

COACTIVE VICARIOUS LEARNING: TOWARD A RELATIONAL THEORY OF VICARIOUS LEARNING IN ORGANIZATIONS

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Vicarious learning—individual learning that occurs through being exposed to and making meaning from another’s experience—has long been recognized as a driver of individual, team, and organizational success. Yet existing perspectives on this critical learning process have remained fairly limited, often casting vicarious learning as simply an intrapersonal, one-way process of observation and imitation. Largely absent in prior perspectives is a consideration of the relational dynamics and underlying behaviors by which individuals learn vicariously through interacting with others, rendering these perspectives less useful for understanding learning in the increasingly interconnected work of modern organizations. Integrating theories of experiential learning and symbolic interactionism, I offer a theoretical model of coactive vicarious learning, a relational process of coconstructed, interpersonal learning that occurs through discursive interactions between individuals at work. I explore how these interactions involve the mutual processing of another’s experience; are influenced by characteristics of the individual, relational, and structural context in organizations; and lead to growth not only in individuals’ knowledge but also in their individual and relational capacity for learning and applying knowledge. I close by discussing the implications of this conceptual model for the understanding and practice of vicarious learning in organizations.

In the 1980s, before electronic document systems became fashionable, managers at Bain developed a large paper-based document center at its Boston headquarters; it stored slide books containing disguised presentations, analyses, and information on various industries. The library’s purpose was to help consultants learn from work done in the past without having to contact the teams that did the work. But as one partner commented, “The center offered a picture of a cake without giving out the recipe.” The documents could not convey the richness of the knowledge or the logic that had been applied to reach solutions—that understanding had to be communicated from one person to another (Hansen, Nohria, & Tierney, 1999: 113).

Learning from the experience of others has long been recognized as critical for individual and organizational success (Argote & Ingram, 2000; Bresman, 2013; Davis & Luthans, 1980; Manz & Sims, 1981). Using others’ successes and failures

to avoid “reinventing the wheel” allows organizations and their employees to alter their learning curves, reduce inefficiencies, and improve output quality (Argote, Gruenfeld, & Naquin, 2001; Bledow, Carette, Kühnel, & Bister, 2017; Bresman, Birkinshaw, & Nobel, 1999; KC, Staats, & Gino, 2013; Kim & Miner, 2007). Building on the foundational work of Albert Bandura (i.e., social learning theory; Bandura, 1977a) organizational scholars have advanced the notion of *vicarious learning* to capture these learning and performance benefits, defining the term as the process by which “an observer learns from the behavior and consequences experienced by a model rather than from outcomes stemming from his or her own performance attempts” (Gioia & Manz, 1985: 528).

As evident in this definition, existing perspectives on vicarious learning have centered on the learner’s ability to attentively observe the experience of a model (e.g., another individual in the learner’s workplace) and subsequently retain and imitate the observed actions, with the learner motivating their own behavior toward alignment with that of the model (Bandura, 1977a). Correspondingly, research on vicarious learning has foregrounded learners’ abilities to identify and imitate what they have observed, either directly (i.e., watching a model perform an action and

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experience consequences) or symbolically, through written or pictorial representations of models' actions that can be viewed by learners at a later time (such as written case summaries or media recordings; Bandura, 1986). For example, researchers have examined how employees replicate actions by directly observing others' behavior (e.g., using behavioral modeling in organizational training; Taylor, Russ-Eft, & Chan, 2005), as well as by using data repositories or knowledge management systems (Davenport, De Long, & Beers, 1998).

Uniting these research findings is an emphasis on learners' independent, one-way observation of the model; in each case the model is a non-participant in the learner's processing of their observations. For instance, in the case of symbolic learning processes, the "model" is often simply an artifact of a prior actor's performance, captured in a document or recording that precludes any form of interaction between model and learner. This one-way observation perspective presupposes that the learner understands the underlying goals of a model's actions (e.g., *why* they acted in a particular manner) and knows what elements of the action to emulate (e.g., knowing which elements are critical to successful performance and which are unrelated "noise" in the observation of a particular individual). Yet there is growing evidence that this assumption of vicarious learning as an independent, one-way process may not hold in the types of interactive, socially embedded work of modern organizations.

Organizations have evolved from places where workers focused on individual, isolated tasks to sites of coordinated work conducted via networks of relationships among individuals (Adler, Kwon, & Heckscher, 2008; Gittel & Douglass, 2012), drastically changing the social context for learning vicariously from others at work (Myers & DeRue, 2017). While one-way processes of vicarious learning through observation and imitation may have been well-suited to the work of earlier eras, such as high-volume manufacturing firms (where "best practices" could be more easily modeled and replicated; see Tucker, Nembhard, & Edmondson, 2007), or to the domain of childhood education (where Bandura originally developed his social learning theory; e.g., Bandura, Ross, & Ross, 1963), the increasingly interdependent work that characterizes the "knowledge economy" has substantially altered the ways individuals learn and perform at work (Noe, Clarke, & Klein, 2014;

Powell & Snellman, 2004). Indeed, observing others at work is far more difficult in the distributed or virtual work arrangements common to modern organizations (see Hinds & Bailey, 2003), and learning in these settings often involves processing complex experiences laden with both explicit and tacit knowledge (Lipshitz, Friedman, & Popper, 2007; Miller, Zhao, & Calantone, 2006; Nonaka, 1994) that vary in their "learnability" (McIver, Lengnick-Hall, Lengnick-Hall, & Ramachandran, 2013) and in the degree to which they can be codified and formally disseminated in organizations (Hansen et al., 1999).

Existing approaches to vicarious learning that emphasize independent processing of a model's experience make implicit assumptions that what is to be learned is overtly observable (in the case of direct observation of a model) or symbolically codifiable (in the case of learning from written summaries or media recordings). Yet, as Hofmann, Lei, and Grant (2009: 1261) have noted, work organizations are sites of substantial "ambiguity, equivocality, and uncertainty," evoking questions such as "What's the story here? What does it mean? What do I do next?" that motivate sense-making and learning through interpersonal communication and interaction (Weick, Sutcliffe, & Obstfeld, 2005). For instance, in cataloguing the vicarious learning behaviors of pharmaceutical and aerospace product development teams, Ancona and Bresman (2005) noted that these behaviors included a number of interpersonal interactions, such as inviting experienced others to discuss past mistakes and talking to others about improvement efforts, in addition to directly observing others' work. Discursive interaction thus seems to be a common tool for learning from others in the (increasingly common) types of knowledge-based work of modern organizations, requiring scholars to reconsider existing theories and develop a more robust understanding of interpersonal vicarious learning interactions, where learning occurs through the active engagement of not only learners but also those from whom they are trying to learn.

The time thus seems ripe for an integrated theoretical account of this more interactive form of vicarious learning that specifies the underlying microprocesses of these interactions, as well as their contextual antecedents and developmental consequences. Therefore, I introduce a conceptual model of *coactive vicarious learning* (CVL) that reflects a more relational, coconstruction

perspective on vicarious learning, challenging and complementing the prevailing view of vicarious learning as an independent, one-way process of observation and imitation. I integrate perspectives from symbolic interactionism (Mead, 1934) and experiential learning (Kolb, 1984; Schön, 1987) to advance this interpersonal model of vicarious learning, characterizing learning as the process of making meaning out of workplace experiences (which then enables changes in beliefs and future behavior; Kolb, 1984) but emphasizing the potential for this meaning to be coconstructed through a dyad's joint, situated understanding (e.g., Dionysiou & Tsoukas, 2013).

In doing so I offer a conceptualization that is explicitly grounded at the relational level of analysis, positing that vicarious learning interactions are embedded in ongoing relationships and, thus, that the process and outcomes of learning vary across idiosyncratic dyads. Importantly, this relational model of vicarious learning articulates a fundamentally different mechanism for vicarious learning, shifting away from prior mechanical conceptualizations where vicarious learning was viewed as a process of observation and duplication or as a process of knowledge flowing from "reservoirs" through various transfer "conduits" (e.g., Argote & Ingram, 2000). Instead, the model advanced here moves toward a more developmental conceptualization focused on enhancing learning *capacity* (the ability of an individual or dyad to learn, both in the current context and in future learning opportunities), directly acknowledging the potential of these learning interactions to have an impact beyond just the simple transfer of knowledge.

This conceptual model emphasizes the unique impact that vicarious learning has on not only the knowledge and awareness of each individual in the interaction but also their capacity for learning in future experiences, resulting from the influence of vicarious learning on person- and dyad-specific attributes (e.g., efficacy and trust) and resources (e.g., perspective-taking abilities and shared mental models). In this way, I define the outcome of vicarious learning as changes in individuals' *response repertoires*—when individuals "become able to respond to task-demand or an environmental pressure in a different way as a result of earlier response to the same task (practice) or as a result of other intervening relevant experience" (English & English, 1958: 259, as cited in Weick, 1991: 116). Changes to response repertoires

reflect increases in the "stock" of available responses (e.g., behaviors, routines, habits), as well as in the "capability to recombine portions of the stock in novel ways" (Christianson, Farkas, Sutcliffe, & Weick, 2009: 846–847). As Sitkin, Sutcliffe, and Weick (1998: 70) noted, adopting this definition (a) allows the concept of learning to capture a broad range of changes (e.g., in beliefs, practices, and relationships), (b) focuses on the development and elaboration of available capabilities (whether or not they are used), and (c) acknowledges that learning enables the potential for future action but does not require the manifestation of that action (e.g., improved performance) to have occurred (see also Huber, 1991, and Wilson, Goodman, & Cronin, 2007).

TOWARD A RELATIONAL THEORY OF VICARIOUS LEARNING

Organizational scholars have traditionally approached vicarious learning from a social-cognitive perspective, building on Bandura's work (1977a, 1986, 1989a). Bandura's social learning theory (1977a) gave rise to key organizational perspectives on learning, since organizations were recognized as frequent sites of individuals learning from others (such as training, establishing rules or norms, and learning general work patterns; Manz & Sims, 1981). This perspective asserted that directly observing and modeling others' actions at work could help explain the rapid spread of behavior in the workplace (Davis & Luthans, 1980), and it posited intrapersonal processes of attention, retention, reproduction, and motivation (Bandura, 1977a) as the key drivers of individuals' ability to find and imitate behavior (Manz & Sims, 1981). Bandura further argued that vicarious learning could also occur through symbolic (i.e., written or pictorial) means, such as written summaries or video-recorded performances, noting, for instance, that "the accelerated growth of video technologies has vastly expanded the range of models to which people are exposed day in and day out" (1997: 93). The inclusion of video-recorded models draws attention to the fundamentally intrapersonal nature of this perspective: vicarious learning is seen as occurring entirely within the individual as a result of one-way observation of a model (without necessarily even physical colocation) and processing of the "script" implied in the model's actions (Gioia &

Manz, 1985). In subsequent research on vicarious learning in organizations, scholars have largely maintained this perspective, typically focusing on actors (individuals, as well as units or organizations) finding and copying the practices of others (e.g., Baum, Li, & Usher, 2000; Taylor et al., 2005), guided by the notion that vicarious learning occurs "essentially at arm's length" (Bresman, 2013: 55).

However, as noted earlier, this solely intrapersonal perspective on vicarious learning is limiting, and the assumption that one-way, independent observation and imitation constitutes the totality of vicarious learning overlooks the increasingly interpersonal nature of learning in organizations. I thus follow the broader perspective of situated learning (Lave & Wenger, 1991) in rejecting a purely cognitive view of learning in organizations, focusing less on "cognition and what goes on in individual heads" (Weick & Westley, 1996: 442) and more on experiences and interactions as the primary inputs to learning. Specifically, in contrast to prior cognitive, information transfer perspectives, I adopt an experience-based view of learning (Kolb, 1984) and integrate it with a symbolic interactionist perspective (Mead, 1934) to introduce a more interactive, relational model of vicarious learning in organizations.

Experiential learning (Kolb, 1984; Schön, 1987) has served as a dominant theoretical framework for studies of individual learning in organizations, casting learning as a cyclical process of individual meaning making that occurs through the transformation of experience, via reflective observation, into an abstract concept that can then be refined and applied to future experience (Kolb, 1984). Although typically used in the context of learning from an individual's own direct experience, others' experiences and perspectives can also be key drivers of an individual's meaning-making, problem-solving, and learning processes in organizations (e.g., Baker, Jensen, & Kolb, 2005; Hoover, Giambatista, & Belkin, 2012).

Despite this recognition of the potential for others' experiences to impact individuals' learning, experiential and vicarious learning perspectives have remained largely separated (Hoover et al., 2012). Yet viewing experiential learning as a process of meaning making highlights a connection between this approach and theories of symbolic interactionism (Mead, 1934) that allows for a deeper integration of the role of

others in the learning process. The symbolic interactionist perspective is built on the notion that individuals act according to the meaning they make of their experiences and that this meaning is cocreated through processes of interpersonal interaction and continually reinterpreted and modified as the result of further interaction (Blumer, 1969). Consistent with experiential learning, symbolic interactionism thus holds a simultaneous focus on both meaning (what Kolb [1984] might refer to as "abstract conceptualization") and action ("concrete experience" in experiential learning), but it emphasizes the role of others in deriving and modifying this meaning. As each person in the interaction considers the other's perspective, they develop an emergent, shared understanding of the meaning of an object or experience and, correspondingly, shared expectations for action (for a discussion in the context of organizational routines, see Dionysiou & Tsoukas, 2013).

In this sense it is only through the discourse emerging from interaction with others that individuals come to understand the meaning of an experience, and this meaning is cocreated with their interaction partners, making these interactions fundamental to learning. This relational learning process results in the development of a joint, situated understanding of an experience, firmly rooted in both the dynamics of interpersonal interaction and the specific nature of the experience. This integration of symbolic interactionism and experiential learning is consistent with broader arguments of social construction, which have rejected the notion of the individual as the key locus of knowledge, arguing instead that knowledge is based in, and a fundamental property of, discourse generated through interpersonal relationships (Gergen, 1997). Integrating these perspectives in the context of learning at work, I use the term *coactive vicarious learning (CVL)* to capture this relational interaction of learning from others' experiences, adopting "coactive" from the literature on computer science and engineering, where it has described processes where agents (human users, algorithms, or a combination of the two) learn and develop optimal solutions by sharing examples and responses with one another (e.g., Grecu & Becker, 1998; Shivaswamy & Joachims, 2015; Sokolov, Riezler, & Cohen, 2015). I therefore formally define CVL as a discursive learning process where individuals (i.e., a model and learner)

intentionally share and jointly process a model's work experience(s) in interpersonal interactions to coconstruct an emergent, situated understanding of the experience(s).

Distinguishing CVL

In introducing this new concept of CVL, I offer an interpersonal conceptualization of vicarious learning to challenge, but also to complement, prevailing intrapersonal views (which I refer to as independent vicarious learning [IVL]) underlying much of the extant literature. Each perspective is broadly focused on understanding the way individuals learn from others (i.e., models), but they fundamentally differ in the level of involvement of a model in the learning process. IVL perspectives view the role of the model as merely providing an individual with an observable experience, casting the remainder of the learning process as occurring within the individual (i.e., the model would be involved only in the first stage of the experiential learning process, generating a broader set of concrete experiences the individual can intrapersonally reflect on, conceptualize, and adopt; Kolb, 1984). In stark contrast, CVL emphasizes the role of the model as a cocreator in the learning process, engaging with the learner jointly in the full "cycle" of experiential learning—mutually reflecting on an experience, developing shared abstract understandings, and collaborating to "try out" possible interpretations and applications of this understanding.

This key feature of IVL—a one-way process of learners observing and adopting a model's behavior or knowledge—extends not only to literature explicitly using the terms *vicarious* or *observational* learning but also to studies of knowledge transfer (as well as associated topics, such as the seeking or sharing of knowledge or information) in organizations (e.g., Argote, Ingram, Levine, & Moreland, 2000) and to studies of communities of practice (e.g., Brown & Duguid, 1991), which rely on similar assumptions of independent vicarious learning. For instance, studies of knowledge transfer tend to focus on the availability or characteristics of particular "conduits" for sharing knowledge—such as a close network tie (Hansen, 2002), knowledge management database (Davenport et al., 1998), or personnel rotation system (Kane, 2010)—inherently emphasizing individuals' mere exposure to others' knowledge via the conduit and assuming that, once exposed,

individuals can effectively adopt that knowledge on their own.

Likewise, research on communities of practice emphasizes individual learners' efforts to participate more "fully" in a group of skilled practitioners (Lave & Wenger, 1991) as the primary drivers of learning. This perspective highlights how learners absorb key ideas and information by watching competent practitioners from a vantage point on the "periphery" of work, arguing, for instance, that "if training is designed so that learners cannot observe the activity of practitioners, learning is inevitably impoverished" (Brown & Duguid, 1991: 50). As Bailey and Barley have noted, these perspectives afford little active role for models in the learning process, since they have "downplayed explicit teaching and argued that most knowledge was transmitted subtly and unintentionally through newcomers' participation in community activities" (2010: 283). Similarly, although other work in the domain of group learning has affirmed the importance of individuals sharing knowledge interactively in teams or workgroups (see Wilson et al., 2007), research and theory in this domain tend to treat learning as a group or team property (e.g., Vashdi, Bamberger, & Erez, 2013). In doing so this work focuses primarily on how individuals collectively reflect on a *shared* event or experience (one that the group encountered together), rather than an individual's vicarious processing of a unique experience communicated by a particular team member.

These descriptions highlight a further difference between CVL and existing IVL-based approaches, in that each perspective views learning as occurring via a different activity or opportunity in organizations. CVL emphasizes interpersonal interactions as the key site of vicarious learning, focusing on the joint, interactive processing of an experience between individuals (i.e., learners and models), whereas observational approaches focus on individuals' opportunities to observe the behavior of a model, viewing observation and imitation as the key activities by which individuals learn from others at work. By comparison, knowledge transfer perspectives prioritize the existence and utilization of conduits for sharing knowledge (typically between organizational units; Argote, 2015), viewing the use of these conduits as the key learning activity and exploring factors that make this use more or less likely or effective (e.g., examining the impact of a shared

identity on the effectiveness of a personnel rotation system; Kane, 2010). Finally, as evident in the description above, communities of practice research emphasize individual participation as the key learning activity, casting individuals' learning from others as emerging from their "fuller" participation and socialization into the community (Brown & Duguid, 1991; Lave & Wenger, 1991).

Beyond these fundamental differences in how the vicarious learning process unfolds, CVL can be further distinguished from existing perspectives by comparing them in terms of the assumptions they make about the intentionality of models and learners in the learning process and about the content to be learned. CVL assumes a discursive, cocreation process of learning, correspondingly incorporating the view of both the learner and model as active, intentional participants in an interaction. However, although theories of observational learning generally conceptualize learners as intentionally observing and adopting models' behavior, much empirical research in this domain affords relatively little attention to these intentional efforts (e.g., viewing learners as unaware mimics in behavioral observational training), and this perspective tends to view models as entirely unintentional participants in the learning process (as evident in the use of recorded or televised models in observational training). On the other hand, research on knowledge transfer has recognized that learners intentionally make use of various conduits to seek knowledge or information from others (often judging the value and accessibility of a potential model's knowledge; e.g., Borgatti & Cross, 2003). As with CVL, these perspectives also afford models a high degree of intentionality in the process, recognizing that models have their own motivations for sharing knowledge (which can be distinct, but complementary to, the motivation of learners; e.g., Quigley, Tesluk, Locke, & Bartol, 2007) or may intentionally hide knowledge from others (Cerne, Nerstad, & Dysvik, 2014). In contrast, research on communities of practice overtly assumes low intentionality of both learners and models, articulating an automatic diffusion process where "teaching and learning are often unintentional" (Bailey & Barley, 2010: 263).

Finally, in terms of the content of learning (i.e., what might be gleaned through engaging in vicarious learning), CVL assumes that this content is situated in the discourse between model and learner, emerging from idiosyncratic joint

processing of experience. Communities of practice research makes a similar assumption—that learning is inherently situated in the learner's engagement in community activities—viewing the content to be learned as the tacit awareness and expertise that emerge through increasing participation in the work of a particular community. However, theories of observational learning and knowledge transfer generally treat the content to be learned as observable or codifiable (e.g., able to be documented in a knowledge management system) and, thus, implicitly assume that this content can be prescribed or defined *ex ante*. Indeed, conducting behavioral modeling-based training (e.g., showing a video of a model displaying behavior desired by the organization; Taylor et al., 2005) or utilizing a knowledge-sharing conduit (e.g., determining what knowledge to share in a knowledge management system or what information to seek from a network contact) requires a preemptive definition of what behavior or knowledge should be modeled, shared, or sought. Some studies in the knowledge transfer literature have explored how conduits could be used for transferring more tacit, situated knowledge; however, they generally conclude that the degree to which knowledge is more tacit (i.e., less codified) impedes transfer between individuals in different units or organizations (Zander & Kogut, 1995), and that person-to-person connections (e.g., strong or trusted ties; Hansen, 1999; Levin & Cross, 2004) are necessary for sharing tacit knowledge. As Reagans and McEvily summarized, "Transferring tacit knowledge is more sensitive to having the right person with the right connection at the right place" (2003: 264).

Table 1 collates these differences between CVL and existing perspectives on how individuals learn from others at work, highlighting the constellation of characteristics distinguishing CVL from these prior theories, as well as areas of commonality with existing perspectives. Importantly, although CVL does share particular assumptions with prior theories (i.e., assumptions of intentionality with knowledge transfer research and of emergent content with communities of practice perspectives), these assumptions are themselves necessary but insufficient elements (Podsakoff, MacKenzie, & Podsakoff, 2016) of the concept of CVL.

In addition to articulating the unique features of CVL, comparing this new conceptual model to

TABLE 1
Distinguishing CVL

Characteristics	CVL	Observational Vicarious Learning	Knowledge Transfer	Communities of Practice
Learning process: Learning generally viewed as . . .	Interpersonal process of joint, coconstructed meaning making	Within-person process of knowledge or behavior adoption after exposure to model		
Learning activity: Learning generally occurs via . . .	Interpersonal interactions	Observation and imitation	Conduits for transferring knowledge	Fuller participation in community
Learning intentionality: Engagement in learning is generally . . .	Intentional	Intentional or unintentional	Intentional	Unintentional
Learning content: What is learned is generally . . .	Situated (emerging from discourse)	Defined ex ante (in behavior to be observed)	Defined ex ante (in existing knowledge or practice)	Situated (emerging from participation in community work)

existing approaches highlights the explanatory value that CVL can offer for understanding learning in dynamic, socially interactive, and knowledge-intensive organizations. For instance, learning in these organizations is increasingly reliant on both interpersonal interactions and the sharing of tacit knowledge (Noe et al., 2014). Yet although research has acknowledged the importance of social relationships as conduits for sharing knowledge and learning (e.g., Argote, McEvily, & Reagans, 2003; Ingram & Roberts, 2000; Uzzi & Lancaster, 2003), it generally has focused on the presence or absence of these relationships (e.g., whether or not people share a friendship or embedded tie) and has been largely silent on what occurs in learning interactions within the relationship. This may be driven by the predominant use of structural analyses of social networks in these studies (e.g., Hansen, 1999; Levin & Cross, 2004; Reagans & McEvily, 2003), which limits their capacity to examine interpersonal microprocesses. Likewise, a sizable portion of this research has been conducted at the unit or organization level of analysis (often attributing the act of learning directly to the unit or organization itself; e.g., Argote, 2015), masking the underlying interpersonal interactions that constitute vicarious learning in these settings.

In this way, existing views can be said to be "social but not relational," as described by Bailey and Barley (2010: 283), who highlighted how extant research tends to underemphasize "teaching-learning interactions" (and specifically the role of the teacher), demonstrating that these interactions varied significantly across different

communities of professional engineers. In these kinds of knowledge work environments (e.g., engineering), interactivity and two-way discussion seem necessary for understanding what can be learned vicariously from others' experiences, since individuals are likely unable to deduce the "lesson" of another person's experience without discussion of the person's thoughts and decision-making processes (i.e., the underlying judgments and tacit understanding guiding their actions). Thus, although independent modes of vicarious learning certainly can be effective for learning in particular circumstances, introducing a coactive perspective on vicarious learning adds substantial nuance and clarity to our knowledge of how individuals work with one another to learn in the increasingly interdependent and knowledge-intensive work of modern organizations.

CVL Interactions

The defining characteristic of CVL lies in its grounding in the relational interactions between models and learners. Yet relatively little is known about what actually occurs in these interactions—the various interactional "moves" and microprocesses that constitute vicarious learning (Bresman, 2010; Darr, Argote, & Eppele, 1995)—since existing approaches have tended to employ the simplified causal imagery of "find and copy," without an understanding of the interpersonal behaviors underlying the vicarious learning process. Building on the constructionist perspectives articulated earlier (Blumer, 1969; Gergen, 1997; Mead, 1934), I theorize that

vicarious learning interactions are relational sites of discursive, coconstructed meaning making, and that through the joint processing of a model's experience (e.g., dialogue focused on reviewing actions, comparing them to prior experiences, etc.), both learner and model are able to generate insight. When a model offers their experience, the learner may respond with a question or observation about the experience or may reciprocally share an experience that complements or contradicts the model's experience, and these contributions can help both the learner and the model develop a more nuanced understanding of the experience.

For instance, studies of stories in organizations have noted that storytelling (one potential form of CVL interaction) affords the individual in the listener role an active, coproducing part (see Garud, Dunbar, & Bartel, 2011), as the listener engages in dialogue with the storyteller, asking for clarification or expressing emotional responses about the story and ultimately changing how the storyteller views and understands the experience (Sawyer, 2003; Tsoukas, 2009). The benefits of storytelling in organizations stem from this "performance" of the story (i.e., the enacted telling of and listening to the story; Boje, 1991), with the narrative form allowing for multiple interpretations and more flexible communication of meaning of an event to be expressed (Browning, 1992; Weick, 1987). Although stories are often viewed as a tool for cultural reproduction or maintenance (e.g., Dailey & Browning, 2014), there is emerging evidence of the value of them as a means of vicarious learning, arising from the dialogue between storyteller and listener (for a discussion in the nursing context, see Roberts, 2010).

Tsoukas (2009) theorized that dialogical processes are central to individual knowledge creation in organizations (facilitating the ability to distance oneself from previously held perspectives on a prior experience), and I argue that this dialogue facilitates individuals' vicarious learning from others' experience as well. To develop a more thorough understanding of this dialogue embedded in CVL interactions, I draw from theories of narrative and discourse—specifically, Hernadi's (1987) notion of the hermeneutic triad (see Czarniawska, 1999)—to articulate three key elements involved in CVL interactions. Hernadi (1987) asserted that individuals interact with a narrative through explication ("standing under" the narrative to understand what occurred),

explanation ("standing over" the narrative and analyzing what happened), and exploration ("standing in for" and connecting with the teller). Blending this perspective with similar approaches in studies of speech acts and storytelling in organizations (e.g., Boje, 1991), I argue that there are three corresponding discursive elements involved in a CVL interaction—*experience*, *analysis*, and *support*—that enable learning. Moreover, these three elements help individuals learn and alter their response repertoires (Sitkin et al., 1998) in unique but complementary ways. As described below, sharing experiences during a CVL interaction exposes individuals to new ideas and knowledge by making them aware of an event or occurrence; engaging in analysis refines knowledge by examining the experience and testing possible interpretations or connections; and demonstrating support builds the necessary capacity (both individually and interpersonally) to engage with the knowledge and update the individuals' repertoires for responding to future situations.

Experience. Experience reflects the "raw material" of vicarious learning: a learner's exposure to a model's current or prior experience provides the necessary content for engaging in a CVL interaction and changing response repertoires. Importantly, exposure to this experience can take a variety of forms, including more observational strategies like "shadowing" (see Leonard, Barton, & Barton, 2013) or apprenticing, as well as more narrative strategies like storytelling or in-person simulation (e.g., where models guide learners through a reenactment of a particular experience, as in the "staff rides" of wildland firefighters; Useem, Cook, & Sutton, 2005; Weick & Sutcliffe, 2007). These strategies parallel the direct and symbolic exposure methods described in IVL (e.g., observation or reviewing a written summary or video recording of behavior), but they allow for learners and models to interact during or immediately after exposure to engage in discussion about what occurred (e.g., discussing what a learner observed when shadowing a model, rather than just passively observing an unaware model).

Becoming aware of a greater number of experiences (e.g., others' experiences one was previously unaware of) provides individuals with a greater stock of material on which to reflect, facilitating the development of new (and potentially more nuanced) knowledge and expanding their response repertoire. While independent

approaches to vicarious learning cast this learning as occurring solely within the learner (i.e., taking in a model's experience and reflecting on it internally), CVL interactions involve interpersonal sharing and reflecting on experience, allowing the interaction to include the sharing of multiple experiences from the perspectives of both the model and the learner. Indeed, in CVL interactions the learner may also add an experience of their own into the discourse, in response to the model's experience. These additional experiences can serve to challenge or complement the model's experience, creating a broader base of experiences on which the model and learner can reflect and enabling them to generate greater knowledge and a more robust understanding of what might be applied to future situations.

Analysis. The second component of CVL interactions is the analysis offered by the learner or model (or both) on the experience during an interaction. This analysis may take the form of a probing question, comment, or request for clarification, among others. Although the simple sharing of another's experience may increase individuals' awareness of alternatives, by engaging in analysis of the experience in discussion with one another, individuals are able to evaluate, reinterpret, or compare their emerging understanding of the experience. This analysis allows individuals to develop new knowledge, as well as to refine their existing stocks of knowledge (e.g., by analyzing a model's experience in comparison to some other prior experience, which may yield a new understanding of the prior experience), thereby both expanding and reshaping their response repertoire.

The interactive nature of CVL allows learners to test their interpretation of models' experiences by asking questions or making comments and, correspondingly, allows models to clarify or reexamine their own interpretation of an experience. As Cohen, Hilligoss, and Amaral (2012) have suggested, a learner's questions can cause models to take the learner's perspective, leading them to potentially provide different information or to modify their story of the experience (e.g., Connell, Klein, & Meyer, 2004). This process is iterative, and a model may also offer questions or analysis, leading to an emergent discourse where both parties engage in sensemaking through their reactions and responses (Garud et al., 2011; Weick, 1995).

Support. The final component of a CVL interaction is support, referring to statements or

behaviors in the interaction that communicate social or emotional assistance in processing an experience. Viewing learning as the updating of response repertoires involves not only the development of new knowledge or abilities but also changes in relationships or beliefs (Sitkin et al., 1998) that could impact an individual's potential for future action. Providing support during a CVL interaction (e.g., exchanging encouraging statements when discussing a model's challenging experience) thus directly enhances individuals' response repertoires by helping to develop individual beliefs (e.g., building the learner's self-efficacy for engaging in a similar experience; Bandura, 1977b) and interpersonal relationships (e.g., creating a relational support system) in ways that enhance their capacity to respond to a future situation.

At the same time, demonstrating support also contributes indirectly to individuals' repertoires by facilitating more effective sharing of experience and analysis. Research on relational embeddedness and knowledge sharing (e.g., Ingram & Roberts, 2000; Uzzi, 1997; Uzzi & Lancaster, 2003) has shown that exchange relationships embedded in social attachments (e.g., friendships) facilitate sharing of more tacit, private knowledge. The supportive behaviors involved in these informal social relationships help develop a sense of trust and set different norms of interaction (compared to formal arm's-length ties) that encourage learning. Although this research examines ties between individuals in different firms (e.g., among different hotels or between banks and their clients; Ingram & Roberts, 2000; Uzzi & Lancaster, 2003), engaging in these supportive behaviors with others in an individual's own work environment can similarly help to "smooth" communication and interaction in ways that enhance learning (see Lipshitz et al., 2007). For instance, a learner who is discussing a model's failed experience might express emotional support to the model, building a sense of camaraderie in the relationship that facilitates more open, thorough discussion and generates more insightful analysis of the experience.

Enacting CVL

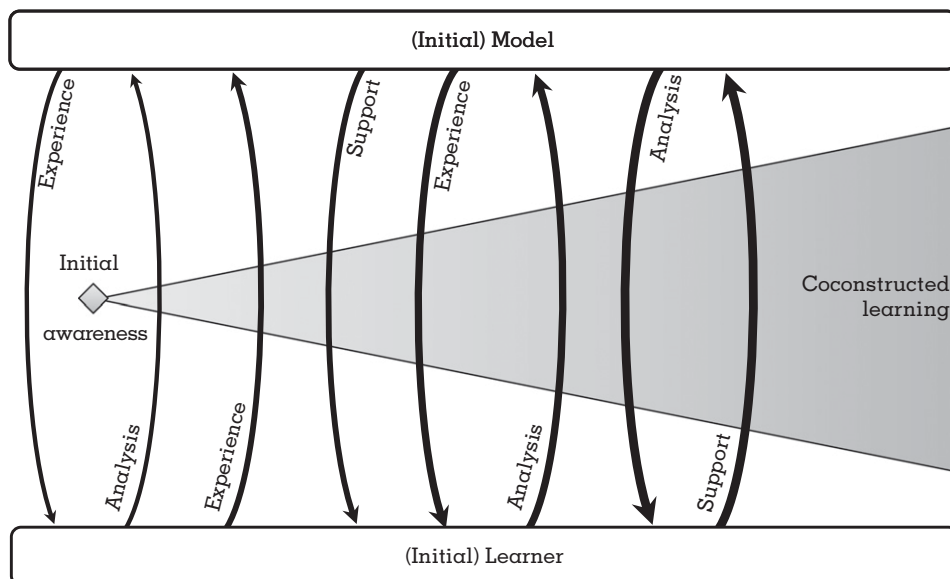
These three elements—experience, analysis, and support—serve as multiplicative components of CVL interactions such that high levels of all three facilitate greater learning in the interaction and lower levels of any one element can

inhibit learning. Each serves a unique purpose: experience provides the necessary foundation of material from which to learn, analysis constitutes the structure of understanding built on this foundation, and support serves as the scaffolding that enables the coconstruction of this understanding. For instance, a learner offering an analysis of a model's experience in the absence of any expressed support may come across as criticizing and may make the model less likely to share full details of the experience, inhibiting the learner's knowledge of the experience and reducing the potential benefit of the learner's feedback and analysis for the model's own understanding. Likewise, an interaction with high levels of expressed support for a model's experience, but without any analysis, can inhibit learning since underlying issues or tacit elements of the experience are less likely to be surfaced.

As a clarifying example of these elements enacted in a CVL interaction, consider the case of an individual who has recently been transferred to a technology division of a consulting firm and is shadowing an established member of his new team. The model (in this case the established team member) provides the learner with an initial experience to observe (such as watching the model interact with a client who has very specific demands), after which the learner asks questions of the model to better understand the observed

experience, such as "Is that how all of the clients usually are?" In doing so the learner is reminded of a prior experience working with a client, which he then brings up to share with the model (to contrast with the current experience): "I remember a client meeting where the client was not at all what we expected. They had no clue what they wanted!" After hearing the learner's description of the experience, the model expresses support for the learner's experience and offers a story of her own similar experience, saying, "That must have been frustrating, but I'm sure you handled it well. It reminds me of a client meeting we had where they came in with nothing—no ideas, no plan; they just knew they wanted some help, but they didn't really know for what." This story prompts another question from the learner: "So sometimes the clients don't know what they want, but other times they are like this one and have very specific demands?" The model offers her own analysis in response: "I guess you are right. Thinking about it, it's usually the biotech folks that know exactly what they want—you know, they're all former chemists and engineers. But for some of the other firms, they have less of a specific idea of what they need." This leads to a statement of support from the learner: "That must be kind of exciting, but also a bit difficult, to have to be ready for such a wide variety of clients." This exemplar of a CVL interaction is displayed in Figure 1.

FIGURE 1
Exemplar of a Vicarious Learning Interaction



This cycle of interaction can carry forward into future learning—for instance, if the model takes the learner to observe a different meeting, this may prompt a return to this discussion and a continuation of the learning process, or it may generate an entirely new learning interaction. A key point to note, however, is that the learning from this process is coconstructed by both the model and the learner. While the initial experience offered by the model (observing a client meeting) gave rise to an initial awareness of what was to be learned (i.e., “What is it like interacting with clients in this division?”), the learning that resulted from reflecting on the experience (i.e., that biotech clients know exactly what they want and other clients are more open-ended) occurred through the joint processing of the experience and comparisons drawn to prior experiences, facilitated by statements of support that established a common ground and strengthened the relationship between the two individuals. Indeed, communicated support strengthens subsequent actions by each person (indicated by the increased bolding of the lines in Figure 1), building stronger connections that promote further sharing of experience and analysis. Notably, this support may also be embedded in other interactional “moves,” beyond just discrete statements. For instance, simply sharing a similar experience (such as a failed client interaction) may communicate support for the experience of the other party by establishing a common background and communicating that they are not alone in their experience.

Also noteworthy is the notion that the roles of model and learner can fade somewhat after a few sequences of interaction (as was the case in this example); as each brings up relevant experiences to consider in the interaction, the distinction between model and learner becomes less overt. However, it is still useful to use the labels “model” and “learner” (even if only for the initial stages of the interaction) in order to clarify each person’s role in undertaking the interaction (i.e., the learner as “knowledge seeker” and model as “knowledge sharer”) and to tie these concepts to prior findings in extant literature. Finally, these interactions are not strict “tit for tat” exchanges but, rather, can unfold somewhat unpredictably and organically; sometimes experience is reciprocated with another experience (as in the communal sharing of “war stories” among technicians; Orr, 1996), while other times a single

experience is met with increasingly detailed analysis (as in firefighters’ staff rides; Useem et al., 2005; Weick & Sutcliffe, 2007).

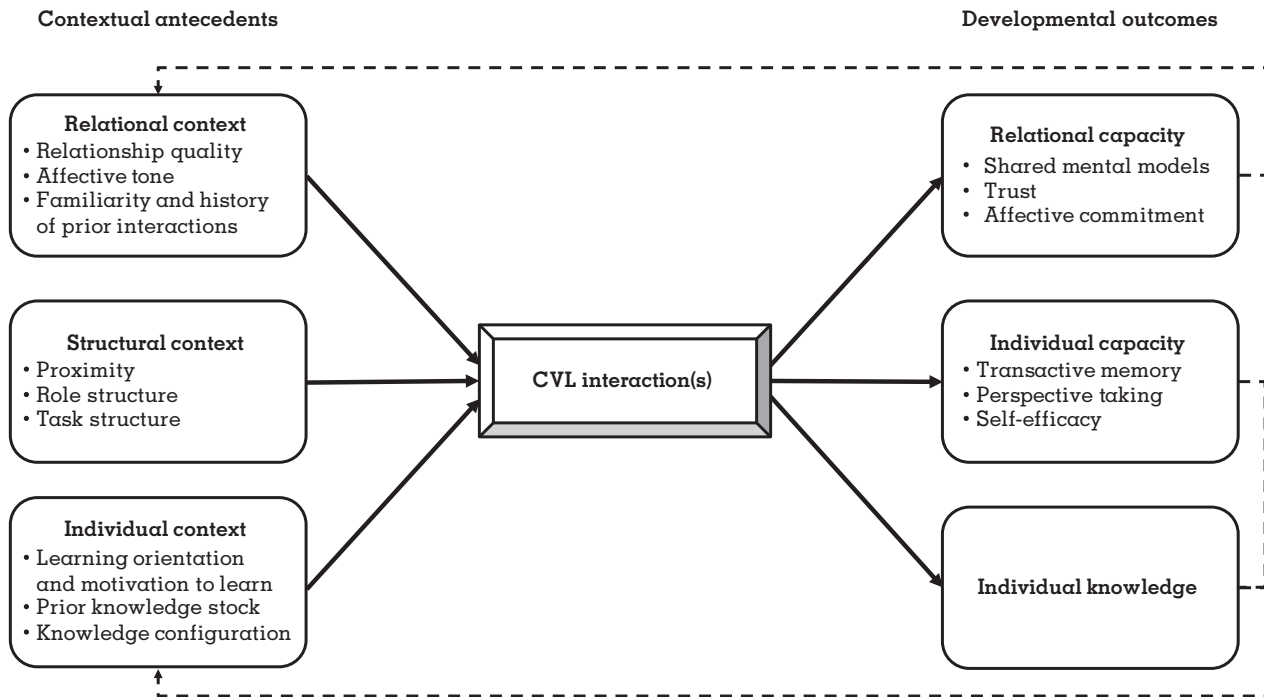
CVL IN CONTEXT

With a definitional understanding of these discursive CVL interactions, I turn now to the contextual factors that can increase individuals’ engagement in CVL, in terms of not only likelihood or frequency but also intensity (i.e., engaging in CVL interactions that involve greater exchange of experience, analysis, and support, allowing them to more deeply probe the lessons of particular experiences). Understanding how these contextual factors give rise to CVL in organizations is important, given the informal nature of vicarious learning that makes these processes difficult to promote simply through managerial or institutional means (relative to more formal learning activities, such as organizational training). Since CVL is focused explicitly on the interactive construction of learning embedded within particular model-learner relationships, I focus here on three facets of context: the *relational context* between individuals involved in the interaction, the *structural context* of the setting in which these interactions are embedded, and the *individual context* of relevant characteristics each person (i.e., both learner and model) brings to the interaction (as shown in Figure 2).

Relational Context

Elements of the relational context between individuals provide the relational “backdrop” for their engagement in CVL interactions, unique to any given dyad. This relational context captures the qualitative nature of a pair’s relationship and prior interactions, and it can influence the nature of their CVL interactions—causing, for instance, a learner to engage with a model’s experience in different ways than would another person responding to the same experience as a function of the idiosyncratic relationship and history between the learner and model. This relational context between individuals can be seen as consisting of their relationship quality (also termed *exchange quality* in certain bodies of literature; Colquitt, Baer, Long, & Halvorsen-Ganepola, 2014; Cropanzano & Mitchell, 2005), the affective tone of their relationship, and their familiarity and history of interaction with one another. The quality of

FIGURE 2
Contextual Antecedents and Developmental Outcomes of CVL



the relationship between individuals consists of the degree of their mutual respect, trust, and obligation (Blau, 1964; Colquitt et al., 2014), generating greater exchange of informational resources between individuals (as in models of high-quality leader-member exchange; Graen & Uhl-Bien, 1995) that can improve knowledge dissemination (Lipshitz et al., 2007) and performance in complex, changing situations (Carter, Armenakis, Feild, & Mossholder, 2013). Indeed, more trustful relationships facilitate greater information sharing, particularly of more private or proprietary information (Levin & Cross, 2004; Uzzi & Lancaster, 2003), and can encourage people seek help from their colleagues (especially when the colleague has a high degree of expertise; Hofmann et al., 2009).

A pair's relational context also consists of their interpersonal affect, particularly whether the tone of this affect is positive or negative. Affective sentiments toward others are distinct from judgments about their competence (e.g., respect for their expertise) and can shape the extent to which individuals engage in task interactions with a particular person such that when individuals perceive some degree of negative affect in their relationship with the other person, they are less

likely to interact with them, even when the other person is highly competent (relying on these competence judgements only in the presence of more positive affect; Casciaro & Lobo, 2008). Beyond just engaging in task interactions, the positive or negative appraisal of individuals' relationships with a potential knowledge provider (i.e., as an ally or threat) can fundamentally alter how they obtain and interpret the knowledge (e.g., Menon & Blount, 2003), suggesting that these appraisals influence engagement in learning interactions as well.

At the same time, individuals' engagement in CVL interactions likely depends also on their history of interaction with one another and the degree of familiarity they have developed. Research has demonstrated that greater familiarity and experience working together facilitate knowledge integration and enhanced performance in teams (Gardner, Gino, & Staats, 2012), enabling individuals to pool unique information to come to a shared, multifaceted understanding of a scenario (e.g., Gruenfeld, Mannix, Williams, & Neale, 1996). In this way, the relational context between two people involves not only judgments or perceptions of the relationship in the present but also the past history of interaction, and these

three elements together (relationship quality, affective tone, and familiarity) coalesce to provide the relational context of a CVL interaction in ways that are more or less helpful for overcoming the potential psychological and social barriers to engaging in CVL. Specifically, engaging in vicarious learning can be a risky process, since it involves exposing a prior experience to analysis, as well as sharing perspectives with and seeking opinions from another person in a way that can admit a lack of knowledge (Borgatti & Cross, 2003). Engaging in the interactive analysis of an experience also creates the potential for sharing negative feedback on another's performance or handling of a prior experience. In poor relational contexts, this negative feedback can often be perceived as stressful or anxiety inducing, creating a feeling of threat that can result in rigidity and restriction in information processing (Staw, Sandelands, & Dutton, 1981). Yet when the relational context between individuals is characterized by high-quality relationships, positive affect, and familiarity, this type of feedback may be perceived as less threatening (e.g., Menon & Blount, 2003) and engagement in CVL interactions can be significantly enhanced.

Proposition 1: A relational context between individuals characterized by (a) higher relationship quality, (b) more positive affective tone, and (c) greater familiarity and history of prior interactions increases individuals' engagement in CVL.

Structural Context

Beyond these relational elements of context, engagement in CVL interactions can also be influenced by more structural features of a pair's work context. The structural context of individuals' work—the properties or characteristics of a work arrangement that shape, prescribe, or constrain behavior and task accomplishment—can affect their pattern of interactions (altering, for instance, the opportunity to interact with beneficiaries of their work; Grant, 2007), providing both boundaries and opportunities for interpersonal learning interactions. Indeed, information-seeking or -sharing interactions in organizations typically mirror the formal structures of the organization (see Bailey & Barley, 2010). I focus here on three elements of the structural context linking a given

pair of individuals in the organization: proximity (the distance in physical, hierarchical, or other organizational space between individuals), role structure (the configuration of individuals' roles in terms of their responsibility for helping- or learning-oriented behavior), and task structure (the nature of the work itself as requiring more or less interaction).

With regard to proximity, the networks individuals use for sharing knowledge at work often reflect their existing interaction networks (McDermott & O'Dell, 2001), and physical proximity has long been shown to underlie almost all social interaction (e.g., Festinger, Schachter, & Back, 1950), specifically impacting information seeking (Borgatti & Cross, 2003). This effect of proximity on engagement in learning interactions can also apply to proximity in an organizational hierarchy (i.e., "vertical" proximity), as evident in data on knowledge-sharing incidents captured by Siemsen, Roth, Balasubramanian, and Anand (2009), who noted that the vast majority of these incidents (for which they could obtain hierarchy data) occurred at the same hierarchical level (although seeking and sharing knowledge with those at a different hierarchical level have also been proven beneficial, particularly for certain types of knowledge resources or in certain work environments; e.g., Bunderson & Boumgarden, 2010; Cross & Sproull, 2004).

Likewise, roles that are structured to involve explicit responsibilities related to learning or helping others (e.g., formal mentoring roles) can enhance individuals' engagement in CVL interactions, both for individuals in the helping/learning role (as individuals tend to engage more frequently in behavior they perceive to be embedded in their formal role responsibilities; e.g., Hofmann, Morgeson, & Gerras, 2003) and for others who may be more willing to seek out or share knowledge with someone they perceive to be responsible for learning or helping. For instance, Hofmann and colleagues (2009) found that nurses perceived others in formal helping roles (i.e., nurse preceptors, who serve as resources or consultants for less experienced nurses) to be more accessible and possess greater expertise and, thus, were more likely to seek help from them in the face of a complex situation. This role structure, along with proximity, can increase opportunities for communication (e.g., through recurrent mentoring sessions) while also influencing (especially for proximity) the richness of the

medium used to communicate. Greater frequency of communication and the use of richer media (e.g., face-to-face interaction or video versus leaner methods, such as email) can help build the trust necessary for sharing knowledge at work (Abrams, Cross, Lesser, & Levin, 2003). Contact between individuals utilizing a richer medium of interaction allows for more effective communication of information and interpretations (Daft & Lengel, 1984), while greater frequency of communication has been related to individuals' motivation to share knowledge with coworkers (through its relationship with increased psychological safety; Siemsen et al., 2009).

Finally, task structure (i.e., the nature of the work itself) has been shown to influence how individuals relate to one another in a variety of ways. For instance, tasks can be structured to require more independent or interdependent activities (i.e., simple compilation of individual effort versus a cooperative coordination of efforts where each individual's work is dependent on the work of others), and greater task interdependence has been found to facilitate interpersonal learning in work teams (Wageman, 1995). Also relevant for learning, task structures can vary in their time demands, having more or less slack time and resources, and given that engaging in learning requires time and energy (often drawing these resources away from performance; Singer & Edmondson, 2008), tasks structured with greater slack resources can free individuals' resources for engaging in vicarious learning with others. Engaging in CVL involves the investment of significant time and energy into "unpacking" an experience with another person, and these features of the structural context (task structure, as well as proximity and role structure) can increase engagement in these discursive interactions by promoting formal and informal encounters (e.g., water cooler interactions), as well as providing the necessary familiarity and overlap in goals, vocabularies, and professional orientation for effective learning from others (Lipshitz et al., 2007).

Proposition 2: A structural context of individuals' work characterized by (a) closer proximity, (b) more helping- or learning-focused role structures, and (c) more interdependent or less time-intensive task structures increases individuals' engagement in CVL.

Individual Context

While I cast CVL as a fundamentally relational phenomenon, I also acknowledge that learning is a voluntary, personal activity and theorize that elements of the individual context—learning-relevant attributes of both the learner and model—can impact the frequency and intensity of CVL interactions. I use the term *individual learning attributes* to refer to the range of individual characteristics that have been described as increasing an individual's learning at work, specifically attending to individuals' learning orientation (as a general attribute) and motivation to learn (as a situation-specific characteristic), their existing stock of knowledge, and the configuration of this knowledge (i.e., their degree of specialization of knowledge). For example, a strong learning goal orientation—that is, the tendency to pursue goals related to learning and mastery in a work situation (Dweck, 1986; VandeWalle, 1997)—can increase learning by encouraging greater feedback seeking (VandeWalle, Ganesan, Challagalla, & Brown, 2000), suggesting that individuals with stronger learning orientations might be particularly likely to seek out others' experience or analysis (in a CVL interaction), which is consistent with findings that learning orientation promotes increased motivation to engage in learning activities (Colquitt & Simmering, 1998). Indeed, the motivation to learn (as a more proximal, situation-specific learning characteristic) should particularly impact engagement in CVL for both learners and models, since high motivation to learn has been associated with a broad range of learner behaviors and outcomes (for a review in the training context, see Colquitt, LePine, & Noe, 2000), and motivational considerations have also been identified as key antecedents to individuals' engagement in knowledge sharing (Osterloh & Frey, 2000; Quigley et al., 2007; Reinholt, Pedersen, & Foss, 2011).

The extent of individuals' existing stocks of knowledge is also an important determinant of their engagement in CVL interactions, in part because greater preexisting knowledge allows them to analyze a particular experience in greater depth (i.e., engaging more intensively in a CVL interaction) and also makes them more likely to be more frequent participants in these interactions. For instance, a model with a greater stock of existing knowledge is likely to be perceived by

others as an expert and, thus, is more likely to be sought out as a mentor to “shadow” or as someone from whom one can seek stories of past experience (consistent with evidence on information seeking and help seeking; Hofmann et al., 2009; Morrison & Vancouver, 2000). However, greater stocks of knowledge can also benefit learners in CVL interactions, since greater existing knowledge builds their absorptive capacity to recognize and incorporate knowledge gathered from another person (Ko, Kirsch, & King, 2005; Szulanski, 1996). Greater absorptive capacity—as a function of existing knowledge stocks—should therefore cause learners to recognize the value in a potential model’s experience, leading to more frequent and in-depth engagement in CVL.

In addition to the stock (e.g., quantity) of individuals’ prior knowledge, the configuration of this knowledge—that is, the tendency for individuals to have knowledge and experience focused in one domain (specialists) or spread across multiple domains (generalists)—also serves as an important contextual antecedent of CVL interactions. This difference in configuration of past experience and knowledge can change the way individuals evaluate problems and opportunities (e.g., changing the way executives evaluate strategic acquisitions; Hitt & Tyler, 1991) and can change how they engage with others in their organization. For instance, teams made up of more generalists have been shown to engage in greater information sharing and coordination, whereas specialists engage in this knowledge sharing only under certain structural conditions (i.e., a decentralized structure; Rulke & Galaskiewicz, 2000). When engaging in learning interactions, individuals with highly specialized backgrounds appear to have more difficulty sharing experiences and constructing common meanings, whereas individuals with more generalist configurations of knowledge (including what has been called “transspecialist” or “T-shaped” knowledge; Leonard-Barton, 1995) are better able to understand the relation of others’ experiences and task domains to their own and to explore integration applications (Kang, Morris, & Snell, 2007). These differences in engagement likely extend to CVL interactions as well, making these different configurations of knowledge, alongside the effects of individuals’ motivation or orientation toward learning and extent of existing knowledge, key elements of the individual context

brought by the learner and model to a CVL interaction.

Proposition 3: An individual context characterized by individuals’ (a) stronger learning goal orientation and motivation to learn, (b) greater stocks of existing knowledge, and (c) more generalist configurations of knowledge increases individuals’ engagement in CVL.

DEVELOPMENTAL CONSEQUENCES OF CVL

I turn now to the repertoire-developing consequences of engaging in CVL. In prior research on vicarious learning (as well as learning more broadly), scholars often used performance or behavior change to indicate the occurrence of learning, but as Sitkin and colleagues noted, “Not all learning results in observably changed actions or articulated changes in beliefs”; rather, learning is more broadly a process of “making simpler repertoires more robust and general by understanding more deeply how to apply and adapt them” (1998: 70). Therefore, I specifically address developmental consequences of CVL that help individuals build and revise their response repertoires (in ways that would likely lead to improved performance in the face of a future task), theorizing about the impact of CVL not only on individuals’ knowledge but also on their individual- and relational-level capacity for future learning and application of knowledge.

Individual Knowledge

A primary intended outcome of engaging in any form of vicarious learning is an increase in individuals’ knowledge (e.g., in the form of new beliefs, awareness, skills, or behaviors) from making meaning of a model’s experience. Yet, relative to more independent forms of vicarious learning, engaging in CVL interactions can particularly enhance this knowledge development in two key ways. First, because CVL involves discussion, analysis, and cocreation of learning between two people, both the learner and model are likely to gain awareness and knowledge from CVL as each engages actively in the interaction by discussing, processing, and revising their emergent understanding of an experience. Thus, beyond just the learner, the model can also learn

from the coconstructed understanding, consistent with observations that the act of sharing knowledge allows sharers to test assumptions and verify their ideas by participating in mutual codevelopment (Nonaka, 1994).

Second, because CVL interactions allow multiple perspectives to be expressed on a given experience, these interactions are likely to reveal insights that could not be obtained alone (i.e., in a one-way IVL process), yielding greater knowledge than that created by a single individual's intrapersonal learning process (see van der Vegt & Bunderson, 2005, on the benefits of and conditions for sharing multiple perspectives in the context of group learning). Indeed, the discursive nature of CVL interactions enables a form of second-order learning broadly akin to Giddens' (1987) double hermeneutic—namely, that individuals can learn not only from their own interpretation of an experience but also from others' analysis of and reaction to that interpretation. As a result, both models and learners engaging in CVL are likely to leave with enhanced knowledge.

Proposition 4: Engaging in CVL increases individuals' knowledge.

Individual Capacity

Although existing theories of vicarious learning have generally stressed the knowledge resulting from these learning processes, I extend beyond these knowledge creation outcomes to examine the potential of vicarious learning to impact individuals' (both learners' and models') capacity for learning, developing, and performing in the future. For example, at a basic level, engaging in CVL increases individuals' awareness of what others in the organization know—what has been termed *transactive memory* (Lewis, 2004; Lewis, Lange, & Gillis, 2005; Moreland & Argote, 2003). CVL interactions expose individuals to the experiences of others (whether as a learner or as a model hearing about a learner's experience through their reaction and response), and, as a result, these individuals leave the interaction with a greater awareness of "who knows what" or "who has done what" in the organization. This transactive memory enhances individuals' capacity for learning more quickly and effectively in the future by reducing their need to expend effort searching for an individual with relevant experience.

A further consequence of engaging in a CVL interaction lies in the potential for development of

stronger *perspective-taking* abilities, since these interactions help individuals develop a broader, more integrated understanding of a work experience (a key antecedent of perspective taking; Parker & Axtell, 2001). Developing this ability to see issues from others' perspectives enhances future interpersonal interactions (e.g., Batson, 1991) and, correspondingly, should enable individuals to more effectively engage in future interpersonal learning. Likewise, in his work on *self-efficacy*, Bandura (1977b) noted how vicarious experiences can enhance an individual's sense of efficacy because greater awareness and understanding of another's experience can boost individuals' own beliefs about being able to accomplish the same feat. Indeed, CVL can increase individuals' self-efficacy for learning both by reinforcing their own learning abilities (i.e., "I learned from this interaction, so I will likely be able to do so again") and by exposing them to someone else's learning from an experience shared during CVL (e.g., a model seeing a learner benefit from the interaction), enhancing their capacity for future learning.

Proposition 5: Engaging in CVL increases individuals' capacity for future learning, specifically increasing their (a) transactive memory, (b) perspective-taking abilities, and (c) self-efficacy beliefs.

Relational Capacity

In addition to this general enhancement of individuals' learning capacity, engaging in CVL also builds capabilities specific to the idiosyncratic learner-model dyad that can also enhance future learning from one another—which I term the dyad's *relational capacity* for future learning. Building on research defining high-quality connections (e.g., Dutton & Heaphy, 2003), this relational capacity reflects a dyadic connection that can both carry greater sentiment or experience and withstand greater strain (e.g., from changing conditions), and engaging in CVL helps develop this relational capacity in several ways. Although each individual (i.e., learner and model) in a CVL interaction develops their own transactive memory, they also develop *shared mental models* (shared knowledge structures regarding a concept or experience; Cannon-Bowers, Salas, & Converse, 1993) that arise out of the unique interaction shared in the relationship. These shared

mental models have been shown to enhance interaction processes (as well as performance; Mathieu, Heffner, Goodwin, Salas, & Cannon-Bowers, 2000), suggesting that they would enhance a pair's capacity to effectively engage in future CVL owing to the presence of a shared framework for conceptualizing and communicating experiences, analysis, and support. For instance, when a pair develops shared mental models, as part of what Huber and Lewis (2010) call "cross-understanding," they are able to engage in more efficient and effective learning, with less "wasted" energy spent trying to share and analyze experiences, because they are able to communicate ideas in language they know others will understand and appreciate. This is consistent with prior research showing that relational ties can lead to the development of relationship-specific language and understandings that allow for the effective transfer of more complex and nuanced information (e.g., Uzzi, 1997).

As noted earlier, engaging in CVL involves the exchange not only of information or experience but also of support. Supportive statements in a CVL interaction help encourage the sharing of experiences that might be considered embarrassing (such as a failed experience) and facilitate the questioning and analysis of another's shared experiences. As such, these interactions are likely also sites of increasing *trust* and *affective commitment* (i.e., positive emotional attachment to others at work). Sharing experiences with one another can create positive affect for and commitment to the other person in the relationship, developing emotional bonds from the reciprocal exchange of support in the interaction (e.g., Lewis & Weigert, 1985; McAllister, 1995) that, in turn, lead individuals to engage in greater helping or citizenship behaviors toward co-workers (see Lavelle, Rupp, & Brockner, 2016). Similarly, through the repeated sharing of experience and analysis of the experience, dyads can develop not only their own understanding and knowledge but also a sense of dependability, based on the other's reliable analysis and insight regarding an experience, facilitating greater trust and commitment in the relationship. Indeed, engaging in vicarious learning requires that individuals be willing to be vulnerable with one another (since it can expose unsuccessful experiences or reveal ignorance), which drives the development of trust (Mayer, Davis, & Schoorman,

1995), correspondingly reducing the costs of future learning (Levin & Cross, 2004).

Proposition 6: Engaging in CVL increases a pair's relational capacity for future learning, specifically increasing their (a) shared mental models, (b) trust, and (c) affective commitment.

Impact of Developmental Outcomes on Future Learning Context

As evident in the description above, aspects of these developmental outcomes are inherently related to the antecedent context for CVL, highlighting the cyclical, recurrent nature of these interactions and their embedding in individuals' and dyads' ongoing development in organizations. As individuals engage in CVL and build their knowledge and capacity, this correspondingly alters the individual and relational context in which they might engage in a future learning interaction (e.g., Baker et al., 2005), which is represented by the dashed lines in Figure 2. These loops reflect how growth over time in individuals' knowledge and capacity can alter the individual context of future CVL interactions (e.g., altering their stock or configuration of knowledge), and changes in dyad-specific capacity can alter the relational context of these future interactions (e.g., adding to the history of prior interactions and changing relationship quality).

DISCUSSION

The concept of CVL provides a challenge to perspectives that have equated vicarious learning with solely observational learning in organizational settings, offering a novel coconstruction mechanism for understanding vicarious learning at work. The rise of the knowledge economy (Powell & Snellman, 2004) and the increasingly social nature of work suggest that "find and copy" approaches to vicarious learning are likely to be of increasingly limited utility in understanding learning in today's complex, relationally embedded work organizations. Therefore, the model of CVL presented here brings explicit attention to the underlying behaviors and relational interactions that constitute vicarious learning in these interdependent work environments—attention that has been largely absent from prior

research. Indeed, despite scattered attention to particular elements of these vicarious learning interactions—for instance, recognizing that model or “source” groups can influence how experience-seeking groups adapt and learn from the sources’ experience (among pharmaceutical development teams learning from other teams in their firm; Bresman, 2013), or that aspects of the context or environment (e.g., competition, licensing requirements, or technology) influence the nature of teaching-learning interactions (among different groups of engineers; Bailey & Barley, 2010)—this model is the first to provide an integrated account of these vicarious learning interactions that simultaneously attends to their contextual antecedents, specifies their capacity-building consequences, and models their constituent behaviors.

In doing so the model presented here addresses the long-standing recognition that “organizational learning research using the term vicarious learning has been agnostic about the activities by which it occurs” (Bresman, 2010: 95) and “a greater understanding of the micro processes underlying the transfer of knowledge is needed” (Darr et al., 1995: 1761). The concept of CVL moves beyond simply recognizing what kinds of relationships inhibit or encourage transfer and toward an explicit understanding of what actually occurs in these interactions to facilitate vicarious learning. Drawing on theories of discourse and narrative analysis, the model presented here suggests several key components of these interactions (i.e., experience, analysis, and support) and locates this relational process of learning within a broader network of antecedents and consequences.

This emphasis on understanding the behaviors enacted by individuals in their learning relationships with one another brings to light another key contribution of the CVL model—namely, its focus on vicarious learning as a capacity-building process, rather than as a more mechanical exchange of knowledge. The CVL model goes beyond the simple flow of knowledge from one person to another in the present interaction, bringing greater attention to the potential for CVL to increase future learning as well, by building individual and relational capacity for learning. This attention to capacity thus provides an explanatory mechanism for the observation that vicarious learning not only creates linear knowledge growth (as would be expected in a purely mechanical exchange of information) but

also can promote exponential learning, fundamentally altering individuals’ learning curves (e.g., Quinn, Anderson, & Finkelstein, 1996).

An additional consequence of rejecting a purely mechanical view of vicarious learning lies in the recognition that vicarious learning is unique to idiosyncratic dyads of individuals at work (rather than unfolding uniformly across individuals). For example, Bandura’s (1989b) discussion of television-based models for behavior implies that the experience of the model would be equivalently understood and learned by all observers. Likewise, perspectives on team member/personnel rotation (e.g., Kane, 2010), as well as on group learning (e.g., Wilson et al., 2007), generally assume that when a team member shares an experience with the rest of the group, this experience is internalized uniformly by all team members (i.e., yielding a shared conceptualization of the experience among the entire team). In contrast, the model advanced here theorizes that the knowledge and capacity an individual derives from a vicarious learning interaction are contingent on the nature of the relationship between the model and the learner, as well as each individual’s own background. This insight underscores the need to consider individuals’ learning from others as an integral part of their ongoing relationship dynamic. The more positive a pair’s relationship, the more likely individuals will be to view the experience in a positive light and see it as a potential learning opportunity. This should, in turn, lead them to expend greater effort to process and incorporate the experience into their own repertoire of knowledge and action, relative to an experience shared by someone with whom they share a more negative relationship (which, according to balance theory, would be viewed negatively, to maintain the balance in the relationship; Heider, 1958).

In this way, the CVL framework highlights the importance of focusing on specific, idiosyncratic dyads when trying to understand how learning unfolds in group settings (a focus that is particularly important in light of empirical evidence that workplace learning interactions occur most often among dyads, as opposed to alone or in group settings, at least among communities of engineers; Bailey & Barley, 2010), rather than treating learning as a group-level property. This insight suggests that learning in groups might be better understood as constituted, at least in part, by the network of dyadic learning relationships within

the group (in addition to truly collective learning efforts, such as shared reflection on a common experience). Such a perspective recognizes each individual learner in the group as engaged in a number of different learning relationships with others in the team, and it opens avenues for exploring the nature of the distribution of these relationships in the group. Indeed, the relational view implied here posits not only that learning moves from the model to the learner, as generally assumed in studies of vicarious learning and knowledge transfer, but also that these labels are often only temporary starting points for the interaction. The CVL perspective thus provides a two-way learning mechanism, in contrast to the more limited assumptions of one-way learning in prior studies that assume the model and learner roles as fixed (and often equivalent to "expert" and "novice" roles, or as corresponding with hierarchical level in the organization). In the flatter, more specialized work of modern organizations, these roles are likely less stable or associated with hierarchy, suggesting that a new perspective, less reliant on one-way assumptions of fixed learning roles, is needed for making sense of individuals' learning from others at work.

Directions for Future Research

Building on the perspectives advanced here, future research should continue exploring the nature of individuals' interactive learning relationships at work, and—although certainly not an exhaustive list—I describe here several potential directions for future work in this domain. For instance, future work is needed to continue exploring the role of context for engaging in vicarious learning. The CVL model emphasizes many of the benefits of individuals possessing strong, proximate relationships for effectively learning from one another, since they would possess the necessary frameworks in which to place the experiences shared in the interaction (given their similarity), facilitating analysis of the experience. However, findings from some studies of group expertise diversity (see Bunderson & Sutcliffe, 2002) have suggested that overly similar individuals are actually at risk of reduced learning, given the absence of divergent perspectives and experiences. These findings suggest instead that learning from individuals who have functionally *dissimilar* backgrounds helps generate innovation and enhanced performance

(e.g., Bantel & Jackson, 1989). In their review and empirical examination, Bunderson and Sutcliffe (2002) reconciled these seemingly divergent views by distinguishing intrapersonal functional diversity (variety of experience within an individual) from dominant function diversity (variety of experience between individuals), revealing that the information-sharing and performance benefits of experience diversity were realized only when it was located within the individual.

This reconciliation supports the beneficial role of structural similarity and proximity advanced here, but future research should further examine the potential dark sides of these elements as they relate to vicarious learning and performance. For instance, although proximity and interdependent task structures provide individuals with similar language and perspectives that can reduce confusion in the discussion of an experience, this interdependence or similarity in position might also introduce competitive pressures (e.g., to "stand out" on a project and receive a promotion) that diminish or alter engagement in CVL. Likewise, the CVL model focuses on the development of individuals' response repertoires via exposure to others' experiences and, thus, makes the assumption (consistent with earlier definitions; Sitkin et al., 1998) that this development is generally beneficial, since it prepares individuals with more—and more robust—responses for future situations. Although significant prior research has linked the repertoire-developing outcomes discussed here (i.e., individual knowledge, as well as specific elements of individual and relational capacity, such as shared mental models; Lim & Klein, 2006) to improved work performance, future research exploring potential negative consequences of misinterpreting or misapplying what is learned from a CVL interaction is certainly warranted.

Additionally, future research is needed to further explore the cross-level implications of the dyadic CVL framework. These dyadic interactions may serve as the mechanism for observed vicarious learning at higher levels of analysis (i.e., between different units or firms); however, the pattern of these underlying dyadic interactions deserves greater attention in future work. For instance, scholars might examine how longer "chains" of vicarious learning interactions—where an individual shares an experience with multiple people in sequence, or where individuals learn from one person's experience and, in

turn, share that experience with a third person (as in the retelling of a story of another's experience; Dailey & Browning, 2014)—influence the learning process. How might individuals' early sharing of an experience (and their revised understanding of its meaning through these interactions) impact their later sharing of that experience?

Likewise, considering collective-level vicarious learning as constituted by a series of dyadic vicarious learning interactions raises similar questions about sequencing and learning chains. For instance, when unit A learns from the experience of unit B, the conceptual model presented here suggests that this learning may occur through an initial dyadic interaction *between* members of each unit (A and B), followed by subsequent vicarious learning interaction(s) involving members *within* unit A (to spread the knowledge of the newly imported experience from unit B and coconstruct an understanding of how it could be applied). CVL thus provides a means for exploring collective-level learning as a chain of interpersonal learning interactions, but future research could no doubt explore a number of questions related to the efficacy of these chains (e.g., related to communication medium, physical proximity, within-unit cohesiveness, etc.) in driving more collective-level changes in learning or performance.

Finally, future research should consider how this process might unfold in different situations and in concert with other learning practices. For instance, how might the learning generated in CVL interactions generalize to varying task domains? In work settings where individuals have a broader variety of experiences, might comparisons with others' experiences enable individuals to develop more robust abstractions that generalize more easily? Likewise, future research is needed to explore the role of context in determining the relative importance or weighting of the three elements of CVL interactions. Are there situations where certain elements (i.e., experience, analysis, and support) become more or less salient or important to the learning process? In more emotionally taxing work environments, for instance, support may be a more influential aspect of CVL interactions than in a lower-stress context where direct analysis (with less support) may be sufficient. These differing work environments may also yield different combinations of CVL interactions in concert with other forms of learning. CVL interactions may be more

prevalent, and more powerful, in settings where individuals have less certainty about the nature of their future work tasks or where direct accumulation of experience is more difficult. Similarly, CVL interactions might be employed in concert with more independent forms of vicarious learning (to varying degrees) in different settings, suggesting a potential future research direction exploring their relative frequency or interaction in driving learning.

Conclusion

In his foundational work on social learning, Bandura noted that "learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do" (1977a: 22). This captures the importance of vicarious learning for organizations—where making mistakes and "reinventing the wheel" can be costly (Bresman, 2010). The novel model of coactive vicarious learning advanced here posits that vicarious learning occurs not solely through passive observation and imitation but, rather, through engagement in interpersonal interactions and coconstruction of the meaning of experience. This relational conceptualization offers a fundamentally different way of thinking about how individuals learn from one another in organizations—and, in particular, a way of thinking that is more consistent with the kinds of learning observed in interdependent, knowledge-based workplaces—advancing the field's understanding of learning at work and laying a foundation for future research on vicarious learning in organizations.

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