

**Getting the Picture Too Late:
Handoffs and the Effectiveness of Idea Implementation in Creative Work**

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ABSTRACT

Past research on idea implementation has focused on employees trying to win social support for their own ideas, but employees are often handed ideas to implement that were developed by others. We propose and test hypotheses on such handoffs, focusing on how handing employees relatively mature ideas to implement may lead them to build less creative final products. We tested our hypotheses using two studies: an archival study of 5,676 movies in the U.S. film industry and a complementary experiment. Results suggest that late handoffs yielded less creative final products than no or early handoffs, meaning it was costly to creativity when employees implemented relatively mature ideas without driving at least some of their prior development. However, serialized late handoffs—when implementers are handed relatively mature ideas after an earlier handoff between two other individuals—were less costly to creativity than late handoffs from one other individual. Mediation results suggest that late handoffs reduced implementers' creativity by restricting their sense of psychological ownership and the coherence of their final products. This research advances theory on idea implementation, handoffs, and psychological ownership in creative work.

Online Materials: https://osf.io/vgwme/?view_only=d5711f0f492a4a168a14a9a8958cc883

Scholars have long recognized that creativity and innovation unfold in a multi-stage process (Amabile, 1988; Anderson, Potočnik, & Zhou, 2014). This process begins with employees generating rough initial ideas, then elaborating initial ideas into more detailed plans, and eventually implementing the plans to produce a finished product (Perry-Smith & Mannucci, 2017). Thus, developing creative ideas is just the beginning—ideas must then be implemented successfully to become creative final products. In organizations, employees do not always implement their own ideas. Rather, employees are often handed ideas to implement that were developed by someone else. Engineers may build products that they or others designed (Hargadon & Sutton, 1997). Film directors may create films from screenplays that they or others wrote (Baker & Faulkner, 1991). Marketers may execute their own or someone else's idea for a new advertising campaign (Hirschman, 1989). Organizations are increasingly crowdsourcing new ideas from employees (Terwiesch & Ulrich, 2009) or from customers and other outsiders (Bayus, 2013), which employees may be asked to implement.

Despite the ubiquity of employees being handed ideas to implement that they did not create, this situation has been largely neglected in past research (cf. Rouse, 2013). A common assumption in prior research is that the same creators drive all stages of the creative process, from idea generation through implementation, overlooking the notion that ideas may be handed off between stages (Amabile & Pratt, 2016). As a result, past theory and research on idea implementation has focused on employees trying to implement their own ideas, as opposed to ideas developed by someone else (e.g., Baer, 2012; Fleming, Mingo, & Chen, 2007; Miron-Spektor, Erez, & Naveh, 2011; Perry-Smith & Mannucci, 2017; West, 2002). Furthermore, this prior work has focused on the challenges of employees gaining social support and recognition for their creative ideas. As Baer (2012: 1102) explains, idea implementation “is primarily a social-political process (e.g., Frost & Egri, 1991; Van de Ven, 1986).” From this view, idea

implementation is about winning social acceptance for one's creative ideas, which is often challenging because creative ideas may violate conventions or disrupt the status quo. Adopting this perspective, scholars have built knowledge on the social-political drivers of effective idea implementation, including the impact of network structure (Baer, 2012; Fleming et al., 2007; Perry-Smith & Mannucci, 2017) and team dynamics (Miron-Spektor et al., 2011; West, 2002) in garnering support for one's creative ideas.

However, in addition to winning social support for their ideas, implementers must also build their ideas into finished products (Perry-Smith & Mannucci, 2017). Scholars have paid less attention to this production side of idea implementation, despite the recognition that poor implementation may turn what was once a creative idea into a relatively uncreative final product (King, 1992; Paulus, 2002). To be deemed creative, ideas or final products must be judged as both novel and useful (Amabile, 1996). Creativity scholars typically measure creativity at the end of idea generation or elaboration, before new ideas are implemented into full-fledged final products (Anderson et al., 2014). But turning new ideas into creative final products is usually difficult, complex, and uncertain work (Sternberg & Lubart, 1991). Following the logic of the planning fallacy (Buehler, Griffin, & Ross, 1994), even fairly elaborate plans for creative products will have unforeseen holes and kinks that need to be filled in and figured out as the final product is actually made. When employees replicate final products that have been built before, they can rely on complete plans and existing exemplars. But when employees try to make new ideas into creative final products, they have at best incomplete plans and cannot rely too much on existing exemplars without reducing the novelty of their products (Smith, Ward, & Schumacher, 1993). Thus, successful idea implementation is not just about garnering social support for ideas—how effectively implementers build the ideas into tangible final products matters for creativity as well.

Yet, we know little about the conditions under which implementers are able to effectively convert new ideas, that are not necessarily their own, into creative final products.

Drawing on theories of psychological ownership (Baer & Brown, 2012; Pierce, Kostova, & Dirks, 2001) and creative cognition (Ward, Smith, & Finke, 1999), we propose that implementers' effectiveness in building new ideas into creative final products depends on when and from whom ideas are handed off (if at all) to the implementer. In particular, we introduce a framework that differentiates handoff types based on two considerations: 1.) how mature ideas are when implementers become the primary driver of the idea, and 2.) whether a prior handoff between other individuals took place before the implementer is handed the idea. We hypothesize that late handoffs are costly to creativity, meaning that implementers build less creative final products when they are handed relatively mature ideas to implement without driving at least some of their prior development. However, we also hypothesize that serialized late handoffs—when implementers are handed relatively mature ideas after an earlier handoff between two other individuals—are less costly to creativity than late handoffs from one other individual. We tested our hypotheses using two studies: an archival study of the U.S. film industry and a complementary experiment. Across the two studies, results generally supported our theorizing.

This research advances theory on creativity and innovation in organizations in at least three important ways. First, we develop theory on the largely overlooked production side of idea implementation—i.e., building ideas into tangible final products. In so doing, our work complements the social-political focus in prior research, providing a more comprehensive understanding of the drivers of successful idea implementation, including key interdependencies between idea implementation and earlier stages of the creative process. Second, our work advances theory on handoffs in creative work by illuminating how and why handoffs to implementers may become riskier when they occur later (rather than earlier) in the creative process. Specifically,

when implementers are handed relatively mature ideas to implement, they lack the opportunity to develop a sense of psychological ownership or coherent vision for the emerging product, reducing the creativity of their final products. Third, our research contributes to the small but growing literature on psychological ownership in creative work by elucidating how the structural conditions of handoffs may shape psychological ownership and downstream creativity, with an emphasis on the implementation stage of the creative process.

HANDOFFS, PSYCHOLOGICAL OWNERSHIP, AND PRODUCT COHERENCE

Whereas past research has focused on social-political aspects of idea implementation, we focus on what Perry-Smith and Mannucci (2017: 59) call the production phase of idea implementation, in which “the idea is turned into something tangible—a finished product, service, or process.” Individuals who drive this production side of implementation, or implementers, may be handed mature ideas to build that they did not develop. Receiving such handoffs may threaten their sense of psychological ownership over the ideas they are handed. Psychological ownership is the “state in which individuals feel as though the target of ownership (material or immaterial in nature) or a piece of it is ‘theirs’” (Pierce et al., 2001: 299). Past research has demonstrated that feelings of psychological ownership are associated with greater commitment, motivation, and persistence toward the target of ownership, such as one’s job or organization (Dawkins, Tian, Newman, & Martin, 2017; O’driscoll, Pierce, & Coghlan, 2006; Van Dyne & Pierce, 2004). Given the association between creativity and motivation/persistence (Amabile, 1996; Grant & Berry, 2011; Lucas & Nordgren, 2015), psychological ownership is presumably a key driver of creativity.

Despite the seemingly important relationship between psychological ownership and creativity, relatively little research has focused on this relationship. However, a few studies have examined psychological ownership in the context of creative work, providing a helpful foundation for the present research. In qualitative work, Rouse (2013) took a relational perspective, focusing

on the dynamics between givers and receivers of handoffs in the creative process, and how these dynamics shape their experiences of psychological ownership over the ideas that are handed off (the impact of psychological ownership on creativity was not the focus, however). This work helps motivate our focus on handoffs as a potentially potent driver of psychological ownership in creative work—employees are likely sensitive to ownership over ideas following handoffs, and this is likely to shape their behavior. In a study at the team level, Gray, Knight, and Baer (2020) examined how leaders who conceive an initial idea foster collective psychological ownership among their followers who did not generate the idea, finding that such feelings of collective ownership predicted team performance. This work focused on projects in which the leader drove the whole process, from idea generation through implementation. We complement this past work by examining psychological ownership and creativity when employees are the principal implementers of ideas that others generated.

Other past work has looked at the impact of psychological ownership on the type of feedback creators use or receive from others. In Baer and Brown (2012), creators with a sense of ownership over their ideas were more likely to utilize feedback that added to the core of their ideas, but less likely to utilize feedback that subtracted from the core of their ideas. In Brown and Baer (2015), territorial marking of one's ideas (e.g., "This is my idea, not yours") reduced the creativity of others' feedback when they had an independent self-construal, but enhanced the creativity of their feedback when they had an interdependent self-construal. Although this past work hints that the relationship between psychological ownership and creativity is meaningful, little is known about how psychological ownership relates to downstream creativity.

Building on this prior work, we propose that psychological ownership is valuable for creativity during idea implementation, as implementers try to build ideas into creative final products. To turn new ideas into creative final products, implementers likely need strong

conviction for a bold vision of the product. Psychological ownership may be essential to developing such conviction. If implementers do not see the product as “theirs,” they may take shortcuts that undermine their products in terms of novelty, usefulness, or both—leading to a less creative final product overall.

Along with psychological ownership, product coherence may also be important during idea implementation. Scholars have long noted the importance of coherence in the evaluation of creative products (Besemer & Treffinger, 1981; Jackson & Messick, 1965). Drawing on this prior work, we define product coherence as the degree to which the different parts or elements of the product work well together as a whole. Beyond the general insight that coherence tends to enhance the perceived creativity of final products, little research has addressed the role of product coherence in the creative process (cf. Seidel & O’Mahony, 2014). Extending prior work, we propose that product coherence plays an important role in driving how handoffs to implementers impact the creativity of their final products. Creativity involves bringing together previously disparate elements of existing ideas into a novel and useful combination (Weick, 1979; Welch, 1946). For this reason, product coherence may be a principal challenge in creative endeavors involving handoffs, as it may be difficult for multiple individuals to integrate disparate elements in a coherent way (Harvey, 2014; Seidel & O’Mahony, 2014), especially when the idea is handed from person to person. Without a unified vision, handoffs may yield final products that lack coherence, thereby undermining creativity, as observers are unlikely to see novelty and usefulness in a haphazard combination of parts or elements that do not fit together in a meaningful way.

Conversely, coherence can boost the creativity of final products. Jackson and Messick (1965: 320) use the following analogy to explain the importance of coherence (or “condensation” as they label it) for creativity: “An assortment of debris gathered in a junkyard and the ordered arrangement of the same material by an artist serves to illustrate the distinction being made...the

ordered arrangement, if it is worthy of artistic notice, contains more meaning than can be understood at first glance. The color and shape of the objects, their texture, their spatial location, and their original function all combine to enhance their aesthetic appeal.” In short, product coherence makes the creativity of the whole greater than the sum of its parts.

When implementers are handed relatively mature ideas to build, it may be more difficult to develop a sense of psychological ownership or coherent vision for the product than if they are handed relatively immature ideas that have more room to be shaped prior to implementation. To distinguish between two levels of maturity prior to implementation, we use the following three stages of Perry-Smith and Mannucci’s (2017) framework: 1.) idea generation (generating a rough initial idea), 2.) idea elaboration (fleshing out the initial idea into more detailed plans), and 3.) idea implementation (building the final product). Distinguishing between idea generation and elaboration (prior to implementation) is useful from both a theoretical and practical standpoint. Theoretically, this distinction enables analysis of how generating the idea from inception versus elaborating someone else’s idea may each influence psychological ownership, product coherence, and ultimately creativity. Practically, these three stages map onto legitimate milestones and deliverables in many creative domains. For example, a musical artist may generate an initial idea for a new song, elaborate it into a demo recording, and then implement the song into a commercialized recording.¹

Whereas Perry-Smith and Mannucci (2017: 55) “assume the creator remains the primary driver and developer of his or her creative idea” throughout all stages, our framework focuses on whether and when the creator hands his or her idea off to the implementer, meaning the individual who ultimately drives implementation. Continuing with the music example, the first one or two

¹ For more examples of the three stages, see Table 2 in Perry-Smith and Mannucci (2017: 57). Their model includes a fourth stage between idea elaboration and implementation: idea championing (pitching plans to key stakeholders), which we excluded because the maturity of the idea does not change during this stage.

stages could be driven by a songwriter before the artist then becomes the principal implementer of the song. Although our framework focuses on the principal driver of each stage, this does not necessarily mean only one individual is involved in each stage. In the music example, the artist may utilize input from his/her team of producers and sound engineers, but the artist would still be the principal driver of how the song is implemented (or in some cases in the music industry, the principal driver of implementation is a producer, who also may or may not drive the earlier stages). Thus, using these three stages allows our theorizing to address an important practical question: are implementers more effective when they drive all three stages, or can they take over after generation or elaboration without sacrificing creativity?

Using these three stages, we propose four handoff types (see Figure 1). First, *late handoffs* occur when the implementer is handed a mature idea after someone else drives the generation and elaboration stages, meaning the implementer only drives the implementation stage. Second, *no handoffs* occur when the implementer drives all three stages, from generation through implementation. Third, *early handoffs* occur when the implementer is handed an initial idea after someone else drives the generation stage, meaning the implementer drives both the elaboration and implementation stages. Fourth, *serialized late handoffs* occur when the implementer is handed a mature idea after the generation and elaboration stages are each driven by separate individuals (whereas late handoffs are from one individual who drove both generation and elaboration). In the sections that follow, we propose hypotheses on how and why late handoffs lead implementers to build less creative final products than the other three handoff types. We hypothesize that the negative effect of late handoffs on creativity is mediated by psychological ownership and product coherence—see Figure 2 for a visual.

Insert Figures 1 and 2 about here

The Disadvantages of Late Handoffs vs. No, Early, and Serialized Late Handoffs

Psychological ownership. When employees receive a late handoff, this means that they did not drive the development of the mature ideas they are now tasked with implementing. This may put implementers who receive late handoffs at a disadvantage in terms of psychological ownership compared to implementers who drove both generation and elaboration (no handoff) or just elaboration (early handoff) prior to the implementation stage. Based on psychological ownership theory (Pierce et al., 2003), individuals develop feelings of psychological ownership through three routes: 1.) controlling ownership of the target; 2.) intimately getting to know the target; and 3.) investing the self into the target. Driving the generation and elaboration (or just elaboration) of ideas may increase implementers' sense of psychological ownership over the emerging product through all three of these routes, as implementers are able to exert influence and shape the vision of the idea itself during these earlier stages (Baer & Brown, 2012).

Therefore, no and early handoffs should foster greater psychological ownership before the implementation stage than late handoffs. When implementers receive a late handoff, they are handed relatively detailed plans for a product that they did not create but now must build. At this point, it may be too late for them to develop strong feelings of psychological ownership over the emerging product, because their ability to shape the idea has become substantially constrained. In contrast, when implementers receive no or early handoffs, they enter the process before initial ideas become relatively detailed plans. This leaves plenty of opportunity for them to develop psychological ownership as they generate and/or elaborate initial ideas to maturity. In sum, compared to no and early handoffs, late handoffs may prevent implementers from developing psychological ownership over the emerging product prior to the implementation stage.

Late handoffs may also lead to lower psychological ownership than serialized late handoffs. Whereas late handoffs occur when implementers are handed a mature idea from one

individual who drove both generation and elaboration, serialized late handoffs occur when implementers are handed a mature idea after generation and elaboration were each driven by separate individuals. Although they are handed ideas of equal maturity, recipients of serialized late handoffs may find it easier to develop psychological ownership relatively early in the implementation stage than recipients of late handoffs. Upon receiving handoffs, implementers are likely to compare their opportunity for ownership to the individual(s) who drove the prior development of the idea (Gray et al., 2020; Rouse, 2013). When recipients of late handoffs compare themselves to the individual who drove both generation and elaboration, they may feel that their opportunity to claim ownership over the idea is relatively constrained, as the individual already had ample opportunity to control, get to know, and invest him/herself into the idea (Pierce et al., 2003).

In contrast, recipients of serialized late handoffs are likely to compare themselves to the two individuals who each drove only one prior stage (generation or elaboration). These two individuals each have a smaller claim to ownership than the referent individual for late handoffs, as they each had less opportunity to control, get to know, and invest themselves into the idea. Thus, ownership over the idea may seem more “up for grabs” to recipients of serialized late handoffs than recipients of late handoffs. This may make it easier for recipients of serialized late handoffs to develop psychological ownership—and reap the corresponding motivational benefits—early in the implementation stage. The key to serialized late handoffs is not merely the involvement of two versus one individual, but rather, that two individuals each drive different stages prior to the late handoff (if two individuals co-led the generation and elaboration stages together, their opportunity to control, get to know, and invest themselves into the idea would be more comparable to the referent individual for late handoffs from one individual).

Without a strong sense of psychological ownership, recipients of late handoffs may lack the motivation and commitment that is needed to build new ideas into creative final products. Instead, they may default to the path of least cognitive resistance and ditch novel elements of the emerging product so they can rely on conventional exemplars and prototypes, undermining the novelty of their final products (Kohn & Smith, 2011; Smith et al., 1993; Ward, 1994; Ward et al., 1999). Moreover, even with relatively detailed plans, unforeseen gaps and problems are likely to arise with the product's structure, functionality, or technical quality as they build out the product (Buehler et al., 1994). Because they lack psychological ownership over the emerging product, recipients of late handoffs may take shortcuts in addressing these unforeseen challenges, undermining the usefulness of their final products. Thus, as a result of their limited psychological ownership over the mature ideas they are handed, recipients of late handoffs may build less creative final products than recipients of no, early, and serialized late handoffs.

Hypothesis 1 (H1). Late handoffs have a negative effect on creativity, such that implementers who receive late handoffs build less creative final products than implementers who receive a.) no handoffs, b.) early handoffs, and c.) serialized late handoffs.

Hypothesis 2 (H2). The negative effect of late handoffs on creativity is mediated by psychological ownership, such that implementers who receive late handoffs have lower psychological ownership of the emerging product—leading them to build less creative final products—than implementers who receive a.) no handoffs, b.) early handoffs, and c.) serialized late handoffs.

Product coherence. In addition to psychological ownership, recipients of late handoffs may also face a disadvantage in terms of product coherence. Compared to recipients of no or early handoffs, recipients of late handoffs may have less opportunity to form a unified vision for the product prior to the implementation stage. The generation stage ends, meaning the elaboration stage begins, with a relatively abstract initial idea. Theories of creative cognition suggest that as employees flesh out abstract initial ideas with more concrete details, they engage in an iterative,

interpretive process in which they develop a view on what they see as the core concept of the idea (Finke, 1996; Ward et al., 1999). This process of defining the core concept of the idea may help recipients of no and early handoffs develop a relatively unified vision for the product before the implementation stage. We borrow West's (1990: 310) definition of vision as "a valued outcome which represents a higher order goal and motivating force at work." Entering the implementation stage with a relatively unified vision for the product may help recipients of no and early handoffs build more coherent—and thus more creative—final products than recipients of late handoffs.

In addition, recipients of serialized late handoffs may pursue a vision that better coheres with their predecessor's vision than recipients of late handoffs. Given that the creative cognition literature focuses on individuals developing their own ideas, this assertion is more speculative than our theorizing regarding the impact of serialized late handoffs on psychological ownership. Nonetheless, we speculate that knowing that their role is the last in a sequence of three individuals, as opposed to simply taking over an idea from one other individual, may compel recipients of serialized late handoffs to stay on the same trajectory as their predecessor. Because the ideas have presumably been shaped and vetted by two other people independently, recipients of serialized late handoffs may see their role as carrying forth their predecessor's vision, rather than putting their own spin on the idea they are handed. Anchoring one's thinking to others' ideas is often harmful to creativity during the early stages of idea generation and elaboration (Kohn & Smith, 2011; Larey & Paulus, 1999). But for idea implementation, recipients of serialized late handoffs may benefit from building on their predecessor, as staying true to the core concept that their predecessor had in mind may help them build a more coherent final product. Moreover, seeing their role as the implementer of their predecessor's vision may increase the coherence of implementers' products without substantially undermining their sense of psychological ownership, as they have a unique

set of responsibilities in the sequence of roles that enables them to control, get to know, and invest themselves into the product as much or more than their two predecessors.

In sum, as compared to the other three handoff types (no, early, and serialized late), recipients of late handoffs may lack commitment to a unified vision for the emerging product that they are expected to finalize. Without a unified vision to guide how different elements or parts should come together as a whole during implementation, recipients of late handoffs may go in their own direction, completing the plans they have been handed with parts or elements that are most easily retrieved from their base of knowledge and experience (Dane, 2010; Ward et al., 1999). This is likely to undermine the coherence—and thus creativity—of their final products. In this way, although combining individuals' differing perspectives may be beneficial to creativity during idea generation or elaboration (Paulus & Yang, 2000), it may backfire during idea implementation for recipients of late handoffs.

Hypothesis 3 (H3). The negative effect of late handoffs on creativity is mediated by product coherence, such that implementers who receive late handoffs build less coherent—and thus less creative—final products than implementers who receive a.) no handoffs, b.) early handoffs, and c.) serialized late handoffs.

STUDY 1: METHODS

Data Collection and Procedures

For Study 1, we assembled an archival dataset of the film industry in the U.S., focusing on 5,676 films released from 1990-2016. The goal of Study 1 was to test the impact of handoff type on creativity (H1) in a real-life creative industry. Following guidelines for archival research (Barnes, Dang, Leavitt, Guarana, & Uhlmann, 2018), we focused on the variables that could be validly measured on a relatively large scale: handoff type and creativity. We complement this archival study with Study 2, an experimental test of the whole model, including the two mediation hypotheses (H2 and H3).

The film industry is representative of the contexts that are the focus of our theorizing. Films are discrete creative projects that unfold through the three stages in our theorizing (Perry-Smith & Mannucci, 2017), providing variance in handoff type. Film directors are the principal driver of the implementation stage, but they may or may not drive the generation and elaboration stages, as other individuals may generate the initial idea and/or write the screenplay. This mirrors many other creative domains, including the examples in the first paragraph of this paper. Also, creativity is valued—and explicitly evaluated—in the film industry, providing meaningful incentives to produce creative films (Elsbach & Kramer, 2003).

To identify the 5,676 films included in our analyses, we started with the list of movies in OpusData, a professionally assembled dataset capturing feature film releases in the U.S. since 1915, which is roughly when the industry originated (Thomson, 2006). This preliminary list included 24,850 films released from 1915-2016. Our main source of data for the independent variable (handoff type) and control variables was IMDb (Internet Movie Database). Data were available on IMDb for 82% of films on the preliminary list, narrowing the number of films in the dataset to 20,326. Films missing from IMDb tended to be relatively obscure, and thus were likely not meaningful comparisons to the more mainstream films included in the dataset.

The set of 20,326 films was used to create control variables. However, the observations in our analyses are a narrower subset of 5,676 films that were selected to ensure the sample was appropriate for testing the proposed theorizing. Our approach was to select the broadest possible subset of films that would enable a valid and relatively precise test of H1. First, because our dependent variable was critic scores from Rotten Tomatoes, films without such scores were omitted ($n = 6,088$). Second, to mitigate biases that may come from critics reviewing films with established reputations, we omitted films released prior to 1990 ($n = 2,568$). For films older than this cutoff, most of the critic reviews that Rotten Tomatoes scored were published many years after

the original release of the film, usually when the film was released on DVD, Blu-ray, or back to theaters. Third, we omitted films that had more than one individual credited for any of the three stages in our theorizing ($n = 5,957$). This ensured that one person was the principal driver of each stage, facilitating consistent and fair comparisons between the four handoff types.

Next, to categorize the final sample of 5,676 films into the four handoff types, we used films' writer and director credits to determine the individuals credited for each of the three stages. The Writers Guild of America (WGA) has well-established rules for determining writer credits (see WGA, 2018). The rules require that writer credits for a given film distinguish between the writers who created the initial story/characters (generation stage) and those who wrote the screenplay (elaboration stage), while director credits (implementation stage) are listed separately. Thus, using the writer and director credits for a given film, we delineated the individuals credited for each of the three stages. See Online Appendix A for a more detailed description of this process.

Films were *late handoff* if another person drove both generation and elaboration before the director then drove implementation ($n = 1,604$; 28.26%). Films were *no handoff* if the director drove all three stages ($n = 2,821$; 49.70%). Films were *early handoff* if another person drove generation before the director then drove both elaboration and implementation ($n = 483$, 8.51%). Lastly, films were *serial late handoff* if one person drove generation—then a second person drove elaboration—before the director then drove implementation ($n = 768$; 13.53%).

Measures

Creativity. Following past research on the creativity of feature films, we based our measure of creativity on the evaluations of professional film critics (Plucker, Holden, & Neustadter, 2008; Simonton, 2002, 2004, 2005). Creativity is at the core of what film critics evaluate in their reviews, as they are expected to assess films' novelty and usefulness in providing the intended form of entertainment (Baumann, 2001; Simonton, 2011). We collected critic scores from Rotten

Tomatoes, a website that aggregates critics' reviews into composite scores. The scoring procedures used by Rotten Tomatoes align with the Consensual Assessment Technique (CAT) for measuring creativity (Amabile, 1996). The essence of the CAT is having raters with relevant expertise independently rate the creativity of a given set of products, and then creativity is captured by the average of their ratings. Rotten Tomatoes works similarly: critics publish reviews to their respective publications independently, and then the website aggregates them into 0-10 composite scores for each film. Rotten Tomatoes also provides a 0-100 percentage score reflecting the proportion of critics who rated the film positively vs. negatively. We primarily report results for the 0-10 mean ratings, as the mean scores are more consistent with the CAT and more granular than the percentage scores (e.g., a film with all mediocre reviews could score 4.9/10 but 0/100%).

To examine the validity of using Rotten Tomatoes scores to measure creativity, we had independent raters assess the extent to which creativity was reflected in a subset of critic reviews scored by Rotten Tomatoes. In particular, we collected independent ratings of 2,000 critic reviews on 200 films (ten reviews per film). We recruited 2,000 independent raters, who each assessed 20 critic reviews. Results from these independent ratings support the validity of using Rotten Tomatoes scores to measure creativity. See Online Appendix B for details on the data collection procedures and full results, as well as excerpts from critic reviews that describe high or low levels of creativity. Lastly, to address the possibility that results could be biased by idiosyncrasies in Rotten Tomatoes' scoring system, we also collected all available critic scores from MetaCritic (an aggregator of critic reviews like Rotten Tomatoes) and user/audience scores from IMDb. We report results using these additional dependent variables, including the 0-100% Rotten Tomatoes scores, as supplementary analyses.

Controls. We created control variables to help rule out potential confounds (see Table 1 for descriptive statistics). First, given that some films were scored by many more critics than others,

we collected the number of critics who reviewed each film on Rotten Tomatoes. Second, past research on creators' careers highlights the importance of experience and quantity of products (e.g., Kozbelt, 2008; Simonton, 1997). Thus, we controlled for the cumulative count of films for which the director and writer(s) received director or writer credits prior to the focal film. Third, given that prior collaborations may facilitate intersubjectivity between writer and director (Seidel & O'Mahony, 2014), we controlled for the mean number of films on which the director had worked with each writer on the film. Fourth, to help control for history effects such as cumulative advantage (Merton, 1968), we calculated the cumulative mean critic score for the director and writer(s) prior to the focal film, and we also created a dummy for whether the film was a sequel. When it was a director's first film or the film had no writers apart from the director (no handoff), the sample mean critic score was used. Fifth, in light of evidence on the importance of genre in the film industry (Hsu, 2006), we created dummies for each of 23 genres from IMDb represented in the sample. Sixth, to help control for possible changes in the film industry or Rotten Tomatoes' method over time, we created sets of dummies for the release year of the film (1990-2016), and directors' career start year, which was the earliest year they received a writer or director credit (1957-2016). Lastly, given that studios can vary widely in their goals and resources, we collected the primary studio associated with each film—between multiple sources, we identified a studio for 98% of films (the remaining 2% were treated as if they were from the same studio in the analyses).

 Insert Table 1 about here

STUDY 1: RESULTS AND DISCUSSION

The models in Table 2 test the three components of H1. To account for the fact that films (level 1) were cross-nested in directors (level 2) and studios (level 3), we used random-intercept models (Raudenbush & Bryk, 2002). Model 1 tests H1 without fixed controls, Model 2 includes

controls except for the three sets of dummies, and Model 3 includes all controls. To facilitate interpretation, all continuous controls were standardized at the sample level, while the dependent variable (creativity measured by Rotten Tomatoes score) was kept in its original 0-10 scale.

Across all models, films with directors who received late handoffs scored significantly lower in creativity than films with directors who received no (H1a), early (H1b), and serialized late (H1c) handoffs. In particular, planned contrasts using the estimates from Model 1 showed that late handoffs ($M = 5.46$, $SE = .05$) scored significantly lower than the other three handoff types: no ($M = 5.98$, $SE = .04$), $p < .001$, $d = .38$, early ($M = 6.01$, $SE = .07$), $p < .001$, $d = .40$, and serialized late ($M = 5.71$, $SE = .06$), $p < .001$, $d = .18$ (see Figure 3). In terms of absolute differences, late handoffs scored 0.52 points below no handoffs, 0.55 points below early handoffs, and 0.25 points below serialized late handoffs. To help put these differences in context, the elite group of 87 films (out of 5,676) that were nominated for the *Academy Award for Best Picture* scored 2.00 points higher on average than the rest of the sample ($SE = .13$, $p < .001$).² Using 2.00 points as a benchmark for a very large practical difference, the point differences between late and the other three handoff types seem large enough to carry practical significance. But given the effect sizes, the disadvantage of late handoffs is likely more meaningful in comparison to no and early handoffs than to serialized late handoffs. Although the effects were generally larger with fewer controls (Models 1 and 2), the results remained significant with all controls included (Model 3).

Supplementary Analyses

We ran additional models to test key alternative explanations and robustness. In general, these supplementary results provide further support for H1, with some minor caveats noted. The full models are reported in Online Appendix C, but we summarize some high-level takeaways

² This difference was calculated using Model 1 in Table 2, with a dummy for award nomination.

here. First, supplementary analyses helped rule out the possibility that the advantage of serialized late (vs. late) handoffs was due to benefits of leveraging the work of two writers rather than one (Table C2). Second, the pattern of results was largely consistent using the aforementioned supplementary dependent variables (Table C3). Third, additional analyses helped rule out the possibility that results were meaningfully biased by highly prolific directors (Tables C4 and C5), the exclusion of films released prior to 1990 (Table C6), or films' financial budgets (Table C7).

In sum, the results for Study 1 provide support for H1 in a real-world context. However, Study 1 has a few key limitations that we designed Study 2 to address. First, Study 2 was designed to test the proposed mediators—psychological ownership (H2) and product coherence (H3)—which could not be directly tested in Study 1. Second, because Study 1 was cross-sectional, H1 could not be tested causally. Study 2 is an experiment designed to enable causal inferences. Third, the role of film director may be unique compared to implementer roles in other industries, as the film industry has a relatively specific and strong culture. Thus, we designed Study 2 to simulate handoffs in more typical implementer roles. Fourth, although creativity is at the heart of what film critics evaluate (Simonton, 2011), and the independent ratings we collected suggest that the Rotten Tomatoes scores reflect creativity, this measure may still be relatively noisy compared to more direct measures of creativity. We address this by measuring creativity more directly in Study 2.

Insert Tables 2 and 3 and Figure 3 about here

STUDY 2: METHODS

Participants and Procedures

This second study was an experiment to enable causal tests of H1-H3, complementing the real-world archival data from Study 1. Participants included 600 individuals in the U.S. (53.33%

female, age range: 18-71, $M_{age} = 35.36$, $SD_{age} = 10.32$). They were recruited via Amazon MTurk and compensated \$6.00 for their participation.

We designed the experiment to foster both mundane and psychological realism (Berkowitz & Donnerstein, 1982), while following current recommendations for ensuring high-quality data with online participants (Aguinis, Villamor, & Ramani, 2021; Porter, Outlaw, Gale, & Cho, 2019). To foster mundane realism, the creative task given to participants simulated the sort of creative task that employees may experience in organizations. The task was developing an advertisement for a new food product—a soft pretzel made with cricket flour. This task was divided into separate stages (each described in more detail below), mirroring how the creative process often unfolds in organizations (Amabile, 1988; Perry-Smith & Mannucci, 2017). Along with these sources of mundane realism, psychological realism was fostered in three main ways. First, the creative task embedded participants in a domain that they were likely to care about and know well: consumer food products. Second, to help ensure task significance was high across conditions (Grant, 2008; Hackman & Oldham, 1976), participants were all given the same background information extolling the health and environmental benefits of using cricket flour in food products (see Online Appendix D). Third, in line with research suggesting that creativity is enhanced by setting the explicit goal to produce novel and useful content (Shalley, 1991), participants were given the explicit goal to be creative, which was reinforced with a financial incentive. They were told: “The goal is for your presentation to be creative, meaning both novel and useful for convincing consumers to purchase the product. A large group of consumers will rate the creativity of all the presentations we collect. If your presentation scores in the top 10% of participants, you’ll receive a \$10 bonus.”

When studies are well designed for online platforms such as MTurk, these platforms can provide high-quality data from samples that are more representative of the broader population than in-person lab research (Aguinis et al., 2021; Porter et al., 2019; Walter, Seibert, Goering, &

O’Boyle, 2019). Our experiment was designed to ensure that we collected high-quality data. Because the task was generating open-ended content, participants could not complete the task without actually paying attention (their final ads were presentations consisting of three slides).³ Moreover, the manipulations were an inherent part of the task, making it highly unlikely that participants could overlook their respective manipulations and still complete the task. Additionally, the task did not follow an existing experimental paradigm, mitigating the risk that participants’ experiences in prior studies could bias the results.

The experiment simulated the four handoff types: late, no, early, and serialized late. These four conditions were yoked to one another, such that participants in the late, early, and serialized late conditions were handed ideas/plans created by participants in the no-handoff condition. Because the no-handoff condition had to be run first to collect the ideas/plans that were handed to participants in the other three conditions, the no-handoff condition was not randomly assigned. To address this, we included a separate no-handoff condition that was randomly assigned. Thus, the experiment included a total of five conditions—four yoked conditions and a separate no-handoff condition—each with 120 participants.

The creative task was divided into the three stages in our proposed theorizing (generation, elaboration, implementation). For each stage, the survey would not advance until ten minutes had passed, although participants could spend more time if they wanted (see Online Appendix F for analyses on time spent by stage/condition). As aforementioned, we ran the yoked no-handoff condition first to collect content that was handed to participants in the other three yoked conditions (late, early, and serialized late). Participants in the no-handoff condition completed all three stages of the creative task. In the generation stage, participants were asked to generate an initial idea for

³ A total of 39 individuals completed the survey but did not submit an advertisement as instructed—they submitted a bogus file so the survey would allow them to advance. These 39 improper submissions were replaced. The five conditions did not significantly differ in terms of improper submissions or incomplete surveys.

their advertisement. They were told that their initial idea should capture the general theme or story for their ad that they would eventually create as a slide presentation consisting of three slides. They were also told that their initial idea can be rough and incomplete, but it should be understandable to someone else reading it. To help prevent participants from converging on an obvious idea too quickly (Ward et al., 1999), they were encouraged to spend time brainstorming different possibilities before they committed to one.

Next, in the elaboration stage, participants were asked to flesh out their initial idea in a more detailed outline of their ad. Their initial idea was carried forward to this survey page for their reference. They were given three blank fields to create their outline, one for each slide in their ad. They were told that although they did not need to cover every detail, their outline should be a fairly complete plan and should be understandable to someone else reading it. They were also told “The initial idea is a starting point to build on—you can deviate from it if you'd like.” Lastly, in the implementation stage, participants created their final ad, which consisted of a three-slide presentation. Their initial idea and outline were carried forward to this survey page for their reference. They were told: “Feel free to add any images or whatever content you'd like to your presentation. The outline is a starting point to build on—you can deviate from it if you'd like.”

Once we collected responses from 120 participants in the yoked no-handoff condition, the initial ideas and outlines that these participants created were then used in the other three yoked conditions (late, early, and serialized late). These three conditions were identical to the no-handoff condition, except for the following differences. In the late condition, participants started at the implementation stage, meaning they jumped straight to creating their actual slide presentation. They were “handed” an initial idea and outline from one of the 120 no-handoff participants and told that their role was to pick up where this past participant left off. In the early condition, participants started at the elaboration stage, meaning their first stage was creating an outline. They

were “handed” an initial idea from one of the 120 no-handoff participants and told that their role was to pick up where this past participant left off. In the serialized late condition, participants started at the implementation stage (creating their actual slide presentation). Similar to the late condition, they were “handed” an initial idea and outline from one of the 120 no-handoff participants. However, unlike the late condition, they were told that the initial idea and outline were each created by a different past participant. This was reinforced with headers that read “Initial Idea from Past Participant #1” and “Outline from Past Participant #2.” See Online Appendix D for examples of an initial idea, outline, and two final advertisements—one advertisement that was rated high in creativity and another that was rated low in creativity (both were created by participants who were handed the same initial idea and outline).

A limitation of this yoked design is that the no-handoff condition was not randomly assigned, as we had to finish data collection for this condition first. Thus, we included a separate no-handoff condition in which participants went through the same procedures as the yoked no-handoff condition. Once we reached 120 participants in the yoked no-handoff condition, all subsequent participants were randomly assigned to one of the other four conditions (the three yoked conditions or the separate no-handoff condition). The three yoked conditions each needed 120 participants, as a handoff partner was needed for each participant from the yoked no-handoff condition. For consistency, we also targeted 120 participants in the separate no-handoff condition. This meant that we had 480 slots to fill, 120 for each of the four conditions. The survey was programmed to randomly assign (without replacement) one of these 480 slots to participants, limiting each slot to one participant.

The same posting on MTurk was used to recruit all 600 participants across all five conditions. Once we reached 120 yoked no-handoff participants, we changed the survey link to lead to a revised survey that randomly assigned participants to the remaining four conditions. All

participants were told that the survey should take them about 45 minutes, and that the survey would consist of two parts, the first of which was the creative task (the second was a post-survey). However, participants were not told how long each of the two survey parts would take. This helped ensure that participants expected the same hourly pay rate as they worked on the creative task, regardless of their condition.

Measures

Creativity and product coherence. To measure the creativity and product coherence of participants' final ads, we used the Consensual Assessment Technique (Amabile, 1996). To avoid common method biases (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), independent sets of raters assessed creativity and product coherence. Across the two measures, a total of 600 consumers in the U.S. were recruited through MTurk to serve as independent raters (45.67% female, age range: 19-74, $M_{age} = 36.39$, $SD_{age} = 10.76$). Each rater was compensated \$6.00.

Given the large volume of content to be rated, we randomly divided the ads into separate rater groups. Specifically, participants' 600 final ads were randomly divided into ten groups of 60 ads. For each measure (creativity and product coherence), 30 raters were randomly assigned to each of the ten groups. Thus, each rater assessed 60 ads and each ad was rated by 30 raters for creativity and 30 separate raters for product coherence (respondents who failed attention checks were discarded and replaced until each group had 30 valid responses⁴). Each group of 60 ads included 12 ads from each of the five conditions. Ads from the same yoked group were assigned to different rater groups, which prevented raters from evaluating multiple ads that derived from the same initial idea/outline. This grouping approach enabled us to calculate interrater reliability and agreement across all rater groups ($ICC(1,30)$), as well as interrater reliability within each group of

⁴ We included two attention checks in each rater group. Pages asking the rater to fill in either all 2's or all 5's were displayed, which otherwise looked like the survey pages raters completed. Across measures in Study 2, 32% of respondents failed one or both attention checks and were thus discarded and replaced.

30 raters ($ICC(2,30)$) (LeBreton & Senter, 2008; Shrout & Fleiss, 1979). All measures and rater groups met conventional standards for interrater reliability and agreement. For creativity, $ICC(1,30) = .91$ and $ICC(2,30)$ ranged .91-.96. For product coherence, $ICC(1,30) = .79$ and $ICC(2,30)$ ranged .81-.91.

Consistent with how creativity was defined to participants in the experiment, creativity was defined to raters as “Overall degree to which the ad is both novel and useful,” which they evaluated on a 7-point scale (1 = “extremely low”, 7 = “extremely high”). Raters also assessed novelty and usefulness separately so that we could examine how each dimension compared to overall creativity (e.g., Berg, 2014; Rietzschel, Nijstad, & Stroebe, 2010). Novelty was defined as “Degree to which the ad is unique.” Usefulness was defined as “Degree to which the ad is effective.” Means by condition for novelty and usefulness separately are reported in Online Appendix E. Product coherence was defined to raters as the “Degree to which the different parts or elements of the ad work well together as a whole,” which they rated using the same scale as the creativity raters.

As expected, overall creativity was highly correlated with both novelty ($r = .91, p < .001$) and usefulness ($r = .85, p < .001$). Also as expected, product coherence was significantly correlated with overall creativity ($r = .70, p < .001$). Supporting the discriminant validity of product coherence versus creativity, product coherence was substantially less correlated with novelty ($r = .53, p < .001$) than usefulness ($r = .81, p < .001$). This makes conceptual sense, as we would expect product coherence to correlate with both dimensions but diverge more from novelty than usefulness (whereas overall creativity was highly convergent with both novelty and usefulness). See Online Appendix E for confirmatory factor analyses that further support the discriminant validity of product coherence versus overall creativity.

Because the proposed theorizing focuses on the implementation stage, it is important that the experimental design can isolate the impact of the implementation stage on the final product. To this end, we used similar procedures to collect independent ratings of the creativity and coherence of participants' initial ideas and outlines (see Online Appendix F for further detail). These supplementary data suggest that the conditions did not differ in creativity or coherence heading into the implementation stage, meaning that any significant differences between conditions could be attributed to participants' behavior during the implementation stage.

Psychological ownership. We measured psychological ownership using six items adapted from measures of psychological ownership in prior research (Baer & Brown, 2012; Pierce, O'Driscoll, & Coghlan, 2004; Van Dyne & Pierce, 2004): "I feel a high degree of personal ownership over this presentation"; "I sense that this presentation is mine"; "I feel like this is my presentation"; "I do not feel a sense of ownership over this presentation" (reverse-scored); "It is hard for me to think of this presentation as mine" (reverse-scored); "This presentation belongs to me" ($\alpha = .93$). Participants rated these items directly after submitting their final ads using a 7-point Likert-type scale (1 = "strongly disagree", 7 = "strongly agree"). As expected, psychological ownership was significantly correlated with creativity ($r = .27, p < .001$). Psychological ownership also had a significant but relatively small correlation with product coherence ($r = .13, p = .002$).

STUDY 2: RESULTS AND DISCUSSION

To account for clustering of the four yoked conditions, we used random-intercept models (Raudenbush & Bryk, 2002). A random intercept for yoked group was included in each model. The 480 participants in the four yoked conditions were clustered into 120 yoked groups (coded 1-120). The 120 participants in the separate no-handoff condition were each assigned to their own yoked group (coded 121-240). This approach accounted for the clustered nature of the data while allowing all 600 participants to be included in the same model(s). Results were virtually identical

when the separate no-handoff condition was analyzed independently from the four yoked conditions, and thus we report models with all five conditions included for conciseness.

Negative Effect of Late Handoffs on Creativity (H1)

Model 1 in Table 3 tests H1, which posits that the late-handoff condition should finish lower in creativity than the other four conditions. In support of H1, late handoff finished significantly lower in creativity than each of the other four conditions (see means in Table 4): no (yoked), $b = .32$, $p = .002$, $d = .37$, early, $b = .28$, $p = .006$, $d = .32$, serialized late, $b = .30$, $p = .003$, $d = .34$, and no (separate), $b = .24$, $p = .02$, $d = .27$. No other comparisons between conditions were significant. As displayed in Figure 4, late handoff finished well below the sample mean in creativity, whereas the other four conditions finished slightly above the sample mean. These results provide additional support for the three components of H1.

Psychological Ownership (H2) and Product Coherence (H3) as Mediators

We used Models 2-4 in Table 3 to test whether the negative effect of late handoffs on creativity was mediated by psychological ownership (H2) and product coherence (H3). See Table 4 and Figure 4 for means by condition. Consistent with H2 and H3, late handoff was significantly lower in psychological ownership and product coherence than each of the other conditions, with one exception. Although late handoff was numerically lower in psychological ownership than serialized late handoff, this difference was not significant ($p = .10$). As displayed in Figure 4, late handoff was well below the sample mean in both psychological ownership and product coherence, whereas the other conditions were slightly above the sample mean (except serialized late handoff, which was slightly below the mean in psychological ownership).

To calculate 95% confidence intervals testing the indirect effects proposed in H2 and H3, we used the Monte Carlo method recommended for multilevel mediation (Bauer, Preacher, & Gil, 2006). For psychological ownership (H2), the indirect effects were significant for three of four

conditions (vs. late): no (yoked) [.04, .13], early [.02, .10], and no (separate) [.03, .13]. The indirect effect was not significant for serialized late [-.007, .08]. For product coherence (H3), the indirect effects were significant for all four conditions (vs. late): no (yoked) [.17, .42], early [.14, .40], serialized late [.16, .42], and no (separate) [.12, .42]. These results support H2 and H3, except the results for H2 were not significant for serialized late vs. late handoff.

 Insert Tables 3 and 4 and Figure 4 about here

Supplementary Analyses on Changes Made During the Implementation Stage

Results from Study 2 suggest that the late-handoff condition fell behind the other conditions in coherence and creativity during the implementation stage.⁵ To unpack how and why this occurred, we collected supplementary ratings of the changes that participants made during the implementation stage (from their outline to their final ad). See Online Appendix F for more detail on these ratings and the analyses summarized here. Results suggest that while a moderate degree of change was optimal, late-handoff participants tended to change the content of their emerging products too much. In the four conditions other than late handoff, participants tended to make refinements and enhancements to the core concept with which they started the implementation stage. In contrast, late-handoff participants tended to make more drastic changes that strayed from the core concept they were handed, presumably because they were not very committed to this core concept. In turn, their relatively drastic changes reduced the coherence and creativity of their final products. These results support the theorizing for H3, and also fit past research showing that those

⁵ The generation and elaboration stages also mattered, as the creativity of the output during these first two stages significantly predicted final creativity (see correlations in Table F1 in Online Appendix F). This is consistent with past studies that track ideas over time, which show that early quality significantly predicts final quality, but plenty of variance in final quality is also explained by later stages (Berg, 2014; Kornish & Ulrich, 2014).

higher in psychological ownership tend to stay committed to the core concept of their ideas, while those lower in psychological ownership are less committed to doing so (Baer & Brown, 2012).

GENERAL DISCUSSION

Across two studies—an archival study of the U.S. film industry and a complementary experiment—we tested hypotheses on the impact of when and from whom ideas are handed off (if at all) to the individuals who ultimately implement them. Consistent with the proposed hypotheses, results suggest that late handoffs led implementers to build less creative final products than the other three handoff types in our framework. This means it was costly to creativity when individuals implemented mature ideas that were developed by someone else (late handoffs), as opposed to taking charge of the creative process before ideas were mature (no and early handoffs) or after an earlier handoff between two other individuals (serialized late handoffs). Mediation results suggest that late handoffs reduced implementers' creativity by restricting their sense of psychological ownership and the coherence of their final products as compared to the other three handoff types.

Theoretical Implications

Idea implementation. Past research has uncovered important knowledge on the social-political drivers of idea implementation, often focusing on the network structures or team dynamics that help implementers win social support for their creative ideas (e.g., Baer, 2012; Fleming et al., 2007; Miron-Spektor et al., 2011; Perry-Smith & Mannucci, 2017; West, 2002). Our research complements this prior work by advancing theory on the production side of idea implementation—building ideas into tangible final products—which has been largely overlooked. Because plans for new ideas are rarely complete when they are handed off, implementers have degrees of freedom as they build out their emerging products that may make or break the creativity of their final products. In particular, our research suggests that idea implementation may fail not just due to social resistance, but also because implementers may lack the psychological ownership

and coherent vision it takes to build new ideas into creative final products. In Study 2, all conditions entered the implementation stage with equivalent ideas, yet recipients of late handoffs made less creative final ads than recipients of the other handoff types. In this way, our focus on the production side of idea implementation provides a complementary perspective to the social-political focus in prior work.

In addition, our research sheds light on key dynamics between idea implementation and the earlier stages of idea generation and elaboration. In studies that have looked at the whole creative process, from idea generation through implementation, the same creators drive all three stages (e.g., Baer, 2012; Fleming et al., 2007; Kornish & Ulrich, 2014). As a result, little is known about the impact of handoffs between stages, despite the notion that such handoffs are common in organizations. Our results suggest that driving idea generation and elaboration (or just elaboration) positively relates to successful idea implementation, as recipients of no and early handoffs built more creative products than recipients of late handoffs who skipped over generation and elaboration. Furthermore, our research helps explain the mechanisms driving this link between idea generation/elaboration and implementation: psychological ownership and product coherence. Developing ideas before they become relatively detailed plans may give implementers an opportunity to form psychological ownership and a unified vision for the emerging product, facilitating the coherence and thus creativity of their final products.

Moreover, the results on serialized late handoffs suggest that if implementers skip idea generation and elaboration, knowledge of an earlier handoff between these two stages may facilitate their creativity. Implementers' awareness of an earlier handoff was the only difference between the serialized late and late conditions in Study 2. Although the serialized late condition had a clear advantage over the late condition in final creativity, mediation results were not significant for psychological ownership but relatively strong for product coherence. This hints that

product coherence may be a better explanation than psychological ownership for the advantage of serialized late over late handoffs, although more research is needed to test this comparison more directly. Broadly, by advancing theory on the relationship between idea generation/elaboration and implementation, this work helps answer calls for a more complete understanding of dynamics between key parts of the creative process (Amabile & Pratt, 2016).

Handoffs in creative work. Handoffs between individuals have been extensively studied in the medical context, focusing on issues that can arise when a patient's care is handed from one caregiver to another (LeBaron, Christianson, Garrett, & Ilan, 2016; Patterson & Wears, 2010). Handoffs have been largely overlooked in organizational research broadly (Pentland et al., 2017), including in the context of creative work. A key exception is Rouse's (2013) aforementioned research on handoffs in creative work, focusing on how relational dynamics between the givers and receivers of handoffs may impact psychological ownership. We build on this work and advance theory on handoffs in creative work by highlighting the important role of idea maturity in shaping how recipients respond to handoffs. By examining the mediating roles of psychological ownership and product coherence, our research also elucidates the mechanisms through which handoffs to implementers may impact the creativity of their final products.

Given evidence that anchoring effects and path dependencies early in the creative process play an outsized role in shaping the creativity of the final product (Berg, 2014; Kornish & Ulrich, 2014; Ward et al., 1999), one might assume that handoffs late in the creative process would be relatively inconsequential. However, our research suggests that late handoffs to implementers are more consequential for creativity than earlier handoffs. Recipients of late handoffs are handed relatively mature ideas, preventing them from developing psychological ownership or a coherent vision for the product prior to the implementation stage. In contrast, recipients of no and early handoffs scored equally high in creativity (Studies 1 and 2), as well as psychological ownership

and product coherence (Study 2). This suggests that driving just the elaboration stage influences implementers' ultimate creativity to approximately the same extent as driving both generation and elaboration. Moreover, the results on serialized late handoffs suggest that an early handoff between two other individuals may help avoid the negative effects of handing off mature ideas to implementers, assuming implementers are aware of the earlier handoff between the two individuals. In this way, handoffs to implementers may become riskier as the original creator of the idea drives the creative process for longer—once the idea becomes fairly mature, it may be too late for the original creator to hand it off to the implementer without sacrificing creativity.

Psychological ownership and creativity. Our research contributes to the small but growing literature on psychological ownership in creative work. Past research has highlighted that psychological ownership is important in the context of creative work, as multiple individuals often have a claim to ownership in creative projects (Gray et al., 2020; Rouse, 2013). However, little is known about the structural conditions that enable or constrain psychological ownership and how this relates to downstream creativity. Our work sheds light on how the structure of handoffs to implementers shapes their capacity to develop psychological ownership and ultimately the creativity of their final products. In particular, our research emphasizes the importance of the stage at which implementers become the primary driver of the creative process: when creative projects are structured such that implementers receive late handoffs, their psychological ownership and downstream creativity may suffer.

Furthermore, our work hints that psychological ownership may be especially conducive to creativity during the implementation stage of the creative process. Our research suggests that it may be important for implementers to develop psychological ownership before ideas are mature and thus the implementation stage begins, as psychological ownership may be a key driver of creativity during implementation. More research is needed to fully understand when and how

psychological ownership is related to creativity in each stage of the creative process. However, it seems plausible that psychological ownership could be less conducive to creativity in the earlier stages of idea generation and elaboration, as being protective over one's ideas may prevent divergence and exploration (Baer & Brown, 2012; Ward et al., 1999). In contrast, our work suggests that during the implementation stage, psychological ownership may give implementers the conviction that is required to turn new ideas into creative final products.

Limitations and Future Directions

Our studies have important limitations that may be addressed in future research. First, the generalizability of our results may be limited by the uniqueness of the film industry in Study 1 and creative task in Study 2. For instance, the final products in both studies have aesthetics as a key aspect, which may be relevant to interpreting the results. Future research could explore similar dynamics in other contexts to test generalizability and identify boundary conditions. Second, we followed Perry-Smith and Mannucci's (2017) simplifying assumption that one individual can be identified as the principal driver/leader of each stage. Although this is often the case in practice (including for the films in Study 1), multiple individuals may co-lead stages or parts of stages. We see our individual-level focus as a starting point and encourage future research on the effects of shared ownership of stages. Given that collective psychological ownership grows from the same roots as individual psychological ownership (Pierce & Jussila, 2010), we would expect similar results if equally sized groups simply replaced individuals in our handoff framework. The dynamics may become more complex (and potentially more interesting) when the groups vary in size and stability—and handoffs vary in frequency—such that individuals may enter, exit, and re-enter the process in a less structured way than our framework.

Third, in Study 2, psychological ownership was measured after participants finalized their ads, which was a conservative approach given that recipients of late handoffs probably developed

some degree of psychological ownership after working on their ads. If participants rated psychological ownership before the implementation stage, the late-handoff condition may have scored even lower in psychological ownership (but this would likely introduce confounds, which is why we did not use this approach). Similarly, product coherence was based on participants' final products, and therefore Study 2 could not address the cognitive or motivational processes that led product coherence to be lower in the late-handoff condition. Future research could explore other ways of measuring psychological ownership, product coherence, and related processes to complement these limitations in our approach. Fourth, our theorizing focused on late handoffs compared to the other three handoff types, but the results hint that more research may be needed on how the other three handoff types compare to one another. In Study 1, serialized late handoffs scored lower than no and early handoffs, but in Study 2, serialized late handoffs did not differ from no and early handoffs. This is likely due to idiosyncrasies in the two contexts (film industry vs. experiment task). Future research could explore more comparisons between handoff types, complementing our focus on late handoffs versus the other three.

Fifth, our research focused on handoff receivers, but future research could address dynamics between givers and receivers. For instance, in the film industry, directors know the writers' identities and it varies whether writers expect to hand their ideas off (but this could not be measured). In Study 2, participants did not know the identities of the handoff givers or expect to hand their ideas off. Future research could explore the role of prior relationships between givers and receivers and of givers anticipating handoffs. Lastly, in practice, a common rationale for handoffs is leveraging individuals' unique skillsets. In Study 1, many film directors can and do write screenplays, and thus specialized skill presumably played a minimal role in the results, but this could not be tested or ruled out. In Study 2, random assignment held skill constant across conditions, which is how skill is implicitly treated in our theorizing. Future research could unpack

the intersection of handoffs and skill—late handoffs may be beneficial when they help leverage individuals' unique skillsets.

Practical Implications and Conclusion

These studies may offer useful insights for employees in implementer roles and those who manage them. The main takeaway is simple: try to avoid late handoffs. Our results highlight potential risks of specializing in idea implementation. It may be vital for employees tasked with implementing ideas to start driving the process before ideas become too mature. Once the idea is developed into relatively detailed plans, it may be too late for implementers to develop a sufficient sense of psychological ownership or coherent vision, undermining the creativity of their final products. As such, this research suggests that organizations ought to be careful about outsourcing idea implementation. The employee who developed a given idea may be best positioned to implement the idea effectively, assuming the employee has the requisite skillset. Despite the costliness of late handoffs, in Study 1, late handoffs were used for 28.26% of films, which was more frequent than early (8.51%) and serialized late (13.53%) handoffs combined (22.04%). This hints that many managers may not be aware of the costs associated with late handoffs. If handoffs need to occur late in the creative process to leverage employees' specialized skillsets, the results on serialized late handoffs suggest that adding an earlier handoff—and highlighting this to implementers—may facilitate their creativity. Overall, implementers may want to err on the side of jumping in early than risk being too late.

REFERENCES

- Aguinis, H., Villamor, I., & Ramani, R. S. 2021. MTurk research: Review and recommendations. *Journal of Management*, 47(4): 823-837.
- Amabile, T. M. 1988. A model of creativity and innovation in organizations. In B. M. Staw, & L. L. Cummings (Eds.), *Research in Organizational Behavior*, Vol. 10: 123-167. Greenwich, CT: JAI Press.
- Amabile, T. M. 1996. *Creativity in context*. Boulder, CO: Westview Press.
- Amabile, T. M., & Pratt, M. G. 2016. The dynamic componential model of creativity and innovation in organizations: Making progress, making meaning. *Research in Organizational Behavior*, 36: 157-183.
- Anderson, N., Potočnik, K., & Zhou, J. 2014. Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management*, 40(5): 1297-1333.
- Baer, M. 2012. Putting creativity to work: The implementation of creative ideas in organizations. *Academy of Management Journal*, 55(5): 1102-1119.
- Baer, M., & Brown, G. 2012. Blind in one eye: How psychological ownership of ideas affects the types of suggestions people adopt. *Organizational Behavior and Human Decision Processes*, 118(1): 60-71.
- Baker, W. E., & Faulkner, R. R. 1991. Role as resource in the Hollywood film industry. *American Journal of Sociology*, 97(2): 279-309.
- Barnes, C. M., Dang, C. T., Leavitt, K., Guarana, C. L., & Uhlmann, E. L. 2018. Archival data in micro-organizational research: A toolkit for moving to a broader set of topics. *Journal of Management*, 44(4): 1453-1478.
- Bauer, D. J., Preacher, K. J., & Gil, K. M. 2006. Conceptualizing and testing random indirect effects and moderated mediation in multilevel models: New procedures and recommendations. *Psychological Methods*, 11(2): 142-163.
- Baumann, S. 2001. Intellectualization and art world development: Film in the United States. *American Sociological Review*, 66(3): 404-426.
- Bayus, B. L. 2013. Crowdsourcing new product ideas over time: An analysis of the Dell IdeaStorm community. *Management Science*, 59(1): 226-244.
- Berg, J. M. 2014. The primal mark: How the beginning shapes the end in the development of creative ideas. *Organizational Behavior and Human Decision Processes*, 125(1): 1-17.
- Berkowitz, L., & Donnerstein, E. 1982. External validity is more than skin deep: Some answers to criticisms of laboratory experiments. *American Psychologist*, 37(3): 245-257.
- Besemer, S. P., & Treffinger, D. J. 1981. Analysis of creative products: Review and synthesis. *Journal of Creative Behavior*, 15(3): 158-178.
- Brown, G., & Baer, M. 2015. Protecting the turf: The effect of territorial marking on others' creativity. *Journal of Applied Psychology*, 100(6): 1785-1797.
- Buehler, R., Griffin, D., & Ross, M. 1994. Exploring the "planning fallacy": Why people underestimate their task completion times. *Journal of Personality and Social Psychology*, 67(3): 366-381.
- Dane, E. 2010. Reconsidering the trade-off between expertise and flexibility: A cognitive entrenchment perspective. *Academy of Management Review*, 35(4): 579-603.
- Dawkins, S., Tian, A. W., Newman, A., & Martin, A. 2017. Psychological ownership: A review and research agenda. *Journal of Organizational Behavior*, 38(2): 163-183.
- Elsbach, K. D., & Kramer, R. M. 2003. Assessing creativity in Hollywood pitch meetings: Evidence for a dual-process model of creativity judgments. *Academy of Management Journal*, 46(3): 283-301.

- Finke, R. A. 1996. Imagery, creativity, and emergent structure. *Consciousness and Cognition*, 5(3): 381-393.
- Fleming, L., Mingo, S., & Chen, D. 2007. Collaborative brokerage, generative creativity, and creative success. *Administrative Science Quarterly*, 52(3): 443-475.
- Frost, P. J., & Egri, C. P. 1991. The political process of innovation. *Research in organizational behavior*, 13: 229-295.
- Grant, A. M. 2008. The significance of task significance: Job performance effects, relational mechanisms, and boundary conditions. *Journal of Applied Psychology*, 93(1): 108-124.
- Grant, A. M., & Berry, J. 2011. The necessity of others is the mother of invention: Intrinsic and prosocial motivations, perspective-taking, and creativity. *Academy of Management Journal*, 54(1): 73-96.
- Gray, S. M., Knight, A. P., & Baer, M. 2020. On the emergence of collective psychological ownership in new creative teams. *Organization Science*, 31(1): 141-164.
- Hackman, J. R., & Oldham, G. R. 1976. Motivation through the design of work: Test of a theory. *Organizational Behavior & Human Performance*, 16(2): 250-279.
- Hargadon, A., & Sutton, R. I. 1997. Technology brokering and innovation in a product development firm. *Administrative Science Quarterly*, 42(4): 716-749.
- Harvey, S. 2014. Creative synthesis: Exploring the process of extraordinary group creativity. *Academy of Management Review*, 39(3): 324-343.
- Hayes, A. F. 2013. *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford.
- Hirschman, E. C. 1989. Role-based models of advertising creation and production. *Journal of Advertising*, 18(4): 42-53.
- Hsu, G. 2006. Jacks of all trades and masters of none: Audiences' reactions to spanning genres in feature film production. *Administrative Science Quarterly*, 51(3): 420-450.
- Jackson, P. W., & Messick, S. 1965. The person, the product, and the response: Conceptual problems in the assessment of creativity. *Journal of Personality*, 33(3): 309-329.
- King, N. 1992. Modelling the innovation process: An empirical comparison of approaches. *Journal of Occupational and Organizational Psychology*, 65(2): 89-100.
- Kohn, N. W., & Smith, S. M. 2011. Collaborative fixation: Effects of others' ideas on brainstorming. *Applied Cognitive Psychology*, 25(3): 359-371.
- Kornish, L. J., & Ulrich, K. T. 2014. The importance of the raw idea in innovation: Testing the sow's ear hypothesis. *Journal of Marketing Research*, 51(1): 14-26.
- Kozbelt, A. 2008. Longitudinal hit ratios of classical composers: Reconciling "Darwinian" and expertise acquisition perspectives on lifespan creativity. *Psychology of Aesthetics, Creativity, and the Arts*, 2(4): 221-235.
- Larey, T. S., & Paulus, P. B. 1999. Group preference and convergent tendencies in small groups: A content analysis of group brainstorming performance. *Creativity Research Journal*, 12(3): 175-184.
- LeBaron, C., Christianson, M. K., Garrett, L., & Ilan, R. 2016. Coordinating flexible performance during everyday work: An ethnomethodological study of handoff routines. *Organization Science*, 27(3): 514-534.
- LeBreton, J. M., & Senter, J. L. 2008. Answers to 20 questions about interrater reliability and interrater agreement. *Organizational Research Methods*, 11(4): 815-852.
- Lucas, B. J., & Nordgren, L. F. 2015. People underestimate the value of persistence for creative performance. *Journal of Personality and Social Psychology*, 109(2): 232-243.
- Merton, R. K. 1968. The Matthew effect in science. *Science*, 159(3810): 56-63.

- Miron-Spektor, E., Erez, M., & Naveh, E. 2011. The effect of conformist and attentive-to-detail members on team innovation: Reconciling the innovation paradox. *Academy of Management Journal*, 54(4): 740-760.
- O’driscoll, M. P., Pierce, J. L., & Coghlan, A.-M. 2006. The psychology of ownership: Work environment structure, organizational commitment, and citizenship behaviors. *Group & Organization Management*, 31(3): 388-416.
- Patterson, E. S., & Wears, R. L. 2010. Patient handoffs: standardized and reliable measurement tools remain elusive. *The joint commission journal on quality and patient safety*, 36(2): 52-61.
- Paulus, P. B. 2002. Different ponds for different fish: A contrasting perspective on team innovation. *Applied Psychology: An International Review*, 51(3): 394-399.
- Paulus, P. B., & Yang, H.-C. 2000. Idea generation in groups: A basis for creativity in organizations. *Organizational Behavior and Human Decision Processes*, 82(1): 76-87.
- Pentland, B. T., Recker, J., & Wyner, G. 2017. Rediscovering handoffs. *Academy of Management Discoveries*, 3(3): 284-301.
- Perry-Smith, J. E., & Mannucci, P. V. 2017. From creativity to innovation: The social network drivers of the four phases of the idea journey. *Academy of Management Review*, 42(1): 53-79.
- Pierce, J. L., & Jussila, I. 2010. Collective psychological ownership within the work and organizational context: Construct introduction and elaboration. *Journal of Organizational Behavior*, 31(6): 810-834.
- Pierce, J. L., Kostova, T., & Dirks, K. T. 2001. Toward a theory of psychological ownership in organizations. *Academy of Management Review*, 26(2): 298-310.
- Pierce, J. L., Kostova, T., & Dirks, K. T. 2003. The state of psychological ownership: Integrating and extending a century of research. *Review of General Psychology*, 7(1): 84-107.
- Pierce, J. L., O’Driscoll, M. P., & Coghlan, A.-m. 2004. Work environment structure and psychological ownership: The mediating effects of control. *Journal of Social Psychology*, 144(5): 507-534.
- Plucker, J. A., Holden, J., & Neustadter, D. 2008. The criterion problem and creativity in film: Psychometric characteristics of various measures. *Psychology of Aesthetics, Creativity, and the Arts*, 2(4): 190-196.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. 2003. Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5): 879.
- Porter, C. O., Outlaw, R., Gale, J. P., & Cho, T. S. 2019. The use of online panel data in management research: A review and recommendations. *Journal of Management*, 45(1): 319-344.
- Raudenbush, S. W., & Bryk, A. S. 2002. *Hierarchical linear models: Applications and data analysis methods*. Thousand Oaks, CA: Sage.
- Rietzschel, E. F., Nijstad, B. A., & Stroebe, W. 2010. The selection of creative ideas after individual idea generation: Choosing between creativity and impact. *British Journal of Psychology*, 101(1): 47-68.
- Rouse, E. 2013. *Kill your darlings? Experiencing, maintaining, and changing psychological ownership in creative work*. Boston College.
- Seidel, V. P., & O’Mahony, S. 2014. Managing the repertoire: Stories, metaphors, prototypes, and concept coherence in product innovation. *Organization Science*, 25(3): 691-712.
- Shalley, C. E. 1991. Effects of productivity goals, creativity goals, and personal discretion on individual creativity. *Journal of Applied Psychology*, 76(2): 179.
- Shrout, P. E., & Fleiss, J. L. 1979. Intraclass correlations: uses in assessing rater reliability. *Psychological Bulletin*, 86(2): 420.

- Simonton, D. K. 1997. Creative productivity: A predictive and explanatory model of career trajectories and landmarks. *Psychological Review*, 104: 66-89.
- Simonton, D. K. 2002. Collaborative aesthetics in the feature film: Cinematic components predicting the differential impact of 2,323 Oscar-nominated movies. *Empirical Studies of the Arts*, 20(2): 115-125.
- Simonton, D. K. 2004. Group artistic creativity: Creative clusters and cinematic success in feature films. *Journal of Applied Social Psychology*, 34(7): 1494-1520.
- Simonton, D. K. 2005. Film as art versus film as business: Differential correlates of screenplay characteristics. *Empirical Studies of the Arts*, 23(2): 93-117.
- Simonton, D. K. 2011. *Great flicks: Scientific studies of cinematic creativity and aesthetics*. New York: Oxford University Press.
- Smith, S. M., Ward, T. B., & Schumacher, J. S. 1993. Constraining effects of examples in a creative generation task. *Memory & Cognition*, 21(6): 837-845.
- Sternberg, R. J., & Lubart, T. I. 1991. An investment theory of creativity and its development. *Human Development*, 34(1): 1-31.
- Terwiesch, C., & Ulrich, K. T. 2009. *Innovation tournaments: Creating and selecting exceptional opportunities*. Boston: Harvard Business School Press.
- Thomson, D. 2006. *The whole equation: A history of Hollywood*. New York: Vintage.
- Van de Ven, A. H. 1986. Central problems in the management of innovation. *Management Science*, 32(5): 590-607.
- Van Dyne, L., & Pierce, J. L. 2004. Psychological ownership and feelings of possession: Three field studies predicting employee attitudes and organizational citizenship behavior. *Journal of Organizational Behavior*, 25(4): 439-459.
- Walter, S. L., Seibert, S. E., Goering, D., & O'Boyle, E. H. 2019. A tale of two sample sources: Do results from online panel data and conventional data converge? *Journal of Business and Psychology*, 34(4): 425-452.
- Ward, T. B. 1994. Structured imagination: The role of category structure in exemplar generation. *Cognitive Psychology*, 27(1): 1-40.
- Ward, T. B., Smith, S. M., & Finke, R. A. 1999. Creative cognition. In R. J. Sternberg (Ed.), *Handbook of creativity*: 189-212. New York: Cambridge University Press.
- Welch, L. 1946. Recombination of ideas in creative thinking. *Journal of Applied Psychology*, 30(6): 638-643.
- Weick, K. E. 1979. *The social psychology of organizing* (2 ed.). Reading, MA: Addison-Wesley.
- West, M. A. 1990. The social psychology of innovation in groups. In M. A. West, & J. L. Farr (Eds.), *Innovation and creativity at work*: 309-333. Chichester, England: Wiley.
- West, M. A. 2002. Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups. *Applied Psychology*, 51(3): 355-387.
- WGA. 2018. Writers Guild of America: Screen credits manual. *Writers Guild of America*. https://www.wga.org/uploadedfiles/credits/manuals/screenscredits_manual18.pdf.

TABLE 1**Study 1: Correlations and Descriptive Statistics**

Variable	1	2	3	4	5	6	7	8
1. Creativity (RT Critic Score)								
2. Number of Critics	.24							
3. Prior Film Count for Director	-.01	.36						
4. Prior Film Count for Writer(s)	-.06	.16	.16					
5. Prior Experience with Writer(s)	.02	.07	.15	.25				
6. Prior RT Critic Score Mean for Director	.32	.16	.06	-.01	.05			
7. Prior RT Critic Score Mean for Writer(s)	.19	.01	-.02	-.03	.09	.15		
8. Sequel (yes vs. no)	-.10	.08	.05	.12	.11	-.09	-.09	
Mean	5.81	59.49	2.89	1.27	1.06	6.08	6.03	0.03
Standard Deviation	1.38	60.26	4.77	3.85	0.38	0.81	0.52	0.17
Minimum	0.00	5	0	0	1	1.40	2.30	0
Maximum	9.20	400	46	54	9	9.20	8.80	1
Median	5.90	34	1	0	1	6.07	6.07	0

Notes: Correlations greater than .03 and less than -.03 were significant at $p < .05$.

For brevity, the three lengthy sets of dummies are excluded. See Table C1 in Online Appendix C for complete lists of these dummies.

TABLE 2

Study 1: Random-Intercept Models Testing H1

	Model 1	Model 2	Model 3
	No Controls	Some Controls (No Dummies)	All Controls (With Dummies)
<i>Handoff Type (vs. Late Handoff):</i>			
No Handoff (H1a)	.52*** (.04)	.42*** (.04)	.38*** (.04)
Early Handoff (H1b)	.56*** (.07)	.34*** (.06)	.29*** (.06)
Serialized Late Handoff (H1c)	.26*** (.06)	.18*** (.05)	.13** (.05)
<i>Controls:</i>			
Number of Critics		.46*** (.02)	.66*** (.02)
Prior Film Count for Director		-.10*** (.02)	-.05 (.03)
Prior Film Count for Writer(s)		-.05** (.02)	-.03* (.01)
Prior Experience with Writer(s)		.03 (.02)	.03* (.02)
Prior RT Critic Score Mean for Director		.27*** (.02)	.17*** (.02)
Prior RT Critic Score Mean for Writer(s)		.14*** (.02)	.10*** (.01)
Sequel (yes vs. no)		-.47*** (.09)	-.22* (.09)
Genre Dummies			Included ^a
Release Year Dummies			Included ^a
Director Career Start Year Dummies			Included ^a
Fixed Intercept	5.46*** (.05)	5.69*** (.04)	7.98*** (1.06)
Random Intercept: Level 2 (Director)	.65*** (.06)	.26*** (.06)	.21*** (.06)
Random Intercept: Level 3 (Studio)	.30*** (.04)	.29*** (.04)	.25*** (.03)
Observations (Films)	5,676	5,676	5,676
Directors	3,535	3,535	3,535
Studios	996	996	996
Log-Likelihood	-9,550.50	-9,015.94	-8,491.63

Notes: Standard errors in parentheses. All continuous control variables were standardized.

^a Results for these lengthy sets of dummies were excluded for brevity. See Table C1 in Online Appendix C for full results.

* $p < .05$

** $p < .01$

*** $p < .001$

TABLE 3

Study 2: Random-Intercept Models Testing H1-H3

Dependent Variable:	Model 1	Model 2	Model 3	Model 4
	(H1)	(H2)	(H3)	(H2 and H3)
	Creativity	Psych. Own.	Prod. Coh.	Creativity
<i>Condition (vs. Late Handoff):</i>				
No Handoff	.32** (.10)	.57*** (.15)	.31*** (.07)	-.05 (.07)
Early Handoff	.28** (.10)	.41** (.15)	.29*** (.07)	-.04 (.07)
Serialized Late Handoff	.30** (.10)	.24 (.15)	.31*** (.07)	-.02 (.07)
No Handoff (Separate)	.24* (.11)	.56*** (.15)	.28** (.08)	-.10 (.08)
Psychological Ownership				.14*** (.02)
Product Coherence				.94*** (.04)
Fixed Intercept	3.54*** (.08)	5.21*** (.10)	4.44*** (.06)	-1.35*** (.20)
Random Intercept (Yoked Group)	.04 (.00)	.00 (.00)	.06*** (.02)	.04** (.01)
Log-Likelihood	-736.82	-929.31	-539.96	-516.59

Notes: All three continuous variables are in their original 7-point scale.

* $p < .05$

** $p < .01$

*** $p < .001$

TABLE 4
Study 2: Means by Condition

Condition	Creativity	Psychological Ownership	Product Coherence
Late	3.54 (.71)	5.21 (1.25)	4.44 (.76)
No	3.86 (.87)	5.78 (1.05)	4.76 (.52)
Early	3.82 (.81)	5.62 (1.16)	4.73 (.51)
Serialized Late	3.84 (.75)	5.45 (1.15)	4.75 (.59)
No (Separate)	3.78 (.98)	5.78 (1.10)	4.72 (.61)
All Conditions	3.77 (.84)	5.57 (1.16)	4.68 (.62)

Notes:

Standard deviations are in parentheses.

For each condition, $n = 120$ participants ($N = 600$ participants total).

FIGURE 1
Handoff Types

	Generation	Elaboration	Implementation
Late Handoff	Creator		Implementer
No Handoff	Implementer		
Early Handoff	Creator	Implementer	
Serialized Late Handoff	Creator A	Creator B	Implementer

FIGURE 2
Visual of Hypothesized Model

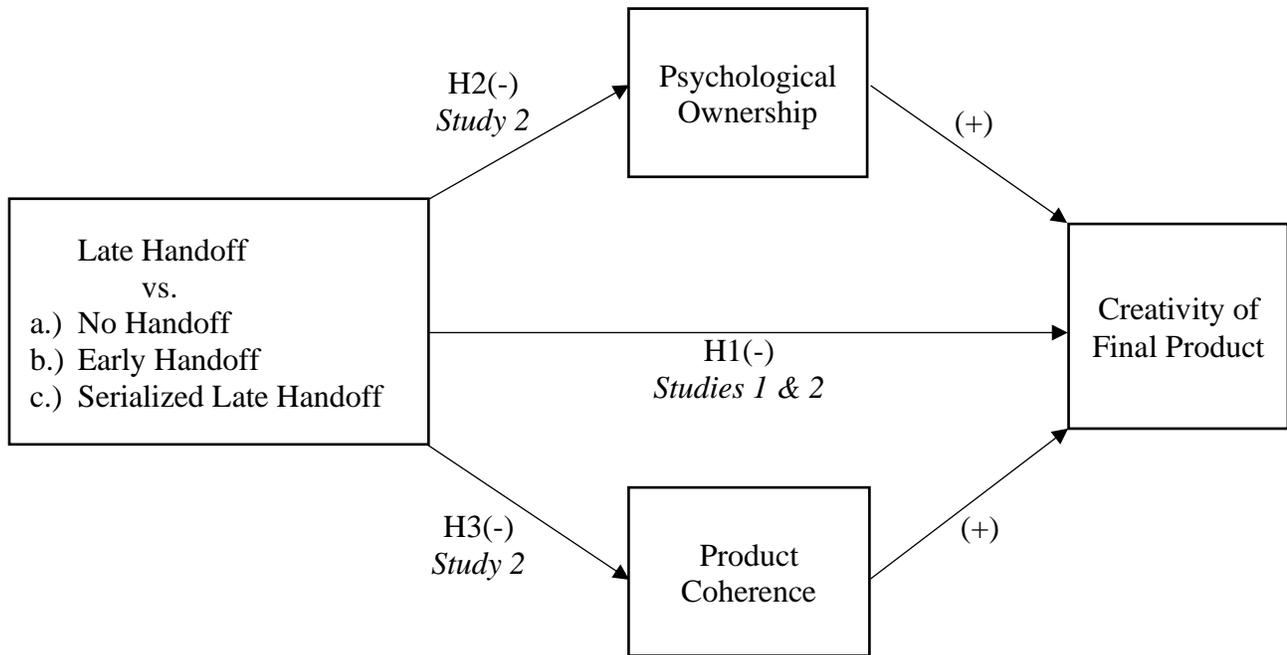
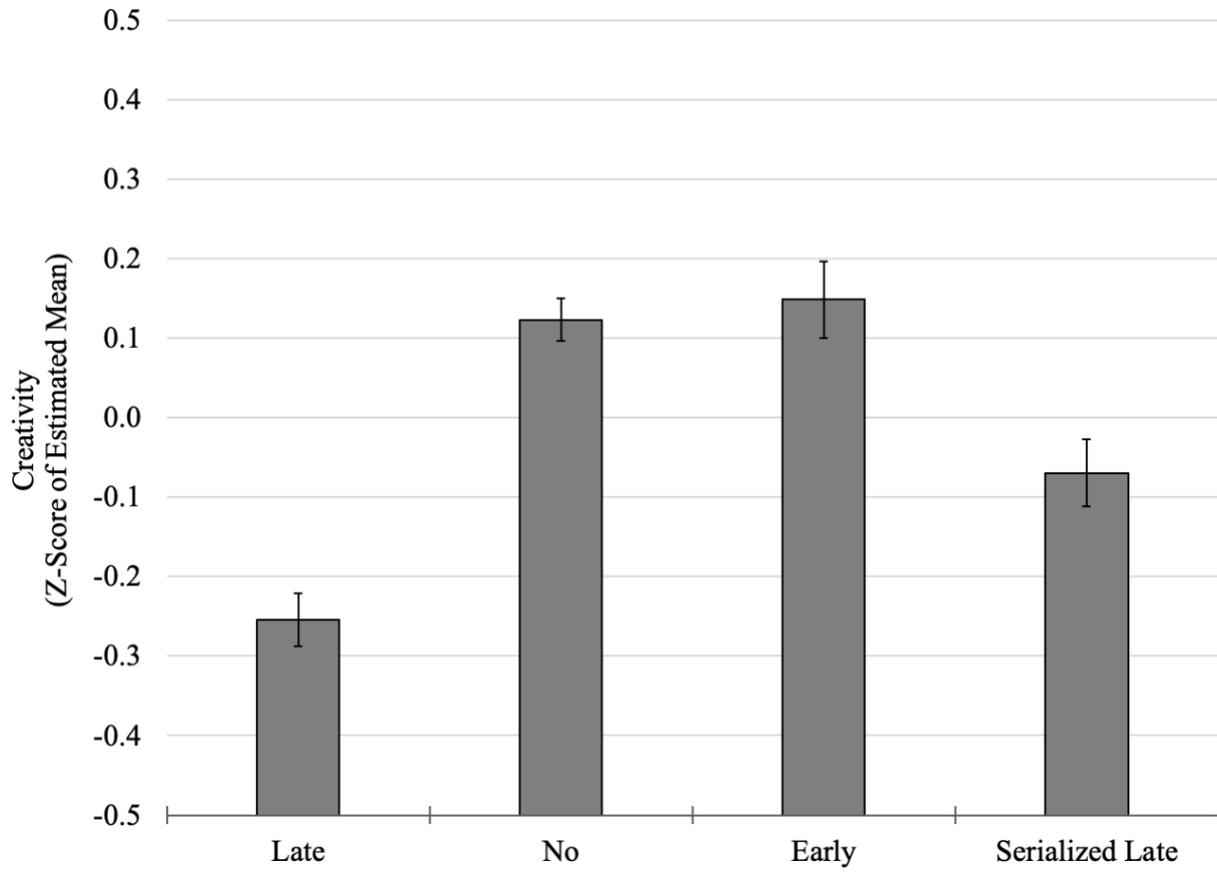
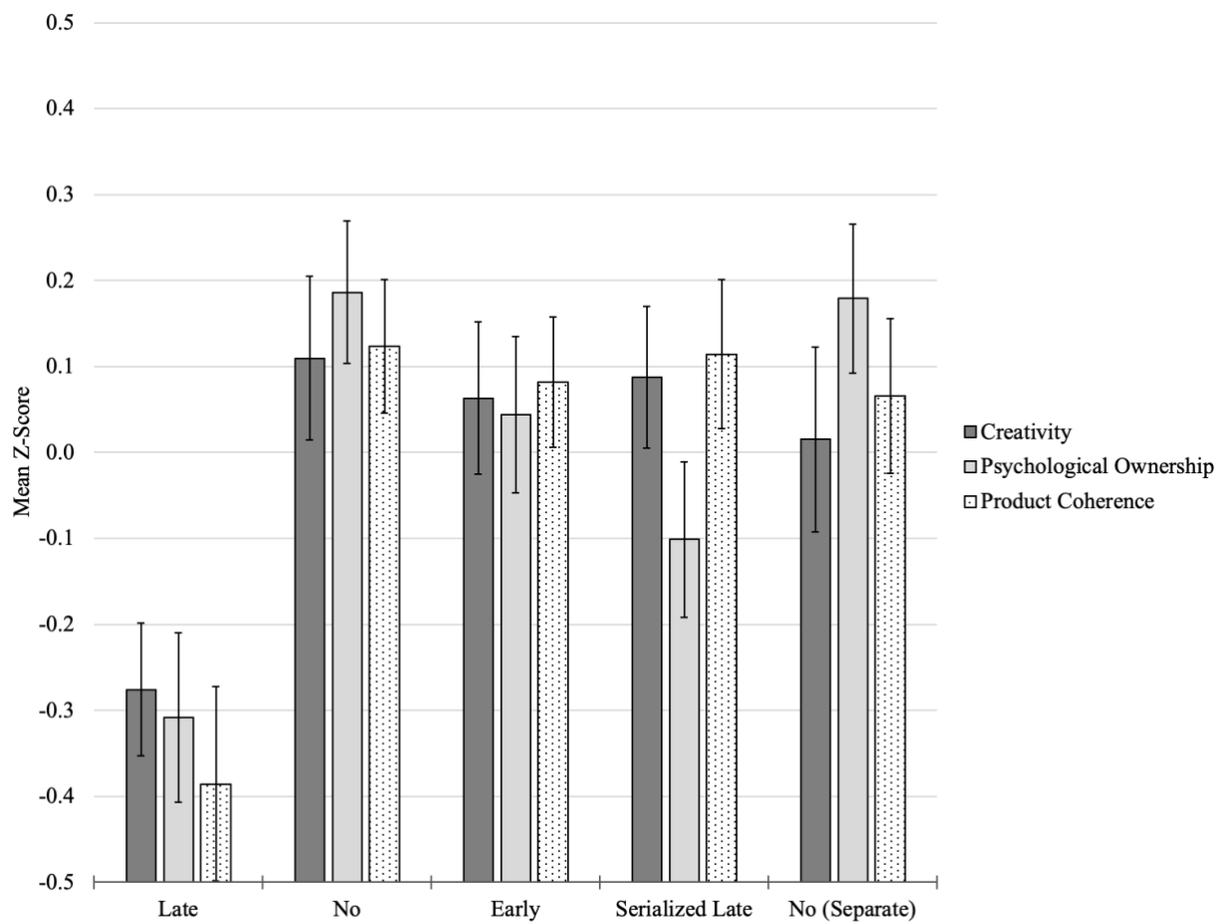


FIGURE 3**Study 1: Mean Creativity by Handoff Type**

Notes: Z-scores are based on the estimated marginal means from Model 1 in Table 2. Error bars are ± 1 SE.

FIGURE 4

Study 2: Means by Condition



Note: Error bars are ± 1 SEM.