propose that victims' prosocial motivation transformations occur via (a) mitigating *cognitions* regarding transgressions and transgressors; (b) positive rather than negative *affect*; and (c) relational, dispositional and situational boundary conditions for relationship repair. For the process to begin, the transgression must first enter awareness, i.e. one member of the dyad to realize that the other has violated the relationship norms. This is an important stage that does not follow the same pattern for leaders and followers. As recent research on employee deviance has highlighted, leaders may be less accurate when assessing workplace mistreatment or even unable to detect it due to limited and screened information (e.g., Kluemper, Taylor, Bowler, Bing, & Halbesleben, 2019).

Affective reactions

After the transgression enters awareness, the initial reaction is often one of shock, repression and denial (e.g., Enright et al., 1996). The injured dyad member often feels deluged with mixed emotions such as hurt, anger, anxiety and sadness. The empirical literature reveals that following transgressions, victims experience diverse negative emotions and emotional reactions vary as a function of the nature of the dyadic relationship. Reactions generally tend to be more negative in highly committed relationships (Finkel et al., 2002; Rusbult et al., 2001).

Cognitions

According to attribution theory (e.g., Heider, 1958; Kelley, 1973) relationship repair strategies such as forgiveness emanate from a

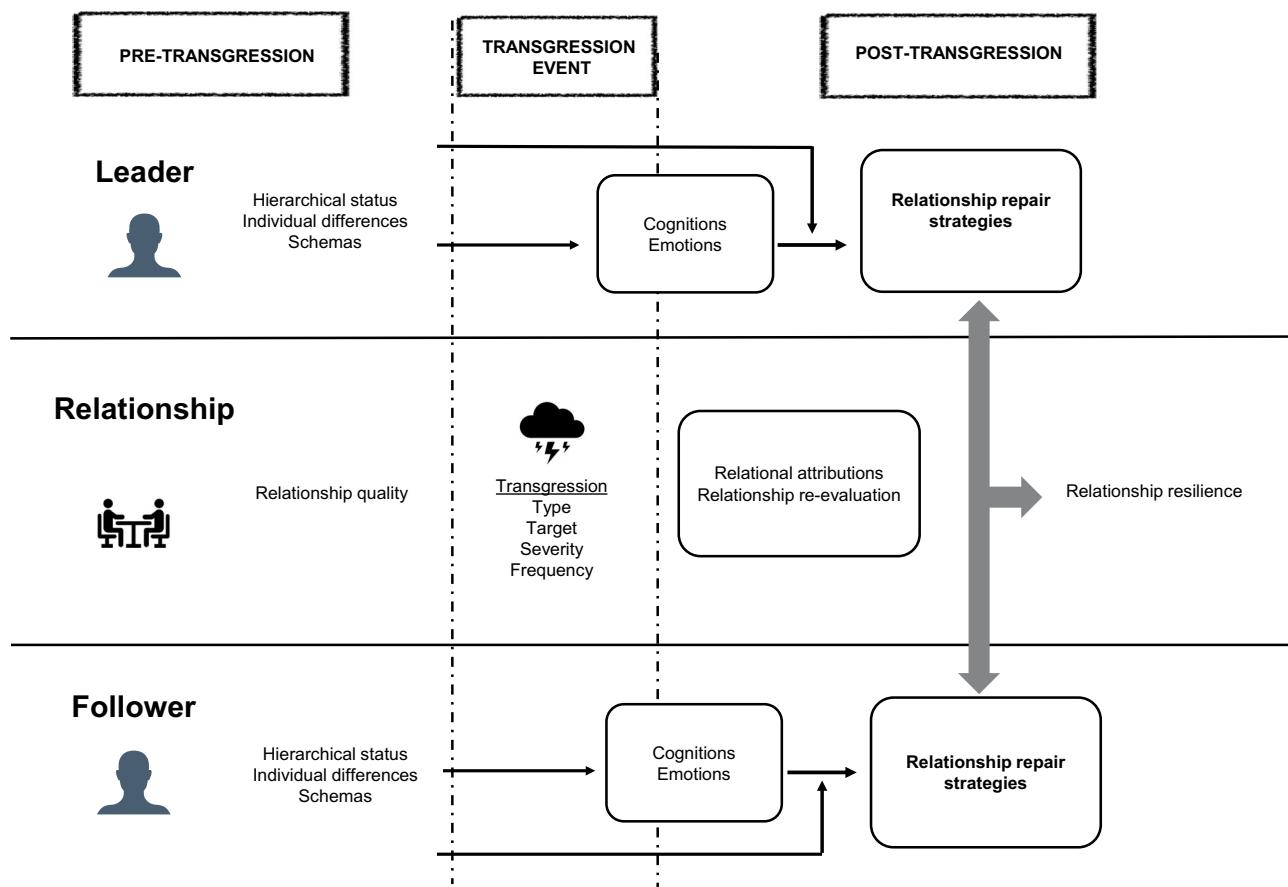


Fig. 3. An integrative process model of leader-follower transgressions, relationship repair strategies and outcomes.

victim's perception that the transgressor and offence are decoupled - that the offence was not an act of volition but rather a product of circumstance. If a victim makes internal, global and stable attributions of a transgression (e.g., "My manager committed this offense because he/she is untrustworthy, no matter the situation, and isn't going to change") he/she may be more likely to react negatively towards the transgressor. In contrast, external, specific and unstable attributions (e.g., "My employee committed this offense because he/she got put in a bad situation and won't do it again") might be more likely to lead to positive behaviors towards the transgressor (Hall & Fincham, 2006).

In the dyad context, relational attributions are also likely to occur (Eberly, Holley, Johnson, & Mitchell, 2011). Victims (leaders or followers) based on their relationship history will make relational attributions about the cause of a transgression event within the relationship (e.g., "my manager took credit for my work because we don't have a good relationship"). Eberly et al. (2011) argued that relational attributions lead to relational uncertainty and anxiety. Thus, dyad members will be more likely to proactively seek to repair their relationship through relationship repair strategies when they make relational attributions than when they make individual attributions as the ones we described earlier.

Boundary conditions

In our model we highlight a series of boundary conditions that are likely to affect cognitive and affective reactions to a transgression incident. First, transgression event criticality or severity is of importance. The effects of transgression severity have been examined in many close relationship studies (e.g., Fincham, Jackson, & Beach, 2005; McCullough et al., 2003; McCullough & Hoyt, 2002). Bradfield and Aquino (1999) showed that blame attributions were influenced by offence severity. Furthermore, it was shown that a global information

processing style increases willingness to forgive by making the offence appear less severe (Mok & De Cremer, 2015). Perceived severity of the critical incident significantly predicted whether or not a victim engaged in forgiveness (Beattie & Griffin, 2014). Fehr et al. (2010)'s meta-analysis found severity and forgiveness to be negatively correlated. Offence severity has also been found to be an important determinant of punitive actions that people are willing to impose on deviant leaders (Karelala & Keck, 2013). Byrne et al. (2014) found that offence severity moderated the positive association between leader apologies and follower's psychological well-being. Furthermore, offence severity moderated the association between leader apologies and their positive emotions and psychological health. More recently, Grover et al. (2019) examined the conditions under which apologies facilitate restoration of trust in the leader-follower relationship. It was found that the impact of apologies on forgiveness and subsequent trust depended on leaders' intentions and the severity of the trust violation's outcomes. Transgression severity is thus an important boundary condition that needs to be taken into account into empirical investigations of leader-follower transgressions.

Second, transgression event novelty or frequency needs to be taken into account. As discussed in [The way forward on definitional issues](#) section, transgression frequency can distinguish transgressions that are novel, non-routine 'discontinuous happenings' in a leader-follower relationship from phenomena where norm-violating behaviors are routine and stable patterns of interaction such as abusive supervision (e.g., Schyns & Schilling, 2013) and toxic followership (e.g., Padilla et al., 2007).

Third, the *transgressor's hierarchical status* is an important boundary condition, i.e., whether the transgressor is the leader or the follower. Prior research has highlighted the role of the hierarchical status for forgiveness. Aquino et al. (2006), for example, argued that victims will not seek vengeance when the power dynamics of the situation make the

costs of doing so too high and that a victim may find it more advantageous to maintain a relationship with a high-status transgressor than with a low-status transgressor, thus motivating prosocial coping responses and discouraging revenge. Given that a transgressor of a higher hierarchical status can more negatively impact the victim than a lower hierarchical status transgressor "... due to the fact that the former may influence desired outcomes (e.g., pay, promotion opportunities, access to social networks), the victim may refrain from pursuing revenge because he or she fears the loss of these outcomes" (p. 54). They also suggested that people with higher hierarchical status may find it particularly insulting to be harmed by a lower status follower so they may believe that an aggressive response is necessary to enforce social deference. Forgoing the opportunity to enact retaliation would be to relinquish the opportunity to demonstrate their superior power. Thus, those in a more powerful position are likely to be less motivated to forgive, whereas those with less power may be more inclined to forgive (Fincham et al., 2006).

Kramer (1999) also investigated trust-enhancing and trust-decreasing behaviors as a function of where people were at in the hierarchical ladder in the organization. The results showed that because of their greater dependence and vulnerability, trust concerns were stronger for individuals in low-status positions. Interestingly enough, Zheng et al. (2018) found that an apology (vs. no apology) from high-power transgressors was relatively ineffective in increasing forgiveness from low-power victims and this moderating effect was mediated by victim cynicism.

Fragale, Rosen, Xu, and Onypchuk (2009) focused on subjective rather than hierarchical status and found that transgressor's status affected attributions for the transgression incident and specifically observers attributed higher intentionality to high- relative status transgressors rather than low-status transgressors (see also Heider, 1958). In the case of high intentionality attributions, one would expect less inclination for observers to forgive. It is, however, important to note that there was no relational dependency or a hierarchical relationship between transgressor and observers in their study. Observers were not relying on the transgressor for valuable resources and rewards and this may well explain the differential results.

Finally, the pre-transgression quality of the leader-follower relationship is likely to be an important boundary condition in this context as we expect the relationship repair process to be different in the case of high versus low quality leader-follower relationships. High quality leader-follower relationships are characterized by high levels of dependence, commitment and relationship satisfaction and thus leaders and followers in such relationships will be more inclined to make benevolent attributions of the event and to show pro-relationship transformation motivation and reach forgiveness (e.g., Radulovic et al., 2019). Committed and satisfied partners tend to attribute negative experiences to transient and external sources and even in the face of declining relationship quality they maintain optimism (e.g., Bradbury & Fincham, 1990; McCullough et al., 1998). Thus, in leader-follower relationships of high quality, transgression victims will generally tend to make benevolent attributions and attribute the transgressor's behavior to more uncontrollable, transient, external sources, view transgressions as more incidental, and the transgressor as less responsible for the transgression. In contrast, victims in low quality leader-follower relationships (i.e. low commitment, low investment and low satisfaction) will tend to make distress-maintaining, malevolent attributions and view transgressions as more internal, permanent and under the control of the transgressor, and thus more likely to ascribe intentionality and culpability.

As can be seen in Fig. 3, after the stage of transgression awareness and relevant cognitions and emotions, the next stage involves transgressor behaviors that can contribute towards the relationship repair process. Transgressors (leaders or followers) can engage in a series of behaviors in order to address the transgression. The role of the transgressors in promoting (or impeding) prosocial transformation and

forgiveness through their actions has been highlighted by Rusbult et al. (2001). Transgressor's relationship repair strategies such as an apology are likely to promote positive affect and thus create the conditions for prosocial transformation of motivation, whereas lack of relationship repair action is likely to induce negative affect. Also, regarding victim cognitions, at this stage, after having acquired more information about the factors contributing to the transgression, injured parties may begin to develop revised explanations for their partner's behavior. Enright et al. (1996) in their theory of forgiveness refer to a strategy entitled "re-contextualizing" the transgressor, meaning that the injured partners can reconstrue the transgression by placing the act in the broader context of the relationship and environment. Acknowledging the context might cast light on the partner's decision to engage in the betrayal. For example, organizational crisis conditions might explain why a leader didn't grant a promised reward to a member or fear for one's job security might explain a verbal outburst and snapping incident on behalf of the member. Maio and Thomas (2007) describe this process as akin to the victim saying "Yes, but..." or "Yes, because..." Taking into account the surrounding conditions, the good history of the relationship, or the transgressor's otherwise good character can alleviate the sense of transgression.

Alternatively, negative framing may also occur, which can accentuate the sense of transgression. For example, reflecting upon one's pre-existing knowledge of the relationship, especially past transgressions may heighten the perception of injury or harm. Putting the event in context and changing the attributions for the event can result in a new understanding of oneself, one's partner and the relationship. In the final stage of the relationship repair process, both leader and follower have ascribed meaning into what has happened, strong emotions have subdued and are ready to act on what happened. Victims can now choose one of three behavioral strategies to react: (a) grant *forgiveness*; (b) opt for some form of *retribution*, i.e. some form of revenge or punishment (e.g., a leader can fire a member for a violation or a member can stop putting extra effort in his/her work); and (c) opt for *refuge*. Whereas restitution and retribution are in some fashion "making up for" the transgression, refuge is more a demand for protection or proof that the event will not happen again (Baucom & Epstein, 1990). Refuge might involve either an emotional or physical distancing from a hurtful partner "They hurt me once, so I will not let them get close enough to hurt me again".

The role of individual variables

Certain individual variables will enhance or inhibit victims' tendencies to engage into relationship repair strategies such as forgiveness. Prior meta-analytic work on forgiveness in close relationships has highlighted the role of three dispositional variables; *agreeableness*, *trait forgiveness or forgivingness* and *perspective-taking* (Fehr et al., 2010). Among the Big 5 personality factors, agreeableness is most frequently linked to forgiveness. It is defined as the tendency to get along well with others. When faced with a conflict event, agreeable people seek cooperative and integrative solutions and are also likely to understand and empathize with others' situations (Ashton, Paunonen, Helmes, & Jackson, 1998). Trait forgiveness is conceptualized as the tendency for an individual to forgive across situations and time (Berry, Worthington, Parrott, O'Connore, & Wade, 2001). Individuals high on trait forgiveness tend to interpret offenses as worthy of forgiveness whereas those low on trait forgiveness tend to interpret offenses as unworthy of forgiveness and perceive retribution or refuge as the most useful strategy.

Perspective taking represents a cognitive capacity to consider the point of view of another person (Davis, 1983). Within the context of forgiveness, perspective taking has been shown to enhance victims' understanding of why the transgressors might have offended them and facilitate prosocial transformation of motivation (Fehr et al., 2010). Furthermore, prior research (e.g., Exline, Baumeister, Bushman, Campbell, & Finkel, 2004) has highlighted the role of *narcissistic entitlement* for forgiveness. Narcissistic entitlement involves expectations of

special treatment and preoccupation with defending one's rights. Individuals high in narcissistic entitlement have been found to be less willing to forgive and more skeptical of forgiving in general. In fact, Exline et al. (2004) have reported narcissistic entitlement to be a robust, distinct predictor of unforgiveness.

Schemas, such as Implicit Leadership and Followership Theories (e.g., Epitropaki, Sy, Martin, Tram-Quon, & Topakas, 2013; Lord, Epitropaki, Foti, & Hansbrough, 2019) can also play a role in relationship repair processes. A victim (follower or leader) may be more willing to forgive a transgressor who matches their leadership (or followership) prototype as prototypical transgressors enjoy 'deviance credit' and license to transgress (e.g., Abrams et al., 2018). Relational schemas may also be important (Baldwin, 1992) in this context. Prior research (e.g., Huang, Wright, Chiu, & Wang, 2008) has shown that leaders and members form different relational schemas. Leaders develop schemas focused on work-related issues whereas members are focusing more on interpersonal concerns. These differential schemas may trigger a different evaluation process of observed transgressions (e.g., leaders may be more tuned to task-focused transgressions and followers to person-focused ones) with implications for subsequent relationship repair processes.

Outcomes at three levels of analysis

We expect a series of possible outcomes of the relationship repair process of a transgression based at three levels of analysis (individual, dyadic, and group). Specifically, on the individual level, possible follower outcomes may include reduced turnover intentions and psychological withdrawal (Shapiro et al., 2011), well-being and positive emotion (Byrne et al., 2014; Radulovic et al., 2019), fairness perceptions (Liang et al., 2018), moral identity (Krylova et al., 2017) and follower OCB and voice (Liborius, 2014). From the leader's perspective, possible individual outcomes include perceived leader integrity and trust in the leader (Shao, 2019) and moral identity salience (Krylova et al., 2017) following relationship repair. Other possible outcomes that have not been examined by prior research include leader efficacy and leader identity. For example, after effective resolution of a transgression event, leaders may experience renewed granting of their leader identity (DeRue & Ashford, 2010) and increased confidence in their ability to lead. Leaders may also experience negative individual outcomes such as diminished power base, lower leader identity and efficacy and social rejection (e.g., Freedman, Burgoon, Ferrell, Pennebaker, & Beer, 2017) and increased employee deviance (license to transgress-trickledown effect).

After follower transgressions, followers may experience punitive and authoritarian leadership behaviors and transactional (versus socio-emotional) exchanges with the leader. However, if the leader grants forgiveness it is possible for the relationship to return to pre-transgression levels of outcomes in terms of follower well-being, job satisfaction, follower identity and leader trust.

Relationship resilience is a key outcome of a relationship repair process after a transgression. Relationship resilience is demonstrated when leaders and followers restore their relationship to the status quo or exhibit positive adaptation and growth after the transgression (e.g., Murray & Holmes, 1999; Olekalns et al., 2019). Other dyadic outcomes may include increased relational effort (Radulovic et al., 2019), and relational trust (Olekalns et al., 2019) as well as enhanced leader-follower relationship quality. Furthermore, given that leader-follower dyads are nested in groups, group-level outcomes may occur. Group-level outcomes may include forgiveness climate (Fehr & Gelfand, 2012), justice climate (Colquitt, Noe, & Jackson, 2002) and group performance. For sake of parsimony, we do not present all possible outcomes in Fig. 3 apart from relationship resilience which is fundamental for relationship continuance.

Transgression antecedents and triggers. Although not explicitly presented in our model in Fig. 3, future research could also identify specific

transgression event triggers and antecedents. For example, prior research in the close relationship literature has shown that attachment orientations predicted transgression frequency and reactions towards a partner's transgression (Martin, Hill, & Allemand, 2019). Specific transgression event triggers may also be identified such as uncertain environmental conditions, organizational changes and performance pressures (Mitchell, Baer, Ambrose, Folger, & Palmer, 2018) or ego depletion factors (e.g., Barnes, Schaubroeck, Huth, & Ghuman, 2011).

Other future directions. As previously discussed, time is generally an important parameter that needs to be explicitly conceptualized and operationalized (e.g., Day, 2014). Time is a key factor for experiencing a transgression in a relationship, for relationship repair and relationship outcomes in the aftermath of the transgression. Generally, transgressions early in a relationship can be damaging (e.g., Lewicki & Bunker, 1996; Lount Jr., Zhong, Sivanathan, & Murnighan, 2008) in the sense that the relationship might never recover as relationship norms have not been fully established. On the other hand, transgressions that happen later in established relationships can yield deeper damage than if the violation occurred earlier before relationships were formed and commitments made (e.g., Tomlinson, Dineen, & Lewicki, 2004). In these circumstances, the violation is a shock and it is worse than unreliability or deception because it violates a deep trust and confidence in a longer-term relationship (Glovier, 1998).

Identity is also a promising line of research in the context of leader-follower transgressions relationship repair strategies and outcomes. Krylova et al.'s (2017) review has already offered an identity perspective utilizing social identity (e.g., Hogg, 2001), moral identity (Aquino & Reed II, 2002) and identity threat (Petriglieri, 2011) theories. They argued, for example, that when leaders transgress and behave in a manner that is incompatible with prototypical group attributes, they are redefining the group prototype. The ambiguity created by the transgression creates a discord between the leaders' behavior and the followers' moral identities which can be identity threatening. We further argue that transgressions can have implications for leader and follower identities (Epitropaki, Kark, Mainemelis, & Lord, 2017; Epitropaki, Martin, & Thomas, 2017), leader efficacy and follower self-concepts. Trickle down effects of transgressive behaviors, similar to ethical (e.g., Mayer, Kuenzi, Greenbaum, Bardes, & Salvador, 2009) or abusive leadership (e.g., Mawritz, Mayer, Hoobler, Wayne, & Marinova, 2012) can also be examined. For example, a middle manager who is the victim of their leader's transgressions may then emulate similar transgressive behaviors in their relationships with their own followers.

In sum, we believe that we have offered an integrative model and a broad future research agenda that the interested researcher may find useful when conducting research in the field of leader-follower transgressions, relationship repair strategies and outcomes.

Conclusion

Recently there has been considerable research focusing on leader and follower transgressions and relationship repair strategies. In this review, we have critically synthesized this growing literature, discussed conceptual and methodological challenges, offered suggestions for definitional clarity, added new insights based on closed relationship science perspectives and outlined an integrative framework for guiding new directions of research in this field. Addressing relational transgressions between leaders and followers can be a challenging process. However, the utilization of relationship repair strategies can have a transformative effect on the leader-follower relationship through redefining relationship norms and boundaries. Multiple outcomes on the individual, dyadic and group levels for both leaders and followers can be expected to follow the relationship repair process. We consider this an exciting field of study and we hope that future research will

empirically integrate transgressions, relationship repair strategies and outcomes as well as explicitly address their events-based nature, their complex unfolding over time, boundary conditions and levels-of-analysis issues.

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