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AGENCY IN VICARIOUS LEARNING AT WORK

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Scholars and practitioners have long been interested in understanding how individuals learn and develop in the workplace, and substantial prior research has demonstrated that enhanced learning at individual, team, and organizational levels yields increased performance and organizational success (Argote & Ingram, 2000; Lipshitz, Friedman, & Popper, 2007). Specifically, learning not only facilitates individuals' knowledge and growth at work (Huber, 1991; Sitkin, Sutcliffe, & Weick, 1998), but has also been advanced as a critical mechanism enhancing individual job performance (Colquitt, LePine, & Noe, 2000) and team success (Edmondson, 1999), as well as broader routine change (Cohen *et al.*, 1996) and organizational improvement (March, 1991).

One critical method by which people learn in organizations is by making sense of others' actions and consequences (vicarious learning; Bandura, 1977b), in addition to the person's own lived experience (Ancona & Bresman, 2007; Levitt & March, 1988; Madsen & Desai, 2010; Manz & Sims, 1981). This vicarious learning—a term which we use broadly to refer to the processes by which an individual learns from the lessons of another's experience—holds considerable promise, as it can reduce the amount of redundant learning and repeated mistakes, allowing individuals and organizations to reap the benefits of not “reinventing the wheel” (Bresman, Birkinshaw, & Nobel, 1999). Indeed, as Bandura (1977b: 22) notes, “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.”

A long line of research has shown that when organization members effectively learn from the experiences of others, they are able to speed their own learning curve (Argote, Beckman, & Epple, 1990), improve output quality (Bresman, 2013), and facilitate greater organizational performance (Argote, Ingram, Levine, & Moreland, 2000). This benefit of vicarious learning has not gone unnoticed by

organizations themselves, and the business press routinely documents efforts of organizations to promote employees' sharing and learning from one another's experiences. For instance, a Yahoo! internal memo explaining CEO Marissa Mayer's 2013 decision to reduce employee telecommuting noted that employees' hallway discussions and impromptu team meetings allow people to seek out and share experiences, leading to better decisions and innovation. At the same time, Google was announcing a new corporate campus, architecturally engineered to maximize "casual collisions of the workforce" in an effort to promote the movement of knowledge, experiences, and ideas across units (Lindsay, 2013).

Yet despite this strong interest from both scholars and practitioners, our understanding of vicarious learning at work is still somewhat limited. Prior studies of vicarious learning—including studies of practices that rest on vicarious learning as a mechanism, such as knowledge transfer, information sharing, or communities of practice—have tended to view this learning as a general process of knowledge diffusion, where the transmission of information and experience from one person to another is unencumbered, automatic, or even accidental. From this perspective, employees learn vicariously by observing others' behavior (e.g., watching a model demonstrate a task in a training setting, or being exposed to "best practices" from another organization) and mimicking that behavior in their work, often with little choice or input regarding what practices to learn, when to learn them, or how they should be applied.

However, the rise of the knowledge economy (Powell & Snellman, 2004) and the corresponding changes it has brought to workplace learning environments suggest that these imitation-based approaches to vicarious learning offer an incomplete explanation for how learning occurs in today's complex and interdependent organizations. In contrast to the more rote or formal learning necessary in prior work eras (for instance, clearly dictated procedures in a manufacturing plant), learning in modern organizations involves more tacit, complex knowledge (Miller, Zhao, & Calantone, 2006) that resists codification and ex-ante prescription. Indeed, the social context for learning has changed drastically, such that employees now frequently seek out and integrate knowledge from diverse sources, flexibly adapting it to suit their dynamic work context. Given that many prior theories of vicarious learning inherently reflect the high-volume manufacturing organizations that were prototypical at the time of their origin (as noted by Tucker & Edmondson, 2007), they may not prove as tractable in this more dynamic environment of learning in modern organizations, suggesting that these traditional models need to be revisited (Noe, Clarke, & Klein, 2014: 250).

At the heart of this misalignment between predominant views of vicarious learning in the literature and the reality of learning from others in modern organizations is the recognition and conceptualization of *agency*—actors' volitional behavior and intentional influence of their functioning and circumstances (Bandura, 2006)—in the vicarious learning process. For the most part, studies of vicarious learning in the organizational literature have not called explicit

attention to the role of agency, though (as noted below) various studies have conceptualized vicarious learning in more and less agency-sensitive ways. Consistent with traditional approaches to learning research more broadly (Bell & Kozlowski, 2008; Noe *et al.*, 2014), most studies of vicarious learning assume individuals to be passive recipients of others' shared knowledge (often the knowledge deemed appropriate by the organization) without attending to the active efforts individuals make to exert control over their learning process. In other words, much of this research reveals only *that* vicarious learning occurs, with less attention to *how* individuals take agentic action to learn vicariously from others' experiences at work.

The purpose of this chapter is thus to focus and expand our understanding of agency in vicarious learning at work. We aim to focus our understanding of vicarious learning by reviewing whether and how prior research has been sensitive to individual agency, revealing a spectrum of approaches that afford a greater or lesser role in individual's deliberate actions and learning efforts in vicarious learning. Our goal is not to provide an exhaustive review of this literature, but rather to provide a representation of how agency has been implicitly included (or excluded) in prior studies in order to sharpen our understanding of its role in the vicarious learning process. At the same time, we also aim to expand this understanding by articulating the assumptions and implications of both lower- and higher-agency approaches to vicarious learning. Building on this understanding, we conclude our chapter with a call for future work that not only explicates its view of agency in vicarious learning, but that focuses in particular on the high-agency end of the spectrum, and advance several promising avenues for research on agentic vicarious learning at work.

Agency in Vicarious Learning at Work

In describing the role of agency in vicarious learning in work organizations, we adopt a perspective rooted in social cognitive theory and individual self-efficacy (Bandura, 1977a, 1989a). This perspective holds that individuals possess self-regulatory capabilities that allow them to exert influence over the events in their lives, in contrast to early psychological theorizing that viewed individual behavior as simply a conditioned response to environmental stimuli. Individuals are thus proactive "contributors" to events, rather than passive "onlookers" (Bandura, 2006), developing a sense of personal agency from infancy as they realize their ability to causally alter their life circumstances. This agency rests on individuals' beliefs in their own efficacy (the belief that they can produce the desired effects by their actions; Bandura, 1977a), reflecting their intentional efforts to effect change in themselves or their environment. As Bandura (2001: 2) simply states, "to be an agent is to intentionally make things happen by one's actions."

Agency has been recognized as a key element in processes of learning and self-development, particularly in the modern environment of rapid technological

change (which has vastly expanded the potential for individuals to exercise control in their lives; Bandura, 2006). In both educational environments as well as the workplace, models of learning have evolved from school- or organization-centered (where successful learning and development rested on assignment to a good school or opportunities provided in one's trade or organization) to individual-centered, requiring individuals to take action to develop their knowledge and skills for an ever-changing world (where people can expect to engage in multiple different domains of knowledge or work over their lives; Bandura, 2001). Organizational research is increasingly recognizing the role of employees' agency and proactivity in shaping their lives at work (e.g., shaping key tasks, issues, and career arrangements; see Parker, Bindl, & Strauss, 2010), including a growing recognition of employees as primary agents in their own learning and growth at work (e.g., Sonenshein, Dutton, Grant, Spreitzer, & Sutcliffe, 2013). Indeed, employees are seen as taking increasingly active roles in their own development in modern organizations, agentically shaping opportunities to learn and apply knowledge in light of the recognized liability of relying on the routine expertise developed by older, traditional forms of workplace learning (Bell & Kozlowski, 2008).

However, despite its salience for learning in organizations, agency is not often directly conceptualized or invoked in studies of employees' vicarious learning at work. While a given study's lack of overt reference to agency does not necessarily imply that it takes an unagentic view of vicarious learning, this general lack of attention has obscured the field's understanding of how greater or lesser degrees of agency might be at play in workplace vicarious learning. Therefore, in order to review the existing literature on vicarious learning in organizations, we use the simple definition provided by Bandura (2001) above as a lens for retroactively identifying the existence and extent of agency in prior studies. Specifically, building from Bandura's notion that agency occurs when things are made to happen "intentionally . . . by one's actions," we suggest two key criteria that should help identify studies that are more sensitive to the role of agency in vicarious learning: 1) a clear articulation of the "intentional actions" taken to effect vicarious learning, and 2) a clear articulation of the "one" who is engaging in these actions. Studies adopting a high-agency perspective would thus be those that pay more direct attention to actors' specific behaviors—focusing on the ways in which particular individuals learn vicariously, rather than broadly examining whether or not vicarious learning occurs in a particular setting—a focus that we would expect to be absent in low-agency studies of vicarious learning in organizations.

A Spectrum of Agency in Prior Vicarious Learning Research

Bandura (1977b) is widely credited with introducing the notion of vicarious learning with his theory of social learning, defining vicarious (observational) learning as a process of learning through the observation and imitation of a

model and noting that “most human behavior is learned observationally through modeling” (Bandura, 1977b: 22). Given his role in the development of agency and the social cognitive perspective, it is thus unsurprising that Bandura’s conception of vicarious learning was highly agentic, involving specific actions undertaken by an individual learner to observe and learn from the behavior of another through a four-stage process of attention (identifying a model), retention (encoding the model’s actions), motor reproduction (accurately duplicating action) and motivation (reinforcing action; Bandura, 1977b). In his later work (e.g., Bandura, 1989b), he expanded this view to include not only direct observation of a model, but also symbolic processes as well—referring to the reproduction of a model’s experience through written or pictorial means (e.g., a written case summary or televised display of action). Bandura’s vicarious learning perspective was imported from psychology into organizational research in the early 1980s in several theoretical articles integrating various aspects of social learning theory with the work context. For instance, Davis and Luthans (1980) noted that vicarious learning could be an important perspective for organizational studies, as it recognized that individuals often learn more from informal observation of others than through formal means. Similarly, Manz and colleagues (Gioia & Manz, 1985; Manz & Sims, 1981) elaborated this perspective, describing vicarious learning in organizations as a cognitive process of interpreting and imitating behavioral scripts, suggesting significant implications for training and other organizational behaviors, noting that “learning through modeling does occur on a daily basis in organizations” (Manz & Sims, 1981: 109).

Yet, in spite of these origins, applications of vicarious learning in subsequent workplace research have taken a variety of different (though largely implicit) positions on the role of agency in vicarious learning, and many studies have actually adopted fairly unagentic views of this learning in organizations. Indeed, our review of the literature revealed that prior research varies significantly in the extent to which it specifies the actions taken by particular actors to learn vicariously, resulting in a broad spectrum of perspectives on agency in workplace vicarious learning. Articulating this spectrum of agency helps illuminate several key differences between low- and high-agency research on vicarious learning (depicted in Figure 2.1). Following the two criteria of agency identified above, we broadly organize these differences in low- and high-agency studies as related to the *locus* of learning (e.g., positioning vicarious learning as a consequence of a particular organizational structure or program vs. as a behavioral process of specific, individual actors) and the *mechanism* of learning (e.g., viewing vicarious learning as unintentional imitation vs. as active adaptation). Below, we compare studies on each end of the spectrum in terms of their locus and mechanism of learning in order to help make sense of these important distinctions in how agency has been conceptualized and incorporated in extant research, and highlight key implications for our understanding of vicarious learning at work.

VICARIOUS LEARNING AT WORK

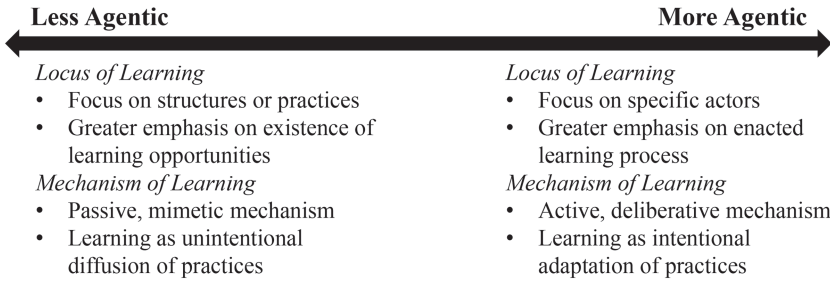


FIGURE 2.1 Agency Spectrum in Research on Vicarious Learning at Work.

Differences in locus of learning. Research on the low- and high-agency ends of the spectrum differ in their view of the locus of learning, emphasizing structures and practices (low-agency) or individual actors (high-agency), which contributes to differences in the focus of each approach on identifying opportunities for learning vs. detailing the process of learning, respectively. Studies on the lower end of the agency spectrum tend to operationalize vicarious learning as the presence or absence of an opportunity for learning from another's experience (e.g., participation in organizational training, or the introduction of a personnel rotation system), taking these structures or practices, rather than the actions of individual learners, as their central focus. For example, this type of vicarious learning research has often examined the benefits of modeling-based organizational training opportunities. Latham and Saari (1979) conducted an early study in this domain, randomly assigning managers to a behavioral modeling program focused on teaching managerial behaviors through the use of film recordings of effective managerial interactions, and finding that the modeling group (relative to a control group who received no training) received higher performance ratings and scored better on a managerial simulation at multiple time points over the following year. This modeling approach has continued to be popular in organizational training, used for training a wide range of skills (see Taylor, Russ-Eft, & Chan, 2005 for a meta-analysis), but across most of these applications, little emphasis has been placed on the agentic efforts individuals take to learn vicariously from the models in these training settings. Beyond general statements that learner characteristics can influence the outcomes of behavioral modeling, most studies do not consider the actions agentially undertaken by individual learners to learn, instead focusing on elements of the training structure itself (such as the type of model provided, hours spent in training, or opportunity for rehearsing the behavior; Taylor *et al.*, 2005) and how these elements shape the effectiveness of the training. Moreover, the training opportunities examined in these studies are often mandatory in organizations, meaning that individual's basic agency over whether to engage in learning is also absent in these settings.

This more structural focus extends to research at the unit- and group-level as well, where scholars have examined how teams and units manage and transfer knowledge in order to learn vicariously from others' experiences. In the context of this knowledge management, vicarious learning is conceptualized as the transfer of experience and "best practices" among units within a broader organizational context (Argote & Miron-Spektor, 2011). The majority of knowledge management research that relates to vicarious learning focuses on creating and using knowledge transfer channels (see Alavi & Leidner, 2001 for a review). These channels can be formal, technical structures such as company intranets (e.g., "knowledge portals") or systematic personnel rotation, or can reflect more informal efforts, such as unscheduled meetings or "water cooler conversations." For instance, the systematic use of personnel rotation—moving individual employees between different teams, units, or subsidiaries (Kang, Morris, & Snell, 2007)—has been examined as a channel for greater learning, and in an experimental study of student teams, Kane (2010) demonstrated that when the rotating team member shared a superordinate social identity with the team he or she was joining (e.g., they were both part of the same umbrella organization), the recipient team engaged in greater consideration and adoption of the new members' knowledge, particularly when that knowledge was less easily demonstrable. Likewise, research on more informal channels for knowledge transfer, such as the use of "communities of practice"—relatively informal groups of practitioners who gather to engage in discussion and share stories of their work—has explored how individuals can learn from others' experiences organically (and seemingly automatically) as they become "fuller" participants in the community (Brown & Duguid, 1991; Lave & Wenger, 1991).

Though the structures studied in these streams of research often inherently involve individual action and interaction (e.g., through training interactions or personnel rotation), these low-agency studies tend to focus attention on the structure itself, rather than the actions through which vicarious learning occurs. For example, in the case of personnel rotation, the "actors" can be fairly easily identified as the employees involved in the rotation (either being rotated or receiving a rotated employee), but relatively little attention has been paid to the actions taken by those actors (e.g., what they say and do when team membership is rotated), instead focusing on broader contextual effects of the overall rotation system (e.g., whether teams share a common organizational identity; Kane, 2010). Even within more unstructured, organic systems like communities of practice, recent research (i.e., Bailey & Barley, 2011) has called attention to the fact that specific actors and patterns of action (such as the way dyadic teaching-learning relationships are enacted between particular community members), rather than just broad participation in the community, can differentially impact individuals' learning at work. However, these actions and behaviors have yet to receive significant attention in the existing literature.

Compounding this structural focus, the role of agency in many of these studies of vicarious learning is muddied by the theoretical and practical aggregation of learning to the collective level. The “actor” engaging in vicarious learning is often unclear, as studies in this domain frequently attribute learning to an entire team, unit, or even organization (e.g., treating a unit or organization as the actor doing the observation or imitation; Lipshitz *et al.*, 2007). Other studies recognize that individual actors do play a role in vicarious learning (e.g., identifying employee mobility and board interlocks as mechanisms for vicarious learning between firms; Posen & Chen, 2013) but do not incorporate the effects of individual agency in their conceptualization or analysis of learning. In other words, studies in this tradition may acknowledge that individuals are involved when one firm is said to “learn from” the practices of another firm, but then model this learning as the spread of practices from one firm to another via the simple presence of a structural learning opportunity (e.g., a “conduit” such as news coverage of a competitor or the formation of a board interlock tie). These studies are therefore also largely silent on individual agency (e.g., the choice of what firm to observe, differences in how proactive individuals are in documenting and disseminating practices learned through shared board membership, etc.), seeming to operate under assumptions that this agency is either uniform across organizational settings, or at least does not vary systematically (i.e., that variance in agency can be treated as error variance).

Approaches on the low end of the agency spectrum can be beneficial for identifying and evaluating different practices within organizations that promote vicarious learning, and provide high-level evidence for the existence and importance of this learning in the workplace. However, the simple presence of a conduit or opportunity for learning is likely not sufficient to fully understand the enactment of vicarious learning between people at work, particularly in today’s more autonomous and dynamic work environments, suggesting a potential benefit of higher-agency approaches. Research on the high end of the agency spectrum tends to place greater emphasis on learning as a cognitive and behavioral process enacted by a specific actor, addressing concerns noted by several organizational scholars that “organizational learning research using the term vicarious learning has been agnostic about the activities by which it occurs” (Bresman, 2010: 93), and that “a greater understanding of the micro processes underlying the transfer of knowledge is needed” (Darr, Argote, & Eppler, 1995: 1761).

Indeed, the few studies that have taken a high-agency approach to vicarious learning tend to view learning as a multi-faceted process that individuals engage in willfully and differentially, drawing attention to the varying actions taken by particular individuals to learn from others’ experiences. For instance, Bresman (2010, 2013) has found that teams’ engagement in vicarious learning helped to strengthen team performance in the pharmaceutical industry (Bresman, 2010), and his qualitative examination of this vicarious learning highlighted that individual agency is enacted at several stages through the learning process between

pharmaceutical teams, as team members sought out particular teams from whom to learn, worked interactively with that team to translate knowledge to their context, and chose different strategies for adapting and continuing learned practices (Bresman, 2013). In this way, a high-agency perspective does not simply recognize that individuals have an initial choice of whether to engage in a vicarious learning opportunity (i.e., to attend organizational training or join a community of practice), but rather sees agency as pervasive in a longitudinal, multi-stage process of vicarious learning.

Differences in mechanism of learning. Beyond these differences in the locus of learning (structural learning opportunities vs. specific actors' learning processes), the depiction in Figure 2.1 also highlights important differences in the mechanism of learning between low- and high-agency studies of vicarious learning at work. On the low-agency end of the spectrum, studies tend to adopt a mechanism of imitation and mimetic diffusion of practices, reflecting a relatively mechanical or mindless approach to learning from others' experience (see Argote & Todorova, 2007). These studies take the perspective that vicarious learning occurs through unintentional (or even accidental) exposure to others' experiences that requires no agentic action on the part of the individual. For instance, in the training context, Nadler and colleagues (2003) used a behavioral observation approach to train negotiation skills, and found that students in the observation condition (compared to information revelation, analogical, and didactic modes of learning, as well as a control condition) had the largest performance gains on a negotiation task. However, participants in the observational condition were the *least* able to articulate the negotiation principles they had learned, which the authors suggested was because observational learning took place without participants' active awareness (i.e., participants were unaware they had developed new skills, and were thus unable to articulate them when asked). This unintentional, mimetic nature of observational training has long been recognized, and from its earliest uses it has been employed specifically for training skills that are difficult to articulate or consciously refine (e.g., Sorcher & Goldstein, 1972). From this perspective, vicarious learning is seen as often occurring outside of individuals' conscious awareness, leaving no role for them to agentially influence their learning. Similarly, research on communities of practice generally suggests that vicarious learning occurs through individuals' simple engagement in a community's work tasks and "fuller" participation in the community (i.e., Lave & Wenger, 1991), assuming that learning occurs through a broad process of socialization into the community rather than through intentional learning behaviors or interactions.

This mimetic diffusion mechanism can be seen even more clearly in many applications of vicarious learning at the unit or organization level of analysis, which explore how organizations or organizational subunits bring in new knowledge by observing the actions of others in their environment, imitating or avoiding specific actions or practices based on their perceived impact (Ancona &

Bresman, 2007; Haunschild & Miner, 1997; Huber, 1991; Levitt & March, 1988). For instance, in their examination of the acquisition decisions of multi-unit nursing home chains, Baum and colleagues (2000) found that in addition to imitating their own prior successes (i.e., acquiring new nursing homes similar to their recent successful acquisitions), these chains also imitated the observed actions of others in the industry (i.e., acquiring nursing homes near the locations of other nursing home chains). Similarly, Zimmerman (1982) found that overall industry experience affected the knowledge of firms constructing nuclear reactors, reducing the costs of opening new plants (although the firm's own experience was more significantly related to performance). Greve has also shown that firms imitate the actions of successful others in their environment, observing that U.S. radio stations implemented new innovations of other successful stations (Greve, 1998) and that small banks in Tokyo established branches in the same geographic areas as large banks (Greve, 2000).

Notably, other studies have examined not only firms' imitation of others' successful practices, but also their learning from others' failures (i.e., practices *not* to imitate), finding that hotels joining chains are more successful because of both the opportunity to imitate successes and to avoid repeating prior mistakes (Ingram & Baum, 1997), and that others' failures drive a significant reduction in the launch failure rates of organizations in the orbital launch vehicle industry (Madsen & Desai, 2010). However, these studies (as with those focused on success) pay relatively little attention to the deliberation or active behaviors underlying this learning, often focusing instead on potential impediments to an organization's adoption or avoidance of others' practices. For instance, Kim and Miner (2007) found that banks had higher survival rates when there were more near-failures and failures of other banks and thrifts in their local area (i.e., among other nearby banks, whose proximity likely allowed greater opportunity for observing and absorbing the lessons of the failure), but not when these failures and near-failures took place in banks or thrifts in another geographic area (i.e., where a focal bank would likely have to engage in more deliberate efforts to learn from the distant bank or thrift failure). Moreover, these studies (both of learning from others' successes and others' failures) often rely on archival or panel data that frequently do not allow for an understanding of the specific actions taken to enact learning from other units' experiences, instead focusing on structural elements of exposure, proximity, or similarity (or general characteristics of the organization, such as the organization's own history of successes or failures; e.g., Madsen & Desai, 2010) as the determinants of vicarious learning.

Though direct imitation can be an effective learning strategy in certain contexts—and not all work environments allow actors the agency to select others from whom to learn or adapt knowledge (as noted by Bresman, 2013)—low-agency approaches emphasizing imitation nonetheless imply a fairly rote, one-way diffusion of knowledge that may not apply in modern, knowledge-intensive work environments. For instance, low-agency studies of knowledge

transfer between workgroups (as well as studies of transfer in organizational training; e.g., Taylor *et al.*, 2005) typically focus only on the processes of exposing individuals to others (i.e., potential “sharers” of knowledge and experience), assuming that individuals, once exposed to a sharer’s experience, automatically imitate it unhindered. However, high-agency perspectives on vicarious learning emphasize the deliberate, motivated actions individuals take to engage with a potential sharer and adapt the sharer’s experience to a new problem or context. Indeed, studies adopting this approach conceptualize vicarious learning as a voluntary, motivated activity that draws from individuals’ self-efficacy (e.g., to influence how they set goals for seeking out knowledge from others; Quigley, Tesluk, Locke, & Bartol, 2007), and recognize that individuals may be more or less inclined to engage in this learning at work, as it requires time, effort, and a willingness to risk “feeling incompetent or embarrassed” (Hofmann, Lei, & Grant, 2009: 1262) by the need to learn from others.

In line with this high-agency perspective, research by Westphal and colleagues (see Westphal & Zajac, 2013 for a recent review) has noted the importance of individuals’ intentional learning behaviors, examining overlapping membership of an individual on multiple corporate boards (i.e., a board interlock) as a key site of vicarious learning between organizations. In contrast to the dominant approach described earlier—that simply examines the presence (vs. absence) of a board tie as reflecting the existence of social learning—Westphal and colleagues (2001) looked beyond just the presence of the tie and examined the underlying individual-level actions taken by board members sitting on multiple boards. Specifically, these authors demonstrated that interlocking directors adapted their decision-making processes (in the focal firm) after participating in decision activities at the outside (tied-to) firm, suggesting that this active engagement in the activities of the outside firm (vs. just passive observation) was important, particularly for more tacit learning (i.e., learning of decision-making processes; Westphal *et al.*, 2001). Though situated primarily at the organization level, these findings present a stronger role of agency in the vicarious learning process by detailing the key actions taken by individual actors and showing how these individual-level actions aggregate to the higher level of interest.

Likewise, other high-agency studies stress the role of the learner in deliberately engaging with a sharer of knowledge (rather than just passively receiving knowledge), revealing the role of these interactional dynamics in enabling or hindering learning. For instance, Bresman (2013) offered a model of the specific behaviors by which teams learn vicariously and adopt new performance routines (from other teams) that largely mirrors the four-stage process developed by Bandura (1977b)—with teams engaging in processes of identification, translation, adoption, and continuation. Interestingly, however, Bresman notes that rather than simple imitation (the second stage in Bandura’s process), teams that engage in vicarious learning through in-depth interaction with the other, “source” team (i.e., when members of both the focal team and the source team interact and

engage in discussion to develop an understanding of the source team's experience) are able to not only imitate the actions of these external parties, but also effectively translate and adapt them to their own context (Bresman, 2013). In this sense, a high-agency perspective views the presence of an "other" (e.g., a model to observe, or a source from whom to gather information or experience) as a necessary, but not sufficient, component of vicarious learning. Instead, more agentic studies view the individual learner as a deliberative participant in the vicarious learning process, engaging in a mechanism of active interaction and intentional adaptation to learn from others' experience.

Distinguishing the Agency Spectrum

Integrating the different streams of research highlighted above reveals the varying ways in which agency has been considered in studies of vicarious learning at work. These prior studies can be placed at many different points along the spectrum illustrated in Figure 2.1, ranging from studies that are completely silent regarding the actions actors take to learn vicariously to studies that fully incorporate these agentic actions into their model of the vicarious learning process. However, though representative studies can be found across the entire spectrum, our review of the extant literature suggests that the vast majority of research falls closer to the "low-agency" end of the spectrum, with relatively fewer studies adopting highly agentic approaches to understanding vicarious learning.

Importantly, this brief review of the literature also suggests that differences in agency (i.e., a study's location along the agency spectrum) are independent of other characteristics of the study, such as its level of analysis. We thus take care in our conceptualization of the agency spectrum to not equate low agency with research that takes a collective level of analysis, or high agency with studies at the individual level of analysis. Studies at the individual level of analysis can take a low-agency perspective, as seen in studies of vicarious observational learning in (often mandatory) training environments (e.g., Taylor *et al.*, 2005), while studies situated primarily at a collective level of analysis can be highly attentive to agency, as in Bresman's (2013) careful treatment of the agentic actions taken in pharmaceutical teams to seek out, learn from, and adapt material from other teams. Bandura specifically acknowledges the possibility of collective agency in his conceptualization of social cognitive theory, noting that individuals often do not have the attention, resources, or influence necessary to exert agentic control over all domains of their lives, and so must exercise proxy agency through the actions of others (see Bandura, 2001). Individuals in a group can thus share a belief in their collective power to act agentially to achieve results. However, fully attending to the role of agency in group settings requires careful attention to the composition and emergence of these collective beliefs from the individuals who comprise the group, because as Bandura (2001: 14) notes:

[t]here is no emergent entity that operates independently of the beliefs and actions of the individuals who make up a social system. It is people acting conjointly on a shared belief, not a disembodied group mind that is doing the cognizing, aspiring, motivating, and regulating.

Thus, high-agency perspectives in team- or organization-level studies of vicarious learning require explicit attention to the underlying dynamics at lower levels (at least conceptually, if not empirically) in order to avoid this philosophical quandary of attributing a human action (learning) to a non-human entity (an organization; Lipshitz *et al.*, 2007).

Positions along the agency spectrum are also not tied to the specific focus, form, or terminology used in studying vicarious learning. Multiple literatures using many different terms (e.g., observational learning, behavioral modeling training, knowledge management, knowledge sharing, etc.) have examined how actors learn vicariously from the experience of others in organizational environments, and each of these perspectives can be approached with greater or lesser focus on individual agency. These differences in terminology are tied more to differences in the focus of the study, its theoretical rooting, and field conventions, but typically do not preclude a more or less agentic approach. For instance, studies that examine individuals' multiple team membership or the rotation of individuals between different teams have recognized that these team membership systems are not only structural influences, but are also "subject to individual agency" (O'Leary, Mortensen, & Woolley, 2011: 473).

Moving Forward

Despite little overt recognition of agency in workplace vicarious learning, prior studies have nonetheless implicitly endorsed a wide range of perspectives on the role of agency in learning from others' experiences at work. This broad spectrum of agency perspectives offers a rich foundation and toolkit for understanding vicarious learning in organizations, and future work across the entire spectrum—particularly work that explicitly states its view of agency—would no doubt advance the field's theoretical and practical understanding of vicarious learning. However, given the changing nature of work described earlier, as well as the relative dominance in quantity of research adopting a low-agency perspective, we call in particular for greater scholarly and practical attention to more agentic perspectives on vicarious learning at work.

An agentic perspective on vicarious learning puts greater emphasis on the underlying process by which individuals intentionally learn from one another at work (i.e., focusing on *how* agents learn vicariously, rather than merely *that* vicarious learning occurs), consistent with prevailing perspectives in organizational research that view learning as an intra- and inter-personal process, rather than only an outcome (see Argote, 1999; Edmondson, 1999). Agentic approaches may

thus provide a more useful lens for understanding how vicarious learning fits into today's increasingly autonomous learning environments, which emphasize individual self-regulated learning (i.e., their modulation of affective, cognitive, and behavioral processes during learning; Sitzmann & Ely, 2011) during the full range of workplace experiences, rather than merely in formal, prescribed training (Noe *et al.*, 2014). Indeed, an agentic approach to vicarious learning dovetails with broader experiential learning perspectives that view learning as an ongoing cycle of reflecting on everyday work experiences to develop abstract conceptualizations that then inform future experiences (Kolb, 1984). Non-agentic approaches provide a learning mechanism that seems better suited for organizational training contexts (i.e., rote imitation of observed or trained behavior), but a more agentic perspective allows for a focus on the individual deliberation, reflection, and meaning-making that drive learning from these day-to-day (i.e., non-training) work experiences. Though experiential approaches are typically employed to understand learning from one's own experience, others (and their experiences) are often involved in this meaning-making process (Hoover, Giambatista, & Belkin, 2012; Lave & Wenger, 1991), allowing individuals to learn by actively reflecting on both others' and their own experiences to develop conceptual models that guide their future thoughts and actions.

However, beyond just creating theoretical parsimony from better alignment with predominant perspectives on learning, an agentic perspective on vicarious learning offers a new way of understanding—and addressing—practical learning challenges in organizations that non-agentic approaches have failed to resolve. For instance, one domain where this more agentic perspective on vicarious learning can reveal significant new insight is that of healthcare organizations. Providing patient care is a complex and interdependent task, laden with tacit and explicit knowledge, which carries significant costs for mistakes or gaps in knowledge. This dynamic environment is thus one where vicarious learning can be particularly effective, but existing strategies (relying on low-agency transfers of codified information and dissemination of “best practices” across units or hospitals) often fall short of facilitating this learning. Indeed, a review of patient outcomes after various surgical procedures revealed that, in contrast to the focus of existing hospital- and government-funded interventions on implementing structures for reducing the rates of surgical complications (e.g., disseminating best practices for avoiding patient infections after surgery), differences in complication rates did not account for the stark differences in patients' adverse outcomes and mortality following surgery observed across hospitals (Ghaferi, Birkmeyer, & Dimick, 2009). Instead, this research revealed the importance of “rescuing” patients after a complication had occurred, which requires more active vicarious learning efforts (e.g., seeking knowledge from particular colleagues that can be adapted for different patients experiencing unique issues) and reflects a combination of structural interventions as well as informal practices shared among care providers (i.e., a safety culture; Ghaferi & Dimick, 2015; Vogus, Sutcliffe, & Weick, 2010).

Likewise, recent research on medical handoffs—where physicians or nurses learn about and take over care of patients from other staff (e.g., their counterparts in another unit, or outgoing staff at the end of a shift)—has explicated the risks of assuming these social learning experiences as one-way “telegrams” of information, noting that interaction, active questioning, and clarification are essential for the receiving care provider’s understanding of the patient’s condition and the efficacy of care administered by the sending provider (Cohen, Hilligoss, & Amaral, 2012). When these handoffs are conducted as a passive, one-way process of knowledge diffusion (i.e., as low-agency vicarious learning), substantial gaps in learning abound. Cohen and his colleagues cite evidence that this style of handoff communication resulted in agreement and mutual understanding (between the sending and receiving physician) about a patient’s primary problem in fewer than 50 percent of handoffs, and that this learning failure increased for patients with more complex conditions (Brannen, Cameron, Adler, Goodman, & Holl, 2009; cf. Cohen *et al.*, 2012).

Though this is only one example of the many organizational domains where an agentic perspective on vicarious learning may offer (previously inaccessible) insight, it is a particularly important one considering that healthcare is the fastest-growing sector of the U.S. economy (Ross & Kulkarni, 2013) and that expenses on healthcare (which are increased by errors or gaps in learning) represent a significant proportion of national spending (U.S. Department of Health and Human Services, 2008). Nevertheless, we expect that an agentic approach can help make sense of individuals’ vicarious learning across a broad range of organizations in today’s increasingly knowledge-intensive work environments.

Future Research Directions

Given this potential for creating new theoretical and practical understanding, we turn now to identifying promising avenues for future research to begin exploring the dynamics of an agentic approach to vicarious learning.

Catalog specific behaviors of learners and models. An agentic approach to vicarious learning most notably implies a greater range of behavior on the part of the learner (rather than simply being a passive recipient of knowledge), and future research is needed to more fully catalog the set of behaviors individuals employ to learn from others’ experiences. For instance, opportunities to engage in the kind of “pure” observation implied by much research on vicarious learning (i.e., observing another engaging in a complete work task without participating in the work oneself) are seemingly rare in today’s service-oriented and geographically dispersed workplaces. Employees today often need to learn from others who are located in other offices, or even other countries, and need to learn about tasks that are not easily observable. In this context, observational behaviors (i.e., shadowing, reviewing video footage of tasks, etc.) is only one method by which an individual can be exposed to a model’s experience, and

may in fact be a relatively restricting means of exposure, compared to more interactive methods such as discussion and in-depth interaction. Though a few studies (e.g., Bresman, 2013; Szulanski, Ringov, & Jensen, 2016; Westphal *et al.*, 2001) have begun to recognize the importance of discursive interaction between learners and models, future research is needed to identify and conceptually organize the full range of behaviors individuals may employ as they exercise agency to learn from others.

At the same time, an agentic approach also recognizes the agency of the model or sharer of knowledge, in addition to the learner, in shaping the vicarious learning process. In other words, the pool of knowledge or experience from which individuals might learn is not an exogenous factor in vicarious learning, but is itself subject to individual agency (on the part of the sharer). Sharers may agentially claim or demonstrate their knowledge, providing cues to potential learners that they have experience or expertise in a particular domain (see Barton & Bunderson, 2014) and encouraging vicarious learning. However, they may also engage in active behaviors to hide or withhold knowledge and experience from others at work (Cerne, Nerstad, & Dysvik, 2014), limiting others' opportunities to engage in vicarious learning. To advance our understanding, future work is needed that attends to the behavior of both learners and models, and how they interact. Existing perspectives have recognized that both learner and sharer can exert influence on the process (Bresman, 2013) and have suggested different motives for seeking and sharing knowledge (Quigley *et al.*, 2007), but a fundamental understanding of the interaction between learner and model is still lacking from the literature. For instance, how might the actions of learners change a model's willingness to share knowledge or determine the specific experiences to share? Moreover, how do these interactions unfold over time? Attention to these dynamics will allow for a better understanding of how individuals come to exert their agency through differential engagement in the micro-processes of vicarious learning.

Attend to individual differences and biases. An agentic perspective places greater focus on individuals in the vicarious learning process, requiring that research attend to the ways these individuals might differ from one another and correspondingly differ in their engagement in vicarious learning. For instance, existing perspectives implicitly assume that individuals will all learn the same "lesson" when exposed to another's experience (e.g., in behavioral modeling training) and will adopt that learning uniformly (e.g., that an entire team consistently adopts a practice suggested by a new member rotated from another unit). However, certain individuals may be more likely to internalize the lesson of another's experience, or may draw an entirely different lesson from that same experience, as a function of their own background, experiences, and perspectives, as well as their relationship with the sharer. Some prior work has recognized that vicarious learning is embedded in these learner-model relationships (e.g., Uzzi & Lancaster, 2003), but the full consequences of differential adoption of learning

stemming from idiosyncratic differences between individuals is significantly less well understood in the literature. Future research might fruitfully explore how individual differences shape not just the extent, but the fundamental content of learning when exposed to another's experience, as well as how these differences might influence outcomes at more collective levels. For example, what are the consequences of a team's members each internalizing different lessons from a new member's past experience? Might these differences introduce greater confusion and reduce performance, even when the new member imports a "best practice" from another setting? Future work that conceptually and empirically recognizes these idiosyncratic differences could offer a mechanism for group-level learning built on individuals' deliberate, unique adoption and adaptation of others' practices (rather than collective diffusion and uniform imitation).

Beyond just exploring the impact of different patterns of individual engagement in vicarious learning, future research is also needed to investigate the intrapersonal processes by which these differences can bias engagement in vicarious learning. As one example, prior research has documented that when individuals perceive themselves as having higher power in a situation, they are more likely to exert their agency (Galinsky, Gruenfeld, & Magee, 2003), and further that individuals with higher status engage in broader "activation" of their network of relationships such that they can more easily access new information (Smith, Menon, & Thompson, 2012). These findings suggest that the experience of having power or status might alter the "other" from whom a learner seeks to learn vicariously (e.g., a close friend vs. a distant contact), biasing the knowledge and experience that is readily available for them to learn. Given that workplaces are replete with hierarchy and differences in power or status, future research that explores the impact of individuals' positions in the organization on vicarious learning would provide a meaningful advancement of the literature.

Other cognitive tendencies may also bias vicarious learning, including the tendency to seek out information or knowledge that confirms one's existing beliefs (the confirmation bias; Nickerson, 1998), or to seek out information that enhances one's ego or image. Indeed, these biases are known to influence individuals' learning and experimentation at work (Cannon & Edmondson, 2005; Feldman, 1986) and to fundamentally alter how they seek and interpret feedback from others (Ashford, Blatt, & VandeWalle, 2003), suggesting they may play a significant role in how individuals engage in vicarious learning. From this perspective, individuals' active choice to engage in vicarious learning (i.e., when they choose to learn from another's experience, and their selection of a particular model from whom to learn), as well as their interpretation and adaptation of the model's experience, are subject to intrapersonal biases. Future research is thus needed to examine these biases and their effects, including both known biases from related disciplines (e.g., feedback seeking), as well as identifying biases unique to the enactment of vicarious learning at work.

Position vicarious learning within individuals' broader learning efforts. Finally, adopting an agentic perspective on vicarious learning requires future research to more deliberately position vicarious learning within individuals' various other learning efforts at work. The notion that individuals have agency in choosing whether and how to engage in vicarious learning suggests that they may choose to engage in this vicarious learning instead of (or in concert with) other modes of learning, such as attending a formal educational course or engaging in "trial and error" learning. Understanding how individuals weigh the relative costs and benefits of learning from others' experience, compared to other learning methods, is critical for developing a robust understanding of agentic vicarious learning. Moreover, individuals rarely utilize only a single form of learning over the course of a task or project, and so the choice to engage in vicarious learning may also depend on how it arises in sequence with other learning strategies. Prior work has found that vicarious and direct experiential learning strategies can complement one another (Hoover *et al.*, 2012) and can be combined into distinct sequences (at least at the firm-level; Bingham & Davis, 2012), and future work might extend this thinking to specifically examine the behaviors and learning efforts that occur before or after engaging in vicarious learning to engender more effective overall learning for individuals at work.

Likewise, future research is needed to explore when and how individuals determine that they have engaged in "enough" vicarious learning. Simulation research has suggested that a greater extent of vicarious learning (as a percentage of an agent's overall learning) is consistently beneficial (Rendell *et al.*, 2010), but at some point, an individual will have to decide that they have learned enough and take action. Understanding this exercise of agency in when to *stop* learning will likely require attention to differing decision models for how individuals engage in learning, such as satisficing—engaging in learning until an acceptable solution is found, even if it is not the best of all possible solutions (see Winter, 2000). Building on this perspective, future research might explore whether and when individuals seek out experience from multiple models to learn vicariously, how they determine the right number of others from whom to learn, and the ways in which they work to integrate potentially differing knowledge gained from these multiple vicarious learning interactions.

Conclusion

Though of long-standing interest in the field of organizational studies, perspectives regarding how individuals learn vicariously from others' experiences at work have largely neglected to attend to the role of individual agency (at least directly) in their conceptual and empirical treatments. In light of the changing world of work and the increasingly autonomous nature of learning in organizations, this lack of attention to agency is problematic. By briefly reviewing relevant literature and articulating a spectrum of more and less agency-sensitive

approaches among prior studies, this chapter offers a foundation for future work that not only explicitly attends to the construct of agency (on either end of the spectrum), but also specifically builds on the few high-agency studies in order to develop more robust theory and nuanced practices of agentic vicarious learning in modern organizations.

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