

RESEARCH ARTICLE

Passion at work: A meta-analysis of individual work outcomes

Jeffrey M. Pollack¹ | Violet T. Ho² | Ernest H. O'Boyle³ | Bradley L. Kirkman¹¹Poole College of Management, North Carolina State University, Raleigh, North Carolina, U.S.A.²Robins School of Business, University of Richmond, Richmond, Virginia, U.S.A.³Kelley School of Business, Indiana University Bloomington, Bloomington, Indiana, U.S.A.**Correspondence**Jeffrey M. Pollack, Poole College of Management, North Carolina State University, Raleigh, NC 27695.
Email: jeff_pollack@ncsu.edu**Summary**

Academic research on passion is much more complex than the extant literature or popular press portray. Although research on work-related passion has progressed rapidly over the last decade, much remains unknown. We are now just beginning to recognize the different theoretical underpinnings and empirical operationalizations that work passion research has adopted, and the confusion this has generated hampers our understanding of the construct and its relationship to workplace outcomes. Accordingly, we use a meta-analytic examination to study the work-related outcomes of three dominant literature streams of work passion: general passion, dualistic passion (i.e., harmonious passion and obsessive passion), and role-based passion (i.e., passion for developing, passion for founding, and passion for inventing). We employ meta-analytic techniques using random effects modeling summarizing 106 distinct samples across 87 manuscripts totaling 384 effect sizes (total unique $N = 38,481$; 43.54% women, average age is 38.04). Importantly, we highlight how each of the three streams of passion relates to various outcomes differently, illuminate several important heretofore undetected nuances in passion research, and provide a roadmap for future inquiry on passion at work.

KEYWORDS

dualistic model of passion, entrepreneurial passion, general work passion, meta-analysis, role-based passion

1 | INTRODUCTION

Contemporary perspectives on passion, both in the academic literature and the popular press, support the premise that passion for one's work is generally desired due to a plethora of positive outcomes, including perceived meaning, persistence, overall success, enthusiasm, financial gain, and happiness (Vallerand & Houliort, 2019; Vallerand, Houliort, & Forest, 2014). When passion is lacking, individuals are urged to "rediscover their passion for work and life" (Boyatzis, McKee, & Goleman, 2002, p. 5). Given the apparent consensus as to the positive aspects of passion, it is perhaps not surprising that passion research has progressed rapidly over the last decade, with a proliferation of passion-focused work emerging in the form of hundreds of popular press books (e.g., Anderson, 2010; Gostick & Elton, 2014; Guillebeau, 2012; Miller, 2009) as well as scholarly publications.

However, a closer look at studies related to passion at work reveals a surprisingly nuanced literature. On the popular press side, a recent *New York Times* opinion piece asked, "Should Work Be Passion, Or Duty?" (DeBrabander, 2019). On the academic side, distinct streams of research on work passion have emerged and progressed independently of one another, with little integration or cross-pollination across streams. For instance, some scholars define and measure work passion as simply love of one's work (Baum & Locke, 2004), whereas others construe passion as involving not only positive feelings but also meaning and salience to one's identity (e.g., Cardon, Wincent, Singh, & Drnovsek, 2009). As another example of the field's divergence, some studies found that passion is positively related to firm performance (e.g., Ho & Pollack, 2014), whereas others failed to find a linkage to firm growth (e.g., Baum & Locke, 2004). Problematically, this divergence in construct definition, empirical measurement,

and outcomes of work passion not only contributes to potential construct proliferation, but also makes it difficult for scholars and practitioners to reach a consensus on what passion truly is and why it matters (or should matter) in the workplace.

To the extent that the different conceptualizations and measures of passion relate to similar outcomes in an analogous fashion, this underscores a need to synthesize and integrate various streams into one and generalize findings from one stream to the others, rather than “reinventing the wheel” and examining research questions that have already been addressed (albeit by researchers in a different passion stream). In contrast, if the various streams of passion differentially relate to work outcomes, this suggests that each stream offers unique value and merits separate attention and that subsequent research should be explicit on the form of passion being examined and avoid conflating that with other conceptualizations of passion.

Our research objectives are to (a) ascertain key work outcomes related to the different passion constructs; (b) identify similarities and/or differences in the passion-to-outcome relationships across the different streams; and, ultimately, (c) determine how each passion stream can inform the others, whether certain passion streams should be synthesized and combined and/or whether a particular passion conceptualization warrants treatment as an independent construct. We describe and compare three major streams of passion research: general passion, dualistic passion (i.e., harmonious passion and obsessive passion), and role-based passion (i.e., passion for developing, passion for founding, and passion for inventing).

Although research on general passion defines it as one's love of work (Baum & Locke, 2004), the other two streams include an identity element, such that passion not only involves positive feelings toward work but also incorporates the work into one's identity (Cardon et al., 2009; Vallerand et al., 2003). In addition, role-based passion, primarily examined in the entrepreneurship context, distinguishes three roles that entrepreneurs play—developer, founder, and inventor—whereas the dualistic model distinguishes between two ways in which work is internalized into one's identity (i.e., in an autonomous or controlled fashion). After detailing these and other similarities and differences across the three streams, we make predictions on the outcomes associated with each form of passion and test them using a meta-analytic approach that incorporates findings from 106 distinct samples across 87 manuscripts encompassing 384 effect sizes.

The findings from this study allow us to make at least three contributions to the work passion literature. First, the meta-analytic findings *within* each stream offer a more generalizable depiction of how each form of passion specifically relates to work outcomes, thereby reducing the risk that various idiosyncrasies in any one sample or study may have accounted for the relationships. Even more importantly, our findings shed light on previously inconsistent results and either demonstrate the relationships more conclusively or highlight those that warrant further investigation of potential moderators and contextual factors. For instance, in the context of general passion research, although multiple studies document a positive link between

general passion and financial performance (e.g., Ma, Gu, & Liu, 2017), others did not find a link between general passion and venture growth (e.g., Baum & Locke, 2004; Baum, Locke, & Smith, 2001), thereby rendering unclear whether general passion does relate to performance. In the context of the dualistic model, in particular, relationships between obsessive work passion and common work attitudes (e.g., job satisfaction and turnover intention) and behaviors (e.g., organizational citizenship behaviors [OCBs]) have been weak and mixed, thereby underscoring the need for a meta-analytic examination of these relationships that were not investigated in a previous meta-analysis of passion (Curran, Hill, Appleton, Vallerand, & Standage, 2015).

Second, comparing meta-analytic results *across* different passion streams allows us to provide insight and clarity into the similarities and differences of outcomes associated with each stream. In doing so, we offer a more holistic, integrated understanding of when passion constructs are similar, and when they are different, in their workplace implications. This is valuable in shaping consensus as to whether work passion, in its multiple forms and conceptualizations, is unequivocally beneficial, or whether some forms of passion are beneficial for promoting some outcomes (e.g., positive affect) but not others (e.g., performance).

Finally, our third contribution is to help determine whether there is value for scholars to continue pursuing research along each independent stream, or whether more benefit can be derived from synthesizing and integrating two (or more) of these conceptualizations and engaging in a programmatic study of an integrated perspective. Doing so can help the field avoid construct proliferation and the jingle-jangle problem (Bansal, Bertels, Ewart, MacConnachie, & O'Brien, 2012; Cole, Walter, Bedeian, & O'Boyle, 2012) and provide legitimacy for the passion construct. In relation to that, by analyzing all three streams of passion research concurrently, we expose scholars from one stream to those in the others, thus providing a platform for them to become familiar with research in each stream, engage in dialogue with one another, and build on advances in one stream to generate knowledge in another.

1.1 | Passion at work

In the process of reviewing and searching the literature, we noted that three streams of passion research have emerged independently in the work context: general passion, the dualistic model of passion, and role-based passion. These three streams have distinct theoretical underpinnings and empirical operationalizations. To illustrate this in more detail, we provide a summary and comparison of the three streams of passion research in Table 1, together with the theoretical underpinnings and sample measures. We briefly summarize each below.

General passion makes reference to one's love of, or intense affective state toward, work (e.g., Baum & Locke, 2004) and is the least explicit in terms of the theoretical foundations from which it draws. The core premise of general passion—that passion for work provides employees with the perseverance and drive to achieve work goals and

TABLE 1 The three streams of passion research: Definitions, dimensions, theoretical underpinnings, and measures

Stream of passion	Definition	Dimension/s	Theoretical underpinnings	Measure
General passion	Passion represents one's positive feelings toward work. e.g., "love of one's work" (Baum & Locke, 2004); "intense affective state accompanied by cognitive and behavioral manifestations of high personal value" (Chen, Yao, & Kotha, 2009); "enthusiasm, joy, and even zeal that come from the energetic and unflagging pursuit of a worthy, challenging, and uplifting purpose" (Smilor, 1997).	Positive feelings toward work	Foundational theories: Motivational theories and models relating to intrinsic motivation and positive affect, including expectancy theory (Vroom, 1964), Porter and Lawler's (1968) model of intrinsic and extrinsic motivation, and positive affect maintenance (Isen, 2000) Core premise: Passionate love for work provides the motivation and drive to persist and persevere so as to maintain such positive feelings.	Sample items: "I love my work." "I look forward to returning to work when I am away from work." "I love to work hard."
Dualistic model	Passion is a strong inclination toward an activity that people like, that they find important and identify with, and in which they invest significant time and energy (Vallerand et al., 2003).	1. Harmonious passion 2. Obsessive passion	Foundational theory: Self-determination theory (Deci & Ryan, 2000) Core premise: Passion for work not only includes an affective component (strong liking or love for work), but also an internalization component (work is internalized into person's identity). Such internalization can be autonomous or controlled in nature, which then yields two forms of work passion: harmonious (associated with autonomous internalization) and obsessive (associated with controlled internalization).	Sample items for harmonious passion: "My work reflects the qualities I like about myself." "My work is in harmony with the other activities in my life." Sample items for obsessive passion: "I have almost an obsessive feeling for my work." "The urge is so strong, I can't help myself from doing my work."
Role-based passion	Passion for various entrepreneurial roles involves consciously accessible, positive feelings that result from engagement in activities that have identity meaning and salience to the entrepreneur. Thus, entrepreneurial passion encompasses two components: (a) intense positive feelings and (b) centrality of the role to one's self-identity. Three distinct entrepreneurial roles consist of developing, founding, and inventing.	1. Passion for developing 2. Passion for founding 3. Passion for inventing	Theory: Self-regulation theory Core premise: Passion activates self-regulation processes that include regulating one's internal feeling states and behavioral responses so as to achieve goals and to maintain or enhance positive feelings (Thorgen & Wincent, 2013; 2015).	Sample items for intense positive feelings: "Searching for new ideas for products/services to offer is enjoyable to me." "Establishing a new company excites me." Sample items for identity centrality: "Being the founder of a business is an important part of who I am." "Nurturing and growing companies is an important part of who I am."

sustain positive feelings from work—builds on arguments from theories of both motivation (e.g., intrinsic motivation; Porter & Lawler, 1968) and affect (e.g., positive affect maintenance model; Isen, 2000).

In contrast, the *dualistic model of passion* refers to one's liking or love for an activity and the internalization of this activity into one's identity. In this approach, passion can either be *harmonious*, which is associated with autonomous internalization of the activity, or *obsessive*, which is associated with controlled internalization (Vallerand

et al., 2003). The foundational arguments of the dualistic model stem from self-determination theory (Deci & Ryan, 2000) that differentiates among various forms of internalization and the associated outcomes of each.

Finally, *role-based passion* emphasizes "consciously accessible, intense positive feelings experienced by engagement in entrepreneurial activities associated with roles that are meaningful and salient to the self-identity of the entrepreneur," and is applied to the three roles

that entrepreneurs often take on, including developing, founding, and inventing (Cardon et al., 2009, p. 517). Inherent in this passion definition are the elements of (a) intense positive feelings; (b) centrality or salience of the entrepreneurial roles to one's self-identity; and (c) role- or domain-specific nature of passion. Role-based passion research draws from self-regulation theory (Carver & Scheier, 1998) as the foundation, arguing that passion triggers various self-regulation processes (e.g., regulating internal feeling states and behaviors) that help one achieve work goals and maintain or enhance positive feelings, especially in the context of entrepreneurship.

Although all three research streams construe passion as a motivational construct and draw on various motivational theories to describe how passion provides the drive and perseverance toward goal achievement, it is important to note that passion is distinct from other motivational constructs such as intrinsic motivation, flow, calling, and engagement. In fact, previous research has provided detailed theoretical comparisons between passion and a host of other constructs (e.g., Ho & Astakhova, 2018; Vallerand, 2015), and empirical studies have also demonstrated the unique value of passion while controlling for variables such as intrinsic motivation and job satisfaction (e.g., Ho, Wong, & Lee, 2011; Liu, Chen, & Yao, 2011). In short, previous research demonstrates that passion is a more stable, less transient property than short-term, in-the-moment experiences like flow and absorption. To the extent that passion involves an activity becoming part of one's identity, it is also distinct from motivational constructs that lack this identity aspect. Thus, we agree with previous researchers that passion has a unique place in the motivation literature (Ho & Astakhova, 2018; Vallerand, 2015).

1.2 | The similarities and differences among the three streams of passion research

Although the three streams of passion research emerge from, and build on, different theoretical perspectives, they nonetheless share one key commonality in that all encompass strong positive feelings as a defining feature (see Table 1). Specifically, they all implicitly draw upon the hedonistic approach to well-being and argue that passionate people make significant work-specific investments in order to continue experiencing positive affect and well-being from their work (Diener, 1984; Kahneman, Diener, & Schwarz, 1999). Yet, despite certain commonalities, several differences also exist between the streams.

First, both the dualistic and role-based models encompass an internalization component that is not included in the conceptualization of general passion. Specifically, the dualistic model specifies that a passionate activity is something that an individual finds important and identifies with, and the role-based model requires a passionate role to have identity meaning and salience. Thus, these two models go beyond mere positive affect to incorporate a deeper identity or internalization aspect, which also accounts for empirical findings that passion has unique value even after accounting for positive affect (Cardon, Gregoire, Stevens, & Patel, 2013; Vallerand et al., 2003).

Second, the ways in which the internalization component is conceptualized vary between the dualistic and the role-based models. Specifically, even though the former differentiates between two forms of internalization based on whether work is internalized voluntarily or because of certain contingencies and outcomes attached to it, the latter differentiates internalization based on three distinct entrepreneurial roles, such that an individual may internalize some roles but not others.

Third, because the dualistic model acknowledges that work can be internalized in a functional way (i.e., an autonomous form) or in a pressured or dysfunctional manner (i.e., a controlled form), research in this stream has examined both favorable and unfavorable outcomes associated with passion. Such research has documented that, despite the overall strong positive feelings one has toward work, passion can sometimes yield unfavorable outcomes. In contrast, the other two models have mainly focused on favorable (i.e., positive) outcomes resulting from passion, with few studies investigating unfavorable or dysfunctional outcomes.

Finally, one additional difference is the domain in which each stream is studied. The majority of studies focused on general passion and role-based passion have been conducted in the domain of entrepreneurship. And, with few exceptions (e.g., Ho & Pollack, 2014), the dualistic model has not been applied in the entrepreneurship context, but instead in settings such as internet gaming, gambling, academics, sports, and interpersonal relationships and health (Curran et al., 2015), representing a lack of opportunity for related literatures to build upon one another.

Considering the similarities and differences among the three streams of passion research, we offer one formal research question: Will the three streams of passion research have consistent or divergent effects across similar work-related outcomes? Exploring this research question in our meta-analysis will (a) delineate whether or not each stream is distinct, or whether construct proliferation has led to a variety of overlapping constructs that are not empirically distinguishable and (b) provide insights and clarity into whether some forms of passion are beneficial for promoting certain outcomes versus others. We turn next to a discussion of the work-specific outcomes of the three streams of passion research and the particular hypotheses for each stream.

1.3 | Stream-specific hypothesis development

1.3.1 | General passion

Research on general passion, primarily carried out in entrepreneurship contexts (e.g., Baum et al., 2001), defines passion as "an entrepreneur's intense affective state accompanied by cognitive and behavioral manifestations of high personal value" (Chen et al., 2009, p. 201). Here, passion is contextualized as "emotions of love, attachment, and longing" (Baum & Locke, 2004, p. 588), "selfish love of the work" (Shane, Locke, & Collins, 2003, p. 268), and "enthusiasm, joy, and even zeal" (Smilor, 1997, p. 342).

The core premise in this stream is that passion, as an intense positive affective state, serves as a motivating force that then shapes individuals' thoughts and actions. In turn, studies in this stream draw on either motivational theories or theories of positive affect to explain how passion shapes outcomes. From a motivational standpoint, researchers have argued that the love, enthusiasm, and zeal that one has for work acts as an intrinsic force that compels the individual to spend long hours thinking about and working on the task and to commit to deliberate practice so as to acquire the necessary skill sets to succeed (Baum & Locke, 2004; Chen et al., 2009; Smilor, 1997). Beyond contributing to such intensity of effort, passion is also expected to manifest in persistence and resilience in the face of challenges and obstacles (Baum & Locke, 2004). Thus, general passion, in the form of intense positive feelings toward one's work, acts as a motivational affective force that then manifests in positive psychological states—defined as “feelings and/or beliefs concerning the employee's relationship with an organization”—as well as attitudes toward work (e.g., empowerment, job satisfaction, job tension, and self-efficacy) and functional behaviors such as high persistence and intensity of effort (Meyer & Allen, 1991, p. 62).

Theories of positive affect, including the affect infusion model (Forgas, 1995), the broaden-and-build theory (Fredrickson, 2004), and Isen's foundational works on positive affect (e.g., Isen, 2000; Isen & Daubman, 1984), provide a second perspective on how general passion shapes work outcomes. Specifically, positive feelings cue retrieval of positive material in memory, facilitate flexible thinking and problem solving (Isen, 2000), promote top-down, deductive thinking (Forgas, 2008), and broaden one's repertoire of thoughts and actions (Fredrickson, 2004). Positive affect not only yields positive work attitudes and psychological states but also generates positive behaviors including greater persistence, resilience, and creativity (e.g., Isen & Daubman, 1984; Isen & Reeve, 2005; Trope, Ferguson, & Raghunathan, 2001). The motivational and positive affect perspectives explain why general passion drives individuals to be invested in the passionate activity, have a positive mindset toward it, and devote significant time and effort to that activity such that they become successful at it.

Preliminary support for our theoretical contention is in empirical findings confirming the general passion-positive affect relationship (Cardon, Sudek, & Mitteness, 2009). Researchers have also found positive effects on work attitudes, such as job satisfaction and organizational commitment, and on motivational states such as intrinsic motivation (McAllister, Harris, Hochwarter, Perrewé, & Ferris, 2017; Perttula, 2004). Finally, some studies have linked general passion to positive behaviors such as tenacity and creativity (De Clercq & Belausteguigoitia, 2017, 2019). Regarding negative outcomes, to our knowledge, empirical research is silent. Thus, we only posit the following set of hypotheses, drawing on extant theory and evidence.

Hypothesis 1a. *General work passion is positively related to positive affect.*

Hypothesis 1b. *General work passion is positively related to positive psychological states and attitudes.*

Hypothesis 1c. *General work passion is positively related to positive work behaviors.*

1.3.2 | Dualistic model of passion

In contrast to the relatively narrow definition of general (and, again, mostly entrepreneurial) passion that focuses almost exclusively on positive affect and the emotions associated with passion, the dualistic model of passion explicitly incorporates affective, cognitive, and behavioral components (Chen, Liu, & He, 2015). Originally advanced by Vallerand et al. (2003), this passion model conceptualizes the construct as a strong inclination toward an activity that people like (i.e., affective component), that they find important and identify with (i.e., cognitive component), and in which they invest significant time and energy (i.e., behavioral component). In particular, the dualistic model requires that the activity be internalized in one's identity, a characteristic lacking in the general passion construct.

Originating from self-determination theory (Deci & Ryan, 2000), the dualistic model differentiates between two forms of passion—harmonious and obsessive—based on how the passionate activity is internalized into one's identity. Harmonious passion is associated with an autonomous form of internalization, meaning that individuals voluntarily accept an activity as important to them without any contingencies or pressures. As such, individuals willingly engage in the activity and do not feel compelled or pressured to do so (Vallerand et al., 2003). In the work context, individuals with harmonious passion engage in their work because of certain inherent characteristics of the work itself (e.g., enjoyable and challenging; Vallerand & Houliort, 2019; Vallerand et al., 2014). Additionally, because of the autonomous or volitional nature with which work is internalized into their identities, harmoniously passionate individuals are able to balance work with other aspects and obligations of their lives (Vallerand, 2015). Consequently, they do not only report more positive affect like fun and enjoyment, but also less negative affect like guilt and anxiety, when engaging in the activity (Vallerand et al., 2003).

Extending from this, to the extent that autonomous internalization allows individuals to fully immerse themselves into their work without feeling guilty or distracted, they have been found to experience more positive (and less negative) psychological states, such as a sense of deeper absorption and cognitive engagement, as well as more positive (and less negative) work attitudes (e.g., job satisfaction and organizational commitment; Burke, Astakhova, & Hang, 2014; Ho et al., 2011). These positive affective, psychological, and attitudinal experiences, together with the mastery orientation they have toward work (Vallerand et al., 2003), also account for the positive behaviors associated with harmonious passion, whereby the former induces the individual to work harder, be more persistent, and ultimately perform better than individuals without such passion (Dubreuil, Forest, & Courcy, 2014; Ho et al., 2011).

Hypothesis 2a. *Harmonious passion is positively (negatively) related to positive (negative) affect.*

Hypothesis 2b. *Harmonious passion is positively (negatively) related to positive (negative) psychological states and attitudes.*

Hypothesis 2c. *Harmonious passion is positively (negatively) related to positive (negative) behaviors.*

In contrast to harmonious passion, obsessive passion is associated with a controlled form of internalization, whereby individuals feel pressured to engage in an activity, rather than doing so volitionally. This sense of pressure can derive from intrapersonal (e.g., an uncontrollable sense of excitement when doing the activity) or interpersonal (e.g., esteem and recognition associated with the activity) sources. Obsessively passionate individuals cannot help but pursue the activity, such that it comes to control a person, occupies a disproportionate amount of a person's identity, and conflicts with other aspects of a person's life. Consequently, even though obsessively passionate individuals love what they do, the conflicted and compulsive nature of obsessive passion takes its toll on their affective experiences, such that they experience less positive affect (e.g., enjoyment) and more negative affect (e.g., guilt and anxiety) when performing the activity and also when prevented from doing it (Vallerand et al., 2003; Vallerand, Paquet, Philippe, & Charest, 2010). In turn, these affective experiences, together with the sense of conflict and pressure, prevent individuals from fully immersing themselves in the activity and induce a performance orientation focused on outperforming others rather than learning and gaining mastery (Vallerand et al., 2007), thereby resulting in less positive (more negative) psychological states (e.g., emotional exhaustion; Donahue et al., 2012).

In terms of attitudinal outcomes, some scholars have contended, with empirical support, that the negative psychological states induced by obsessive passion will contribute to less positive (more negative) work attitudes, such as work satisfaction and turnover intention (Houliort, Philippe, Vallerand, & Ménard, 2014; Thorgren, Wincent, & Sirén, 2013). At the same time, other studies either failed to find a significant link to work attitudes (Carbonneau, Vallerand, Fernet, & Guay, 2008) or found a positive link instead (Burke et al., 2014; Forest, Mageau, Sarrazin, & Morin, 2011). Similarly, the behavioral implications of obsessive passion remain uncertain. On one hand, some have argued and found support for the contention that the negative psychological states stemming from obsessive passion will detract from work performance (Kong & Ho, 2018). On the other hand, others have observed that the organizational identification induced by obsessive passion facilitates work performance (Astakhova & Porter, 2015). Thus, because there is no strong a priori evidence or an established theoretical basis to predict how obsessive passion will relate to work attitudes and behaviors, we do not offer any formal hypothesis for those outcomes but, instead, look to the meta-analytic results to shed light on the potential relationships with attitudes and behaviors.

Hypothesis 3a. *Obsessive passion is negatively (positively) related to positive (negative) affect.*

Hypothesis 3b. *Obsessive passion is negatively (positively) related to positive (negative) psychological states.*

1.3.3 | Role-based passion

Cardon and colleagues (2009) advanced a third stream of passion research by proposing not only that entrepreneurial passion involves intense positive feelings, but also that entrepreneurial activities relate to a meaningful and salient self-identity. In other words, it is the complementary or multiplicative relationship between intense positive feelings and identity centrality of a specific entrepreneurial role that makes up role-based passion (Cardon et al., 2013). This conceptualization of passion is similar to the dualistic model in emphasizing the identification component, and this stream explores how entrepreneurs may be differently passionate about three unique role identities: developer, founder, and inventor (Cardon, 2013; Cardon et al., 2013). Passion for developing consists of growing and expanding a venture after its founding and was proposed to positively relate to entrepreneurs' persistence and absorption. Passion for founding involves assembling resources (e.g., financial, human, and social) to create a new venture and was proposed to enhance creative problem solving and persistence. Passion for inventing revolves around seeking out new ideas or market opportunities and developing new products or services and was proposed to foster creative problem-solving behaviors (Cardon et al., 2009; Cardon et al., 2013).

Entrepreneurial passion research draws primarily on self-regulation theory to explain how such passion relates to various work outcomes. Self-regulation theory focuses on individuals' goal-directed, self-regulation processes, in which goals are crucial in providing direction and clarity to individuals (Carver & Scheier, 1998). In the context of entrepreneurial passion, such passion "mobilizes an entrepreneur's self-regulation processes that are directed toward effectiveness in the pursuit of the corresponding entrepreneurial goal" (Cardon et al., 2009, p. 518). Specifically, the self-regulation processes triggered by entrepreneurial passion shape one's goal-related cognitions (e.g., goal challenge, commitment, and striving) and, in turn, behaviors. For instance, because the entrepreneurial role is central and deeply meaningful to passionate entrepreneurs' self-identities, they are more likely to be committed to that role and persistent in pursuing activities related to that role (Cardon & Kirk, 2010; Cardon et al., 2009). Additionally, because the passionate role is associated with intense positive feelings, entrepreneurs not only experience positive affect when engaged in role-specific activities (Murnieks, Mosakowski, & Cardon, 2011) but are also likely to regulate their responses to maintain or enhance such feelings (Cardon et al., 2009). Further, entrepreneurial passion allows individuals to recognize unique patterns and relationships in their environment, thereby facilitating creative problem-solving and pursuit of novel and creative paths of action (Cardon et al., 2013). Together, these positive experiences are then expected

to enhance one's effectiveness in the different entrepreneurial roles (e.g., venture growth for the developer role; venture creation for the founder role; and opportunity recognition for the inventor role; Cardon et al., 2009).

It should be noted that of the three passion streams, research in role-based passion is in a comparatively early stage, given that the construct was introduced in the late 2000s (e.g., Cardon et al., 2009). Consequently, the body of work on role-based passion is small and insufficient to make predictions about different categories of outcomes (e.g., affect vs. behavior). Likewise, empirical evidence is lacking with regard to negative outcomes of role-based passion; thus, we only posit the following hypotheses on positive work outcomes in general.

Hypothesis 4a. *Passion for developing is positively related to positive work-specific outcomes.*

Hypothesis 4b. *Passion for founding is positively related to positive work-specific outcomes.*

Hypothesis 4c. *Passion for inventing is positively related to positive work-specific outcomes.*

2 | METHODS

We searched ERIC, ABI/INFORM, PsycINFO, Google Scholar, and ProQuest Dissertations and Theses using various search term combinations that were based on our knowledge of the literature including "passion," "harmonious passion," "obsessive passion," "entrepreneurial passion," "inventing," "developing," "founding," "role-based passion," "working excessively," "working compulsively," and "passion addiction." We also legacy searched key articles by references, emailed individual scholars who publish in this area, as well as posted to the listservs for the Academy of Management's Organizational Behavior and Entrepreneurship Divisions searching for in press and file drawer manuscripts. Our first search was current through 2016. And, in that search, we identified 745 citations for possible inclusion. After duplicates, popular press articles, news articles, books, and press releases were deleted, we were left with 402 full-text articles that we accessed for eligibility. Of these, 81 were not empirical, 34 were qualitative, 20 were case studies, 211 did not study our constructs of interest, and 2 did not report sufficient data. This left us with 54 possible articles. Although our paper was under review and in revision, we kept track of new articles published that met our search criteria described below, and our meta-analysis is now current through June 2019 (this included results received from additional emails to relevant scholars and additional listserv posts). Ultimately, we identified 87 manuscripts, containing 106 different samples and 384 effect sizes (total unique $N = 38,481$; 43.54% women, average age is 38.04).

We had five inclusion criteria, and we placed no language restrictions on these articles. First, we must have been able to compute a bivariate relationship (e.g., d , r , group means, and standard deviations) that could be used to obtain an effect size. Second, some form of

passion must have been included (e.g., general passion, dualistic passion, and role-based passion). Third, each effect size must have reflected a unique sample. In cases in which a study used multiple samples, we included each sample as a separate entry if it met the other inclusion criteria. Fourth, the study must have included at least one quantifiable passion-related process or outcome. Fifth, the study must have measured individuals' naturally occurring passion, not an experimentally manipulated report of passion.

2.1 | Excluded studies

We excluded distinct constructs such as work engagement (vs. harmonious passion) as well as working excessively (vs. obsessive passion; e.g., Gorgievski, Bakker, & Schaufeli, 2010). However, as noted above, we did include some of these terms (i.e., working excessively, working compulsively, and passion addiction) in our initial search. We did this to make sure we were as comprehensive as possible in our identification of potential articles to consider for inclusion. We deemed it possible for a study to not use the word passion (e.g., working excessively and working compulsively) yet still study something that we would want to include. Furthermore, as our focus was on the work context (vs. nonwork; Curran et al., 2015), we excluded, for example, research related to passion and gaming (e.g., Wang, Liu, Chye, & Chatzisarantis, 2011), gambling (e.g., Back, Lee, & Stinchfield, 2011), drug use, and types of addiction (e.g., Davis & Rosenberg, 2015; Rosenberg & Kraus, 2014).

2.2 | Coding and analysis approach

We captured all the constructs detailed in the included manuscripts and their relations with the three forms of passion. Consistent with best practices, we focused on constructs that appeared three or more times in the literature. As seen in Tables 2–5, we identified numerous constructs that were present three or more times. Notably, compared with Curran et al. (2015), we were able to include important work-specific outcomes (e.g., job satisfaction, commitment, creativity, business performance, and OCB) that they could not due to the limited number of work-specific studies they compiled. Thus, this is one key way in which our results extend beyond theirs.

With regard to our analyses, we used Hunter and Schmidt's (2004) psychometric meta-analysis approach and corrected for measurement error in the predictor and outcome for all bivariate meta-analyses.

3 | RESULTS

In the following section, when comparing findings across streams where k s were small, we focus on the raw magnitude of differences as opposed to formal tests that rely on null hypothesis significance testing. This is because meta-analyses with a small number of studies

TABLE 2 The relationships between general passion and work-specific outcomes (with $k \geq 3$)

Outcome	Descriptives		Uncorrected results					Corrected results				
	k	N	\bar{r}	SE	95% CI	SD_{obs}	SD_{true}	ρ	80% CV	SD_{obs}	SD_{true}	%var
Affect												
Negative affect	4	705	-.066	0.046	-0.157, 0.025	0.093	0.055	-.073	-0.162, 0.015	0.113	0.069	62%
Positive affect	5	807	.272	0.073	0.129, 0.416	0.164	0.146	.309	0.086, 0.532	0.193	0.174	19%
Psychological states and attitudes												
Empowerment	3	458	.442	0.038	0.368, 0.517	0.066	0.005	.512	—	0.073	0.000	100%+
Job satisfaction	5	1,428	.363	0.037	0.291, 0.435	0.082	0.064	.424	0.330, 0.518	0.095	0.073	40%
Job tension	3	458	.025	0.100	-0.172, 0.222	0.174	0.154	.032	-0.192, 0.257	0.198	0.175	22%
Self-efficacy	3	697	.243	0.036	0.173, 0.313	0.044	0.000	.293	—	0.060	0.000	100%+
Behaviors												
Creativity	4	538	.212	0.061	0.092, 0.332	0.122	0.090	.234	0.087, 0.380	0.148	0.114	40%
Innovativeness	7	940	.311	0.056	0.201, 0.422	0.149	0.127	.346	0.170, 0.522	0.163	0.138	28%
Investment	4	368	.119	0.052	0.018, 0.220	0.048	0.000	.124	—	0.051	0.000	100%+
Performance	4	612	.365	0.035	0.296, 0.434	0.049	0.000	.415	—	0.041	0.000	100%+
Preparedness	3	259	.446	0.085	0.280, 0.613	0.147	0.119	.492	0.344, 0.640	0.150	0.115	40%

Note. k = number of included studies, N = sample size, r = weighted mean correlation, SE = standard error, 95% CI = 95 percent confidence interval around r , SD_{obs} = observed variance, SD_{true} = standard deviation of the population estimate, ρ = population estimate, 80% CV = 80% credibility interval around ρ , %var = percentage of variance attributable to artifact.

often have fairly large standard errors and even large differences in magnitude can still have confidence intervals with slight overlap. Overall, as the passion literature continues to develop and mature, more appropriate tests such as meta-analysis of variance and subset analysis can be employed to give more precise estimates of differences across streams.

With regard to Hypothesis 1a and Hypothesis 1b related to general passion, we found support for the inference that general passion is positively related to positive affect ($\rho = .309$) as well as positive psychological states (empowerment, $\rho = .512$; self-efficacy, $\rho = .293$) and job satisfaction ($\rho = .424$; see Table 2). With regard to Hypothesis 1c, we found support for the inference that general passion is positively related to positive work behaviors (creativity, $\rho = .234$; innovativeness, $\rho = .346$; preparedness, $\rho = .492$; performance, $\rho = .415$). Interestingly, although we did not have sufficient basis to predict how general passion would relate to negative outcomes, the results show that general passion was not significantly related to negative affect ($\rho = -.073$, not significant) or to job tension ($\rho = .032$, not significant).

We present the results for the dualistic model of passion in Table 3 for harmonious passion and Table 4 for obsessive passion. With regard to harmonious passion outcomes, we found support for Hypothesis 2a, in that harmonious passion was positively related to positive affect ($\rho = .777$) and negatively related to negative affect ($\rho = -.312$). Additionally, Hypothesis 2b was supported in that harmonious passion was positively related to positive psychological states (e.g., absorption, $\rho = .485$; attention, $\rho = .498$) and positive attitudes (e.g., commitment, $\rho = .710$; job satisfaction, $\rho = .720$; life satisfaction; $\rho = .406$), including more autonomous forms of motivation (e.g., autonomous motivation, $\rho = .821$, intrinsic motivation, $\rho = .512$).

Harmonious passion was also negatively related to negative psychological states, including various forms of stress reactions (e.g., burnout, $\rho = -.610$; psychological distress, $\rho = -.436$), and to turnover intention ($\rho = -.346$). Another finding of note is that harmonious passion was not significantly related to more controlled forms of motivation (e.g., controlled motivation, $\rho = -.171$, not significant; extrinsic motivation, $\rho = -.003$, not significant). Finally, there was some support for Hypothesis 2d in that harmonious passion was positively related to creativity ($\rho = .348$) and performance ($\rho = .292$). However, we did not find a positive link between harmonious passion and OCB ($\rho = .167$, not significant), nor did we find a negative behavioral outcome for which there was sufficient studies to include in analyses.

For obsessive passion, we found some support for Hypothesis 3a, in that obsessive passion was positively related to negative affect ($\rho = .150$). Contrary to our hypothesis, however, we found a positive relationship between obsessive passion and positive affect ($\rho = .300$), thereby pointing to the conflicted nature of obsessive passion. The results for Hypothesis 3b were mixed, in that obsessive passion was positively related to one's sense of efficacy ($\rho = .114$) and autonomous motivation ($\rho = .288$), but not to other positive psychological states such as engagement ($\rho = -.110$, not significant) and flow ($\rho = .163$, not significant). The results for negative psychological states, however, were more consistent, in that obsessive passion is positively related to these states (e.g., burnout, $\rho = .460$, emotional exhaustion, $\rho = .312$; psychological distress, $\rho = .140$), including more controlled forms of motivation (controlled motivation, $\rho = .273$; extrinsic motivation, $\rho = .200$).

For attitudinal outcomes, which we did not hypothesize, we found that obsessive passion was positively related to commitment ($\rho = .334$), identification ($\rho = .425$), and job satisfaction ($\rho = .143$).

TABLE 3 The relationships between harmonious passion and work-specific outcomes (with $k \geq 3$)

Outcome	Descriptives		Uncorrected results					Corrected results				
	k	N	\bar{r}	SE	95% CI	SD_{obs}	SD_{true}	ρ	80% CV	SD_{obs}	SD_{true}	%var
Affect												
Negative affect	5	1,138	-.263	0.051	-0.363, -0.163	0.114	0.096	-.312	-0.462, -0.163	0.138	0.117	28%
Positive affect	4	911	.658	0.079	0.502, 0.813	0.158	0.154	.777	0.554, 0.999	0.180	0.174	6%
Psychological states and attitudes												
Absorption	3	1,250	.427	0.069	0.291, 0.562	0.120	0.113	.485	0.319, 0.651	0.137	0.129	11%
Attention/concentration	3	1,070	.416	0.097	0.227, 0.605	0.167	0.161	.498	0.296, 0.701	0.166	0.158	10%
Autonomous motivation	3	5,382	.746	0.006	0.734, 0.758	0.008	0.000	.821	0.811, 0.831	0.014	0.008	67%
Burnout	8	3,435	-.532	0.033	-0.597, -0.467	0.093	0.087	-.610	-0.726, -0.493	0.100	0.091	16%
Commitment	5	2,141	.627	0.039	0.551, 0.702	0.086	0.081	.710	0.593, 0.826	0.097	0.091	12%
Controlled motivation	3	5,382	-.154	0.099	-0.348, 0.041	0.172	0.170	-.171	-0.428, 0.086	0.202	0.201	2%
Cynicism	5	2,446	-.393	0.044	-0.48, -0.306	0.099	0.092	-.485	-0.615, -0.355	0.112	0.102	18%
Emotional exhaustion	6	2,198	-.291	0.052	-0.393, -0.189	0.128	0.118	-.341	-0.527, -0.154	0.156	0.146	13%
Engagement	7	3,794	.551	0.059	0.435, 0.666	0.156	0.153	.641	0.407, 0.875	0.186	0.183	4%
Extrinsic motivation	3	9,42	.001	0.108	-0.211, 0.212	0.187	0.178	-.003	-0.270, 0.264	0.219	0.209	9%
Flow	5	880	.546	0.060	0.428, 0.663	0.134	0.123	.629	0.506, 0.751	0.113	0.096	28%
Intrinsic motivation	4	1,296	.437	0.135	0.173, 0.701	0.269	0.265	.512	0.101, 0.923	0.325	0.321	3%
Job satisfaction	12	5,700	.627	0.018	0.592, 0.662	0.061	0.054	.720	0.641, 0.800	0.070	0.062	21%
Life satisfaction	8	1,591	.349	0.043	0.264, 0.433	0.121	0.104	.406	0.272, 0.541	0.128	0.105	32%
Obsessive passion	62	21,514	.169	0.037	0.097, 0.241	0.289	0.284	.207	-0.218, 0.631	0.337	0.332	3%
Psychological distress	3	630	-.378	0.043	-0.462, -0.294	0.074	0.045	-.436	-0.491, -0.382	0.081	0.043	72%
Psychological well-being	3	743	.397	0.079	0.242, 0.553	0.137	0.127	.464	0.278, 0.649	0.158	0.145	16%
Rumination	3	462	-.026	0.060	-0.143, 0.091	0.103	0.064	-.040	-0.138, 0.058	0.127	0.077	63%
Self-efficacy	6	2,363	.352	0.043	0.268, 0.437	0.106	0.096	.398	0.287, 0.509	0.100	0.086	25%
Turnover intention	4	993	-.303	0.057	-0.414, -0.191	0.114	0.098	-.346	-0.473, -0.219	0.119	0.099	30%
Behaviors												
Creativity	5	2,256	.304	0.054	0.197, 0.410	0.121	0.113	.348	0.201, 0.495	0.125	0.115	15%
Hours worked per week	3	3,991	-.053	0.029	-0.109, 0.004	0.050	0.042	-.058	-0.115, -0.002	0.053	0.044	31%
OCB	4	811	.161	0.139	-0.112, 0.434	0.279	0.270	.167	-0.239, 0.574	0.327	0.318	6%
Performance	13	3,387	.256	0.033	0.191, 0.321	0.119	0.104	.292	0.142, 0.443	0.135	0.118	24%

Note. k = number of included studies, N = sample size, r = weighted mean correlation, SE = standard error, 95% CI = 95 percent confidence interval around r , SD_{obs} = observed variance, SD_{true} = standard deviation of the population estimate, ρ = population estimate, 80% CV = 80% credibility interval around ρ , %var = percentage of variance attributable to artifact.

Abbreviation: OCB, organizational citizenship behavior.

However, there was not a significant relationship between obsessive passion and turnover intention ($\rho = -.044$, not significant) or life satisfaction ($\rho = .036$, not significant). Not surprisingly, the results for behavioral outcomes were also inconsistent, in that obsessive passion

was positively related to hours worked per week ($\rho = .268$) and OCB ($\rho = .126$), but not performance ($\rho = .129$, not significant). The wide ranges of the credibility intervals for OCB and performance also suggest that the true relationships can vary greatly and that moderating

TABLE 4 The relationships between obsessive passion and work-specific outcomes (with $k \geq 3$)

Outcome	Descriptives		Uncorrected results					Corrected results				
	k	N	\bar{r}	SE	95% CI	SD_{obs}	SD_{true}	ρ	80% CV	SD_{obs}	SD_{true}	%var
Affect												
Negative affect	5	1,138	.130	0.030	0.071, 0.188	0.067	0.013	.150	0.125, 0.175	0.078	0.020	94%
Positive affect	4	911	.259	0.051	0.158, 0.360	0.103	0.082	.300	0.192, 0.408	0.111	0.084	42%
Psychological states and attitudes												
Autonomous motivation	3	5,382	.246	0.076	0.096, 0.396	0.132	0.131	.288	0.112, 0.464	0.140	0.138	3%
Burnout	8	3,435	.380	0.071	0.241, 0.519	0.200	0.196	.460	0.145, 0.775	0.251	0.246	4%
Commitment	6	3,074	.282	0.083	0.120, 0.444	0.202	0.198	.334	0.038, 0.629	0.236	0.231	4%
Controlled motivation	3	5,382	.230	0.016	0.199, 0.261	0.027	0.016	.273	0.223, 0.322	0.047	0.039	32%
Cynicism	5	2,446	.102	0.028	0.046, 0.158	0.064	0.045	.125	0.050, 0.199	0.080	0.058	47%
Emotional exhaustion	6	2,198	.260	0.020	0.221, 0.299	0.045	0.000	.312	—	0.057	0.000	100%+
Engagement	6	3,584	-.102	0.116	-0.329, 0.124	0.283	0.280	-.110	-0.552, 0.331	0.348	0.345	2%
Extrinsic motivation	3	942	.169	0.032	0.107, 0.232	0.051	0.000	.200	—	0.062	0.000	100%+
Flow	5	880	.128	0.074	-0.017, 0.272	0.165	0.147	.163	-0.055, 0.381	0.193	0.171	22%
Identification	3	862	.358	0.048	0.265, 0.452	0.083	0.065	.425	0.354, 0.495	0.082	0.055	55%
Intrinsic motivation	4	1,296	.222	0.143	-0.057, 0.501	0.285	0.280	.259	-0.172, 0.690	0.342	0.337	3%
Job satisfaction	13	6,633	.116	0.041	0.035, 0.197	0.149	0.143	.143	-0.075, 0.360	0.178	0.170	9%
Life satisfaction	7	1,405	.026	0.066	-0.104, 0.156	0.175	0.160	.036	-0.195, 0.266	0.197	0.180	17%
Psychological distress	3	630	.113	0.057	0.002, 0.224	0.098	0.070	.140	0.037, 0.243	0.116	0.081	51%
Rumination	3	462	.333	0.087	0.161, 0.504	0.151	0.133	.416	0.226, 0.606	0.173	0.149	26%
Self-efficacy	3	1,357	.098	0.043	0.013, 0.183	0.075	0.059	.114	0.045, 0.183	0.075	0.054	48%
Turnover intention	4	993	-.027	0.101	-0.225, 0.170	0.201	0.191	-.044	-0.327, 0.238	0.233	0.221	10%
Behaviors												
Hours worked per week	3	3,991	.235	0.022	0.192, 0.278	0.038	0.028	.268	0.228, 0.307	0.043	0.031	48%
OCB	5	1,724	.114	0.051	0.014, 0.214	0.114	0.101	.126	-0.040, 0.292	0.145	0.130	19%
Performance	11	2,773	.114	0.067	-0.016, 0.245	0.221	0.212	.129	-0.178, 0.437	0.250	0.240	8%

Note. k = number of included studies, N = sample size, r = weighted mean correlation, SE = standard error, 95% CI = 95 percent confidence interval around r , SD_{obs} = observed variance, SD_{true} = standard deviation of the population estimate, ρ = population estimate, 80% CV = 80% credibility interval around ρ , %var = percentage of variance attributable to artifact.

Abbreviation: OCB, organizational citizenship behavior.

conditions may play key roles in modifying these relationships. Finally, although we did not hypothesize a relationship between harmonious and obsessive passion, we observe that the overall relationship is small and positive ($\rho = .207$), but the 95% CI [0.097, 0.241] and the 80% CV (-.218, .631) indicate that across subpopulations, the true relation can range greatly (see Table 3).

In relation to role-based passion, the outcomes are more limited compared with the other two streams of passion (see Table 5). Nonetheless, the results indicate that all three forms of role-based passion

(i.e., developing, founding, and inventing) were positively related to positive affect ($\rho = .466, .371, \text{ and } .403$, respectively) and efficacy ($\rho = .470, .553, \text{ and } .689$, respectively), consistent with Hypotheses 4a, 4b, and 4c. Additionally, passion for inventing was positively related to one's creativity ($\rho = .672$). It is also worth noting that all three forms of role-based passions were positively related to one another, which may underscore the need to control for the other two forms of role-based passion when examining the effect of passion for a specific role.

TABLE 5 The relationships between role-based passion and work-specific outcomes (with $k \geq 3$)

Outcome	Descriptives		Uncorrected results					Corrected results				
	k	N	\bar{r}	SE	95% CI	SD_{obs}	SD_{true}	ρ	80% CV	SD_{obs}	SD_{true}	%var
Passion for developing &												
Positive affect	3	404	.386	0.081	0.228, 0.544	0.140	0.119	.466	0.275, 0.656	0.173	0.149	26%
Self-efficacy	4	1,664	.376	0.021	0.335, 0.418	0.037	0.000	.470	–	0.042	0.000	100%+
Passion for founding &												
Positive affect	3	404	.305	0.092	0.125, 0.485	0.159	0.138	.371	0.138, 0.605	0.207	0.183	22%
Self-efficacy	4	1,673	.458	0.042	0.376, 0.540	0.084	0.074	.553	0.472, 0.635	0.079	0.064	35%
Passion for developing	4	3,908	.501	0.018	0.466, 0.536	0.036	0.027	.657	0.607, 0.707	0.050	0.039	40%
Passion for inventing &												
Positive affect	3	404	.340	0.117	0.110, 0.570	0.203	0.188	.403	0.117, 0.690	0.242	0.224	14%
Self-efficacy	4	3,768	.579	0.058	0.466, 0.693	0.116	0.114	.689	0.561, 0.817	0.103	0.100	6%
Creativity	3	997	.529	0.038	0.454, 0.604	0.067	0.053	.672	0.622, 0.721	0.063	0.039	63%
Passion for developing	4	3,908	.565	0.041	0.484, 0.646	0.083	0.080	.743	0.598, 0.888	0.117	0.113	6%
Passion for founding	4	3,908	.476	0.023	0.431, 0.521	0.046	0.039	.594	0.509, 0.680	0.074	0.067	18%

Note. k = number of included studies, N = sample size, r = weighted mean correlation, SE = standard error, 95% CI = 95 percent confidence interval around r , SD_{obs} = observed variance, SD_{true} = standard deviation of the population estimate, ρ = population estimate, 80% CV = 80% credibility interval around ρ , %var = percentage of variance attributable to artifact.

3.1 | Cross-stream comparison of findings

Our research question asks whether the three streams of passion research have consistent or divergent effects across similar work-related outcomes. Examining Tables 2–5 reveals multiple overlapping constructs.

3.1.1 | Affect

Positive affect has been examined by all three passion streams and was positively related to general passion ($\rho = .309$), harmonious passion ($\rho = .777$), obsessive passion ($\rho = .300$), passion for developing ($\rho = .466$), passion for founding ($\rho = .371$), and passion for inventing ($\rho = .403$). Here, the magnitude of effects appears to differ across the forms of passion, with harmonious passion having a stronger effect relative to the others.

For negative affect, although role-based passion research has not examined negative affect as an outcome, the other two streams have done so and found a nonsignificant link with general passion ($\rho = -.073$, not significant), a negative relation with harmonious passion ($\rho = -.312$), and a positive relation with obsessive passion ($\rho = .150$). Of the few outcomes that have been examined across different passion streams, negative affect displayed the most differentiated results (i.e., positive, negative, and nonsignificant), thereby offering some evidence that the different forms of passion are indeed distinct.

3.1.2 | Psychological states and attitudes

Self-efficacy has been studied in all three research streams and was positively related to all forms of passion, specifically general passion ($\rho = .293$), harmonious passion ($\rho = .398$), obsessive passion ($\rho = .114$),

passion for developing ($\rho = .470$), passion for founding ($\rho = .553$), and passion for inventing ($\rho = .689$). These results provide nuanced findings in that self-efficacy was more strongly related to the more specific role-based forms of passion than to general passion or the dualistic model of passion.

In terms of work attitudes, job satisfaction has been studied from a general passion perspective ($\rho = .424$) as well as with harmonious passion ($\rho = .720$) and obsessive passion ($\rho = .143$). These results indicate that harmonious passion is more strongly related to job satisfaction, followed by general passion. Although obsessive passion had a positive relationship, the width of the 80% CV indicates that the relation may vary across subpopulations.

3.1.3 | Behavior

Creativity has been studied from a general passion perspective ($\rho = .234$) as well as with harmonious passion ($\rho = .348$) and passion for inventing ($\rho = .672$). These results indicate that there are different magnitudes of effects across the streams of passion, such that passion for inventing is most strongly related to creativity, thereby suggesting that distinguishing between role-specific forms of passion may be valuable when exploring role-specific forms of behavior.

3.2 | Test of publication bias

Using Duval and Tweedie's (2000) trim and fill technique as our primary test, we examined the passion relationships for signs of publication bias. Consistent with best practice recommendations by Kepes, Banks, McDaniel, and Whetzel (2012), we supplemented the trim and

fill tests with two other commonly used publication bias techniques—Egger's test of the intercept (Egger, Smith, Schneider, & Minder, 1997) and cumulative meta-analysis drift (McDaniel, 2009). All publication bias techniques are vulnerable to second-order sampling error resulting in both Type I and II errors when the number of included studies is small, but the definition of small varies in the methods literature, with most defining the minimum number of studies to achieving viable estimates between five and ten (e.g., Herrmann et al., 2016; Shi & Lin, 2019). We tried to strike a balance between conservative estimation and breadth of coverage by setting the minimum number of studies to seven. With that said, we stress that, all else equal, the larger the k , the more confidence one should have in the results.

In sum, there were 10 passion relations examined for publication bias and we ran all tests in R using the metafor package (Viechtbauer, 2010). For each analysis, we searched for asymmetry in the opposite direction of the effect size. If there were systematic suppression of studies, we would expect it to occur for studies showing weaker than average or opposite effects to the overall observed relationship. Of the 10, none showed signs of potential effect size inflation due to publication bias. In sum, there is little evidence at present that the passion correlations are meaningfully influenced by publication bias.¹

3.3 | Multivariate meta-analysis

We considered a number of multivariate tests using meta-regression and meta-analytic structural equation modeling. Although these tests are commonly employed in meta-analyses, recent concerns over their validity when (a) the number of included studies is small (Viechtbauer, López-López, Sánchez-Meca, & Marín-Martínez, 2015), (b) there are large amounts of true score variance (Yu, Downes, Carter, & O'Boyle, 2016), and (c) underlying assumptions are violated (e.g., Lv & Maeda, 2019; Yu, Downes, Carter, & O'Boyle, 2018) raise serious concerns over their appropriateness in many organizational behavior and human resource contexts.

Our sample sizes range from several hundred to tens of thousands, and this gives us confidence in the bivariate estimates presented in Tables 2–5. However, we assessed many of the relations with only a handful of studies, making tests of meta-regression (where k is the unit of analysis) susceptible to second-order sampling error, overfitting, and increased Type I error rate (Gonzalez-Mulé & Aguinis, 2018). For meta-analytic structural equation modeling, the two dominant techniques either ignore true score variance in the individual correlations (e.g., Viswesvaran & Ones, 1995) or attempt to essentially covary it out (Cheung & Chan, 2005). Regarding the former, the correlations that would make up the passion matrix to be analyzed had significant true score variance. Thus, the resulting parameter estimates and fit statistics would only generalize to the small, potentially non-existent populations that are at (or are very close to) the weighted mean

estimate for every correlation in the matrix. Regarding the latter, assumptions that study-level data are missing completely at random or missing at random (i.e., no publication bias, no questionable research practices, and no systematic suppression of results in any way whatsoever) and that accurate estimates can be generated when total missing data typically exceeds 50% are as untenable with our data as they are with most social science data (Lv & Maeda, 2019; O'Boyle, DeSimone, Barrick, & Ryu, August, 2019). In sum, we considered the extant literature on passion and concluded that it has not yet reached a saturation point where the necessary number of studies and assumptions needed for multivariate meta-analytic techniques have been met.

4 | DISCUSSION

We embarked upon a comprehensive meta-analytic investigation of the three streams of passion research related to work. Our goals included meta-analytically examining (a) relationships contained within each of the three streams of passion research; (b) comparisons of relationships across the three streams of passion research; and (c) the utility of continuing to treat each of three streams separately versus combining two (or more) of the streams to avoid construct proliferation and enhance the parsimony of passion research. Our results revealed several important theoretical implications on the three passion research streams, both individually and jointly, and shed new light on how researchers should think differently about passion research moving forward.

4.1 | Theoretical implications

4.1.1 | Within-stream insights

Regarding the results of each separate passion stream, we illuminated multiple theoretically important nuances. In terms of general passion, we addressed the question of whether or not general passion is related to performance. Indeed, we find a positive and robust relationship. This finding suggests that the few studies documenting a nonsignificant link with performance (e.g., Baum & Locke, 2004) may be exceptions rather than the norm and that there may be context-specific reasons accounting for nonfindings. Although we also found that general passion demonstrated robust relationships with positive psychological states and job satisfaction, what is less clear is the link that general passion has with negative outcomes. We expected general passion to be negatively related to these outcomes, but the results did not support our hypothesis. Rather, the nonsignificant findings are suggestive of the fact that the positive aspects of general passion are perhaps sufficient to suppress negative outcomes, but insufficient to fully reverse such effects. Our findings point to the need to further explore whether general passion is related to negative outcomes and, even more importantly, what are the potential moderators that could influence these relationships.

¹The full publication bias results (i.e., trim-and-fill, Egger's test, and drift analysis) are available from the authors.

In terms of the dualistic passion stream, we first observed that harmonious passion and obsessive passion are positively related, but the wide credibility interval indicates that there may be substantial variation in this relationship. Thus, it is important to consider contextual factors when determining when and how both forms of passion will be associated. Additionally, the findings relating to harmonious passion are consistent, in that it is positively related to various types of affect, psychological states, attitudes, and behaviors. At the same time, a few unexpected findings highlight the need for further investigation, specifically those relating to hours worked per week and OCB. Although we expected harmonious passion to enhance one's persistence (as manifested in hours worked), the results here were not significant. Potentially, this could be due to the fact that one's inclination to work long hours is countered by the ability to balance work with other nonwork obligations, given the autonomous nature with which work is internalized into one's identity. Thus, working long hours may be more indicative of obsessive passion than harmonious passion.

Harmonious passion was also, surprisingly, not related to OCB. One explanation for this nonfinding could come from Ho, Kong, Lee, Dubreuil, and Forest (2018), who stated "the reach of harmonious passion is circumscribed to more interpersonal, narrower domains of citizenship behaviors" (p. 122). Thus, to the extent that previous measures of OCB encompassed both organization- and individual-targeted behaviors (i.e., OCB-O and OCB-I), this may account for the nonsignificant finding here. Even more importantly, this underscores the need for further studies to differentiate between OCB-O and OCB-I and examine whether harmonious passion is more connected to the latter compared with the former.

The findings for obsessive passion were less consistent, but nonetheless highlight several noteworthy patterns as well as areas that warrant further investigation. First, in contrast to the behavioral outcomes of harmonious passion described above, we found that obsessive passion was actually positively related to both OCB and hours worked and yet was not related to performance. This finding not only underscores the behavioral differences between the two forms of passion, but also suggests that obsessive passion may not necessarily yield detrimental behavioral outcomes. Instead, the wide credibility interval of the performance outcome indicates that obsessive passion may, under the right conditions, contribute to enhanced performance, an aspect that deserves further examination.

Second, although obsessive passion was related to various forms of negative psychological states, such as emotional exhaustion and psychological distress, it did not demonstrate a consistent pattern in regard to positive psychological states (e.g., efficacy, engagement), and the negative psychological states also did not negatively impact one's attitudes or workplace behaviors. This pattern of results, together with the observation that obsessive passion was positively related to both positive affect as well as negative affect, attests to the conflicted nature of obsessive passion, wherein one's love for, and internalization of, work can yield functional outcomes, whereas the controlled nature of internalization can also yield dysfunctional outcomes. The findings also challenge the conventional wisdom that obsessive passion is always bad and point to the need for not only

examining potential moderators that can accentuate positive outcomes and attenuate negative ones, but also opening the black box of mediating mechanisms that link obsessive passion to various outcomes. In particular, to the extent that there are opposing mediating mechanisms that counteract each other to contribute to the nonsignificant total effects of obsessive passion, it is worthwhile to examine such indirect mechanisms. Importantly, these findings and implications regarding the dualistic model of passion go beyond those offered in Curran et al.'s (2015) meta-analysis (where only 17 studies out of 67 focused on work-related outcomes), which further underscore the incremental value of focusing on work passion (as opposed to passion for a wide range of activities) and work-specific outcomes.

For role-based passion, this was the only stream that has not yet consistently explored negative outcomes, thereby rendering it unclear how, if at all, this form of passion shapes negative reactions. Nonetheless, the findings in relation to the positive outcomes (i.e., positive affect and self-efficacy) are highly similar across the three roles (passion for developing, founding, and inventing). These findings, together with the strong positive correlations among the three types of passion, raise an interesting theoretical question as to whether there is value in distinguishing passion among these various roles. On one hand, the fact that creativity was more strongly related to passion for inventing than to harmonious or general passion suggests that role-based passion has incremental value over broader forms of work-based passion. On the other hand, the lack of outcome variables that were assessed across all three forms of role-based passion precludes any rigorous comparison. Thus, it remains unknown whether one form of role-based passion is more strongly related to certain outcomes than the other two. This also points to an area for further investigation in this fledgling field of research, as more work is needed to examine which outcomes are differentially related to passion for a certain role and which outcomes are associated with two or all three roles.

4.1.2 | Across-stream insights

Although the previous discussion contributes, from a theory-based point of view, to research within each passion stream by highlighting patterns as well as areas that merit further investigation, comparing findings across research streams offers a second theoretical contribution. By examining the different conceptualizations of passion comprehensively in the domain of work for the first time, we illuminate the similarities and differences among the three streams of passion, which in turn affords greater opportunities for future research in terms of theoretical and empirical precision.

Passion for work, however conceptualized, was positively associated with positive affect, reflecting the fact that all three streams of passion encompass a love (or strong liking) for work. What is less consistent across the streams is whether such positive affect actually translates into positive attitudes and behaviors. Although Thoresen and colleagues' (2003) meta-analysis found that positive affect was positively correlated to positively valenced attitudes, such as job satisfaction and organizational commitment, our findings suggest

otherwise, particularly in the context of obsessive passion. Instead, our findings are more supportive of Thoresen et al.'s (2003) observation that there can be “substantial variability in affect–attitude correlations” (p. 932), particularly for constructs that involve “a mix of people’s cognitive evaluations and affective reactions to their job situations” (p. 933). Thus, to the extent that passion goes beyond just positive affect, as conceptualized in the dualistic model and in role-based passion, this could explain why passion does not always yield positive attitudes and/or behaviors (Mittness, Cardon, & Sudek, 2010). Further, even though all three streams of passion research share some overlap in terms of having positive affect, this should not be seen as evidence that the three passion conceptualizations are similar and should therefore be combined. Instead, the cross-stream comparison points to the additional value offered by the dualistic model and role-based passion, both of which include an internalization component not assessed by general passion.

Relative to the other two streams, the additional explanative insights of the dualistic model can be seen in the outcomes of positive and negative affect and job satisfaction, all of which were more strongly related to harmonious passion versus general passion or role-based passion. To the extent that individuals not only love their work but also autonomously internalize it into their identities and view it as part of who they are, this could bolster their positive attitudes more so than simply love for one’s work. Additionally, even though obsessive passion, relative to general passion, was less strongly associated with job satisfaction, this finding nonetheless underscores the importance of taking into account the internalization component. Specifically, when work is internalized in a pressured or controlled fashion (as represented by obsessive passion), the positive affect–attitude correlation observed for general passion is diminished in the presence of such internalization. More broadly, this suggests that examining work passion solely as an affect, and/or without considering the nature of work internalization (autonomous vs. controlled), may provide only a partial accounting of work passion consequences.

Relative to the other two streams of passion research, the additional explanative insights offered by role-based passion can be seen in the outcomes of self-efficacy and creativity, the former of which is more strongly related to all three forms of role-based passion and the latter by passion for inventing, compared with the dualistic model and general passion. Insofar as self-efficacy assesses one’s confidence in the ability to perform well in a particular domain (Bandura, 1997), as opposed to self-esteem that assesses the overall value that one places on oneself, it is perhaps not surprising that one’s passion for a specific domain of work is more prognostic than general passion or passion for work overall. Similarly, insofar as creativity is a narrower form of behavioral outcome than overall performance in the entrepreneurial context (e.g., financial performance and new venture growth), the fact that passion for inventing is highly prognostic of creativity attests to the incremental value of examining role-specific passion. Thus, in addition to demonstrating the importance of including an identity component to passion conceptualization, the findings also highlight the benefit of examining role-specific forms of passion (e.g., passion for research) when studying role-specific forms of outcomes

(e.g., research productivity). Moving forward, given additional insights offered by exploring role-based passion (as compared with the other two streams), identity-related theories may be especially useful for subsequent development of role-based passion, especially as it relates to self-efficacy.

Together, the above findings show that although there is consensus that work passion, in its various conceptualizations, is beneficial in generating positive affect, there are also considerable differences across the conceptualizations. In comparing the three streams of passion, we learned from findings in the dualistic model and the role-based approach, where including an internalization or identity component in passion tends to offer stronger prognostic value and examining passion in a particular domain tends to be more strongly related to outcomes in that domain. And, from our findings comparing the three streams, we now know that an affect-only conceptualization of passion, as exemplified in general passion research, is inadequate for capturing a strong form of passion, and subsequent research should depart from using this conceptualization and terminology. Instead, researchers who assess only the affective component of passion may find it more appropriate to use affect-specific terms (e.g., “love for work”) to avoid confusion and ambiguity as to what work passion entails and how it relates to various organizational constructs.

Our third contribution relates to ways in which scholars can integrate work passion research across streams and fundamentally think differently about the field of passion research. Specifically, knowing what we now do about the dualistic and role-based models of passion, rather than continuing to examine them independently, researchers need to adopt a more synergistic approach. Both streams of research are similar in that they encompass the internalization aspect of passion; however, the dualistic model adds unique value by taking into account the nature of *how work is internalized*—harmoniously or obsessively—and examining how each form of passion differentially relates to positive and negative outcomes (Fernet, Lavigne, Vallerand, & Austin, 2014). On the other hand, the role-based model, by examining passion for narrower, more specific work roles, offers higher prognostic power for narrower outcomes. What we recommend, moving forward, is that passion scholars consider integrating these two streams by examining both forms of passion for specific work roles (e.g., harmonious and obsessive passion for teaching vs. research, for technical vs. managerial aspects of work). Additionally, the dualistic model can inform role-based passion research by highlighting the potential negative consequences that stem from passion and underscoring the need for role-based passion researchers to expand their investigation into possible dysfunctional outcomes. Doing so would advance passion research by providing an appropriately nuanced approach, thereby increasing the explanative power of the passion construct in relation to a more comprehensive (i.e., positive and negative) set of outcomes.

Although this is our recommendation, we also note that in order to accomplish this, researchers should pay more attention to the psychometric properties of these (and other newly developed) measures so as to facilitate greater precision in the assessment of passion and

²Thanks to one of our anonymous reviewers for valuable insights here.

its antecedents and consequences.² In particular, we recommend that researchers should use updated measures of passion that capture both the positive affect and identity/internalization components. Cardon et al.'s (2013) measure, comprising the interaction of intense positive feelings and identity centrality, represents an exemplary approach, and we call for researchers to (a) consider adopting Cardon's approach not just for entrepreneurial passion but also for passion outside of the entrepreneurship domain; (b) assess and compare the convergent and predictive validities of Vallerand's and Cardon's measures; and (c) control for positive affect when assessing passion outcomes so as to convincingly demonstrate that passion goes beyond positive affect.

4.2 | Practical implications

Considering that passion represents a possible cornerstone of employee development (Hagel, Brown, & Ranjan, 2014; Kang, 2006), our findings suggest that employers should try to increase individuals' harmonious work passion. Because passion emerges from within each individual, managers are not capable of directly increasing employee passion. However, they can set the stage for passion to emerge from within by encouraging employees to be "active crafters" of their work (Rosso, Dekas, & Wrzesniewski, 2010; Wrzesniewski & Dutton, 2001), so that employees themselves make work-specific adjustments to enhance passion.

The findings relating to obsessive passion are also noteworthy in showing that obsessive passion does not unequivocally result in dysfunctional outcomes for workers and employers. Instead, there can be certain psychological and behavioral benefits stemming from obsessive passion, suggesting that opportunities exist for managers to create the necessary and right conditions that allow for the benefits of obsessive passion to manifest and that suppress or mitigate the potential downsides of such passion. Thus, in line with Grant (2012), we concur that employers (e.g., via managers and/or leaders) have the opportunity to actively enable employees to view their work as meaningful.

Our findings are particularly relevant for the human resource functions of recruiting, training, and retaining employees (Huselid, 1995). In particular, the emerging trend of job sculpting, or tapping into individuals' life interests even if their immediate jobs do not take them into account, is relevant (Butler & Waldroop, 1999). In short, job sculpting facilitates a match between individuals and jobs so that their core life interests are nurtured and passion emerges. Options for integrating job sculpting with the present findings regarding passion include (a) enabling employees to write down their opinions about career satisfaction and (b) asking questions that draw out employees' deeply embedded life interests. The next step would be for employers to consider adding a new responsibility and/or training opportunity that help an employee tap into a life interest and/or career goal. And, perhaps an option would be to change an employee's assignments to more fully match life interests to responsibilities (Butler & Waldroop, 1999). These actions could be done early in an employee's tenure so that employers can identify whether or not a more major move such

as a complete job change or even an amicable separation, if necessary, is done earlier versus later.

Overall, like what Oldham and Hackman (2010, p. 463) note, we concur that the workplace is ideally "enriched rather than simplified." In short, the premise that work needs to be enriched coincides with emerging perspectives on the role of work and passion in individuals' lives. The concept of enjoying one's work and finding meaning at work is now the rule, rather than the exception (Crawford, 2009). And, in sum, we envision our findings being put into use in practice to support employees' passion development as well as the human resource functions of recruiting, training, and retaining employees.

4.3 | Limitations and future research

As with all research, our study is not without limitations. One limitation is that we observed wide credibility intervals for some of our findings. Thus, we highlight the need to explore moderators of passion, particularly in the context of obsessive passion. Our data bolster the findings of Curran et al. (2015), who found that gender and age moderated relationships that passion has with various outcomes. Yet, much work has yet to be done, and future researchers should examine individual and/or situational factors. In relation to that, in terms of comparing findings across streams where k s were small, we focused on the raw magnitude of differences (vs. formal tests that rely on null hypothesis significance testing). In the future, as the passion literature evolves, more appropriate tests such as meta-analysis of variance and subset analysis can be employed to give more precise estimates of differences across streams relative to our initial work here.

In relation to that, we were unable to examine many potential theory-based moderators. For example, we would have liked to test multiple moderators related to national culture (e.g., individualism, power distance, uncertainty avoidance, and masculinity). Although national culture is a continuous variable in the population, in our dataset, it is mostly invariant. Passion research to date has largely been conducted in the United States and Canada (although it is worth noting that passion research in Western Europe is on the rise). However, at present, culture is either invariant or heavily skewed towards a U.S.-centric interpretation. This is partially a function of the work-specific focus of the present research, whereas Curran et al. (2015) examined a more diverse set of contexts (e.g., gaming, gambling, recreational sports, and relationships).

Another limitation is that the present work could not reveal insights related to how passion develops, changes over time, and is either amplified or attenuated at work (Cardon, Zietsma, Saporito, Matherne, & Davis, 2005). Although this task was beyond the scope of the present work, we recognize that there is much room for refinement and development here, and we call for future researchers to revise and update passion measures so as to better and more explicitly assess both affective and cognitive components of passion and to control for positive affect when examining passion outcomes to more convincingly demonstrate the predictive value of work passion. Insights here have the potential to inform future experiments and field

interventions aimed at increasing individuals' passion at work (Thorgren & Wincent, 2013, 2015). Recent work by Gielnik, Spitzmuller, Schmitt, Klemann, and Frese (2015) is an exemplar as they used a longitudinal field study and experimental methods across two studies.

Finally, we acknowledge that there were vastly different numbers of studies included within each of the three streams of passion included in our meta-analysis (i.e., greater numbers in the dualistic stream relative to general and role-based passion). Thus, a question could be raised as to the added theoretical contribution of including all three streams of passion research, rather than focusing on only one or two more developed streams. However, we believe that including all three streams allows us to contribute theoretically in ways that would not be possible by focusing on one or two streams of passion research alone. For example, including the dualistic model shows the incremental value of differentiating between harmonious and obsessive forms of passion and examining negative outcomes stemming from passion, which could not have been found had we focused solely on general or role-based passion. From a theoretical perspective, this helps us better conceive of how future research can approach the study of passion in work-specific outcomes, as knowing that passion needs to be viewed in terms of both harmonious and obsessive types adds theoretical clarity to the current landscape. Including the general passion model was also useful in providing a basis of comparison to show that the passion-as-affect conceptualization is insufficient and that the internalization component is critical to passion. We could not have understood the importance of internalization if we did not have this stream to compare against. Based on our findings, we now know that a more theoretically rich approach to passion—which involves definitions that take into account the importance of internalization—is the perspective that future research should adopt.

Moving forward, we suggest four additional opportunities for research. First, researchers should examine the negative effects (or “dark side”) of passion. At present, we have relatively little knowledge of how and when passion is related to negative employee or organizational outcomes. This is a theoretical shortcoming in the literature, and given the prevailing theme as to the positive effects of passion, there is a need to provide a more balanced perspective and acknowledge the potential dysfunctions of passion as well.

Second, building on our conclusions above, we recommend that passion researchers (a) adopt the dualistic approach and (b) focus on specific job facets. Future work could explore harmonious and obsessive passion for specific work roles, such as sales, marketing, and financial analysis, to provide a more nuanced picture of how passion in its various forms relates to the activities and roles that individuals engage in at work. In relation to that, we strongly suggest that future works on passion include multiple measures of passion, across the streams, to enable further cross-stream comparisons in terms of convergent validity. Here, we also make a plea that researchers begin to examine the predictive incremental validity of passion above and beyond other constructs in predicting work-specific outcomes.³

Third, because obsessive passion was not as strongly related to various attitudes and behaviors as its harmonious counterpart, this suggests the presence of unidentified moderators that might accentuate or suppress the effects of obsessive passion, and/or multiple mediating pathways that counteract each other, thereby manifesting in weak linkages between obsessive passion and its outcomes. Future researchers should consider the roles of individual and situational moderators when exploring how obsessive passion relates to work outcomes and also examine more complex models that account for the mediating relationships that link passion to affect, psychological states and attitudes, and, ultimately, behaviors. Unfortunately, across all three passion research streams, there is a dearth of work that tests such models. Rather, most models test only affect and attitudes but not behavior (Breugst, Domurath, Patzelt, & Klaukien, 2011), or test behaviors but not both affect and attitudes (e.g., Ho & Pollack, 2014; Mitteness, Sudek, & Cardon, 2012). Thus, we advocate that future research adopt a mediated framework that explores the affective and psychological mechanisms through which passion relates to behaviors.

Fourth, in terms of outcome variables, we recommend that research in role-based passion expand these to include more behavioral outcomes, particularly those that assess narrower, more role-specific forms of behaviors. More broadly, future research on work passion should examine interpersonal-related outcomes of passion. Much of the extant work examines intrapersonal outcomes (e.g., satisfaction, commitment, and positive affect). On only a few occasions (e.g., Ho & Pollack, 2014) have researchers delved into how work passion affects individuals' relationships with other people (e.g., team-member exchange and quality of relationships). This represents a valuable line of work that future research can explore, particularly in view of the possibility that passion can be contagious (Cardon, 2008).

5 | CONCLUSION

The three streams of passion can help us understand how we feel, think, and act with regard to the world around us, including, for example, how we feel about work, how committed we are to our occupation, and how well we perform at work. The present meta-analysis points to the important role that passion plays and provides the foundation for future work to examine ways in which to explore and optimize passion—across the three streams—in the workplace. We hope our comprehensive meta-analysis serves as one impetus to move the passion field forward in meaningful and insightful ways.

REFERENCES (* denotes inclusion in the meta-analysis.)

- *Akehurst, S., & Oliver, E. J. (2014). Obsessive passion: A dependency associated with injury-related risky behaviour in dancers. *Journal of Sports Sciences*, 32, 259–267.
- *Amoura, C., Berjot, S., Altintas, E., & Lenoir, F. R. (2012). *Obsessive and harmonious passion for work: The case of French farmers*. Unpublished manuscript.

³Thanks to one of our anonymous reviewers for valuable insights here.

- Anderson, N. (2010). Work with passion in midlife and beyond: Reach your full potential & make the money you need. New World Library.
- *Appu, A. V., & Sia, S. K. (2017). Creativity at workplace: Role of self-efficacy and harmonious passion. *International Journal of Human Resources Development and Management*, 17(3-4), 205-219.
- *Astakhova, M. N. (2014). The curvilinear relationship between work passion and organizational citizenship behavior. *Journal of Business Ethics*, 130, 1-14.
- *Astakhova, M. N., & Ho, V. T. (2018). Chameleonic obsessive job passion: Demystifying the relationships between obsessive job passion and in-role and extra-role performance. *European Journal of Work and Organizational Psychology*, 27(3), 362-374.
- *Astakhova, M. N., & Porter, G. (2015). Understanding the work passion-performance relationship: The mediating role of organizational identification and moderating role of fit at work. *Human Relations*, 68(8), 1315-1346.
- Back, K. J., Lee, C. K., & Stinchfield, R. (2011). Gambling motivation and passion: A comparison study of recreational and pathological gamblers. *Journal of Gambling Studies*, 27, 355-370.
- *Balon, S., Lecoq, J., & Rimé, B. (2013). Passion and personality: Is passionate behaviour a function of personality? *Revue Européenne de Psychologie Appliquée/European Review of Applied Psychology*, 63, 59-65.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman and Co.
- Bansal, P., Bertels, S., Ewart, T., MacConnachie, P., & O'Brien, J. (2012). Bridging the research-practice gap. *Academy of Management Perspectives*, 26, 73-92.
- *Baum, J. R., & Locke, E. A. (2004). The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth. *Journal of Applied Psychology*, 89, 587-598.
- Baum, J. R., Locke, E. A., & Smith, K. G. (2001). A multidimensional model of venture growth. *Academy of Management Journal*, 44, 292-303.
- *Biraglia, A., & Kadile, V. (2017). The role of entrepreneurial passion and creativity in developing entrepreneurial intentions: Insights from American homebrewers. *Journal of Small Business Management*, 55(1), 170-188.
- *Birkeland, I. K., & Buch, R. (2014). The dualistic model of passion for work: Discriminate and predictive validity with work engagement and workaholism. *Motivation and Emotion*, 39, 1-17.
- *Birkeland, I. K., & Nerstad, C. (2016). Incivility is (not) the very essence of love: Passion for work and incivility instigation. *Journal of Occupational Health Psychology*, 21(1), 77.
- *Birkeland, I. K., Richardsen, A. M., & Dysvik, A. (2018). The role of passion and support perceptions in changing burnout: A Johnson-Neyman approach. *International Journal of Stress Management*, 25(2), 163.
- *Bonneville-Roussy, A., Lavigne, G. L., & Vallerand, R. J. (2011). When passion leads to excellence: The case of musicians. *Psychology of Music*, 39, 123-138.
- Boyatzis, R., McKee, A., & Goleman, D. (2002). Reawakening your passion for work. *Harvard Business Review*, 80(4), 86-94.
- *Breugst, N., Domurath, A., Patzelt, H., & Klaukien, A. (2011). Perceptions of entrepreneurial passion and employees' commitment to entrepreneurial ventures. *Entrepreneurship Theory and Practice*, 36, 171-192.
- *Burke, R. J., Astakhova, M. N., & Hang, H. (2014). Work passion through the lens of culture: Harmonious work passion, obsessive work passion, and work outcomes in Russia and China. *Journal of Business and Psychology*, 30, 1-15.
- Butler, T., & Waldroop, J. (1999). Job sculpting: The art of retaining your best people. *Harvard Business Review*, 77(5), 144-152.
- *Carbonneau, N., Vallerand, R. J., Fernet, C., & Guay, F. (2008). The role of passion for teaching in intrapersonal and interpersonal outcomes. *Journal of Educational Psychology*, 100, 977-987.
- *Cardon, M. S. (2013). *Direct and indirect effects of passion on growing ventures*. Unpublished manuscript.
- *Cardon, M. S., Gregoire, D. A., Stevens, C. E., & Patel, P. C. (2013). Measuring entrepreneurial passion: Conceptual foundations and scale validation. *Journal of Business Venturing*, 28, 373-396.
- *Cardon, M. S., & Kirk, C. P. (2015). Entrepreneurial passion as mediator of the self-efficacy to persistence relationship. *Entrepreneurship Theory and Practice*, 39, 1027-1050.
- *Cardon, M. S., Sudek, R., & Mitteness, C. (2009). The impact of perceived entrepreneurial passion on angel investing. *Frontiers of Entrepreneurship Research*, 29, 1-15.
- Cardon, M. S., Wincent, J., Singh, J., & Drnovsek, M. (2009). The nature and experience of entrepreneurial passion. *Academy of Management Review*, 34, 511-532.
- Cardon, M. S., Zietsma, C., Saparito, P., Matherne, B. P., & Davis, C. (2005). A tale of passion: New insights into entrepreneurship from a parent-hood metaphor. *Journal of Business Venturing*, 20, 23-45.
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. New York: Cambridge University Press.
- *Castillo, I., Álvarez, O., Esteve, I., Queralt, A., & Molina-García, J. (2017). Passion for teaching, transformational leadership and burnout among physical education teachers. *Revista de psicología del deporte*, 26(3), 57-61.
- *Caudroit, J., Boiche, J., Stephan, Y., Le Scannf, C., & Trouilloud, D. (2011). Predictors of work/family interference and leisure-time physical activity among teachers: The role of passion towards work. *European Journal of Work and Organizational Psychology*, 20, 326-344.
- *Chen, M., Lyu, Y., Li, Y., Zhou, X., & Li, W. (2017). The impact of high-commitment HR practices on hotel employees' proactive customer service performance. *Cornell Hospitality Quarterly*, 58(1), 94-107.
- Chen, X. P., Liu, D., & He, W. (2015). Does passion fuel entrepreneurship and job creativity? A review and preview of passion research. In C. E. Shalley, M. A. Hitt, & J. Zhou (Eds.), *The Oxford handbook of creativity, innovation, and entrepreneurship* (pp. 159-175). New York: Oxford University Press.
- *Chen, X. P., Yao, X., & Kotha, S. (2009). Entrepreneur passion and preparedness in business plan presentations: A persuasion analysis of venture capitalists' funding decisions. *Academy of Management Journal*, 52, 199-214.
- Cheung, M. W. L., & Chan, W. (2005). Meta-analytic structural equation modeling: A two-stage approach. *Psychological Methods*, 10, 40-64.
- Cole, M. S., Walter, F., Bedeian, A. G., & O'Boyle, E. H. (2012). Job burnout and employee engagement: A meta-analytic examination of construct proliferation. *Journal of Management*, 38(5), 1550-1581.
- Crawford, M. B. (2009). *Shop class as soulcraft: An inquiry into the value of work*. New York: Penguin.
- Curran, T., Hill, A. P., Appleton, P. R., Vallerand, R. J., & Standage, M. (2015). The psychology of passion: A meta-analytical review of a decade of research on intrapersonal outcomes. *Motivation and Emotion*, 39, 631-655.
- *Dalborg, C., & Wincent, J. (2015). The idea is not enough: The role of self-efficacy in mediating the relationship between pull entrepreneurship and founder passion—A research note. *International Small Business Journal*, 33, 974-984.
- Davis, A. K., & Rosenberg, H. (2015). Application of the passionate attachment model to recreational use of MDMA/Ecstasy. *Journal of Psychoactive Drugs*, 47, 24-29.
- *Davis, B. C., Hmieleski, K. M., Webb, J. W., & Coombs, J. E. (2017). Funders' positive affective reactions to entrepreneurs' crowdfunding pitches: The influence of perceived product creativity and entrepreneurial passion. *Journal of Business Venturing*, 32(1), 90-106.
- *De Clercq, D., & Belausteguigoitia, I. (2017). Overcoming the dark side of task conflict: Buffering roles of transformational leadership, tenacity, and passion for work. *European Management Journal*, 35(1), 78-90.
- *De Clercq, D., & Belausteguigoitia, I. (2019). Reducing the harmful effect of work overload on creative behaviour: Buffering roles of energy-

- enhancing resources. *Creativity and Innovation Management*, 28(1), 5–18.
- *De Mol, E., Ho, V. T., & Pollack, J. M. (2018). Predicting entrepreneurial burnout in a moderated mediated model of job fit. *Journal of Small Business Management*, 56(3), 392–411.
- DeBrabander, F. (2019, September 2). *Should work be passion or duty?* New York Times. Retrieved online from <https://www.nytimes.com/2019/09/02/opinion/should-work-be-passion-or-duty.html>
- Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227–268.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95, 542–575.
- *Donahue, E. G., Forest, J., Vallerand, R. J., Lemyre, P. N., Crevier-Braud, L., & Bergeron, É. (2012). Passion for work and emotional exhaustion: The mediating role of rumination and recovery. *Applied Psychology: Health and Well-Being*, 4, 341–368.
- *Drnovsek, M., Cardon, M. S., & Patel, P. C. (2016). Direct and indirect effects of passion on growing technology ventures. *Strategic Entrepreneurship Journal*, 10(2), 194–213.
- *Dubreuil, P., Forest, J., & Courcy, F. (2014). From strengths use to work performance: The role of harmonious passion, subjective vitality, and concentration. *Journal of Positive Psychology*, 9, 335–349.
- Duval, S., & Tweedie, R. (2000). Trim and fill: A simple funnel-plot-based method of testing and adjusting for publication bias in meta-analysis. *Biometrics*, 56(0), 455–463.
- Egger, M., Smith, G. D., Schneider, M., & Minder, C. (1997). Bias in meta-analysis detected by a simple, graphical test. *British Medical Journal*, 315, 629–634.
- Fernet, C., Lavigne, G. L., Vallerand, R. J., & Austin, S. (2014). Fired up with passion: Investigating how job autonomy and passion predict burnout at career start in teachers. *Work & Stress*, 28, 270–288.
- *Fisher, R. (2011). *Passion, resilience, obsession, sustained entrepreneurial action: The path to entrepreneurial success*. Faculty of Business and Enterprise. Melbourne, VIC: Swinburne University of Technology.
- *Fisher, R., Merlot, E., & Johnson, L. W. (2018). The obsessive and harmonious nature of entrepreneurial passion. *International Journal of Entrepreneurial Behavior & Research*, 24(1), 22–40.
- Forest, J., Mageau, G. A., Crevier-Braud, L., Bergeron, É., Dubreuil, P., & Lavigne, G. L. (2012). Harmonious passion as an explanation of the relation between signature strengths' use and well-being at work: Test of an intervention program. *Human Relations*, 65, 1233–1252.
- *Forest, J., Mageau, G. A., Sarrazin, C., & Morin, E. M. (2011). "Work is my passion": The different affective, behavioural, and cognitive consequences of harmonious and obsessive passion toward work. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, 28, 27–40.
- *Forest, J., Sarrazin, C., Morin, E., Brunet, L., Savoie, A., & Mageau, G. A. (2006). *Harmonious passion and obsessive passion: Variables affecting psychological health and flow at work*. Unpublished manuscript. translated from French
- Forgas, J. P. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological Bulletin*, 117, 39–66.
- Forgas, J. P. (2008). Affect and cognition. *Perspectives on Psychological Science*, 3, 94–101.
- Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical Transactions of the Royal Society*, 359, 1367–1378.
- *Gaan, N., & Mohanty, P. (2019). On passion & sustainable leadership: Personal & organizational outcomes in India. *Indian Journal of Industrial Relations*, 54(3).
- Gielnik, M., Spitzmuller, M., Schmitt, A., Klemann, D., & Frese, M. (2015). I put in effort, therefore I am passionate: Investigating the path from effort to passion in entrepreneurship. *Academy of Management Journal*, 58, 1012–1031.
- Gonzalez-Mulé, E., & Aguinis, H. (2018). Advancing theory by assessing boundary conditions with meta-regression: A critical review and best-practice recommendations. *Journal of Management*, 44(6), 2246–2273.
- Gorgievski, M. J., Bakker, A. B., & Schaufeli, W. B. (2010). Work engagement and workaholism: Comparing the self-employed and salaried employees. *The Journal of Positive Psychology*, 5, 83–96.
- Gostick, A. R., & Elton, C. (2014). *What motivates me: Put your passions to work*. Culture Works Press.
- Grant, A. M. (2012). Leading with meaning: Beneficiary contact, prosocial impact, and the performance effects of transformational leadership. *Academy of Management Journal*, 55, 458–476.
- Guilbeau, C. (2012). *The \$100 startup: Reinvent the way you make a living, do what you love, and create a new future*. Crown Business.
- *Hao, P., He, W., & Long, L. R. (2018). Why and when empowering leadership has different effects on employee work performance: The pivotal roles of passion for work and role breadth self-efficacy. *Journal of Leadership & Organizational Studies*, 25(1), 85–100.
- Herrmann, D., Sinnett, P., Holmes, J., Khan, S., Koller, C., & Vassar, M. (2016). Statistical controversies in clinical research: Publication bias evaluations are not routinely conducted in clinical oncology systematic reviews. *Annals of Oncology*, 28(5), 931–937.
- *Ho, V. T., & Astakhova, M. N. (2018). Disentangling passion and engagement: An examination of how and when passionate employees become engaged ones. *Human Relations*, 71(7), 973–1000.
- *Ho, V. T., Kong, D. T., Lee, C. H., Dubreuil, P., & Forest, J. (2018). Promoting harmonious work passion among unmotivated employees: A two-nation investigation of the compensatory function of cooperative psychological climate. *Journal of Vocational Behavior*, 106, 112–125.
- *Ho, V. T., & Pollack, J. M. (2014). Passion isn't always a good thing: Examining entrepreneurs' network centrality and financial performance with a dualistic model of passion. *Journal of Management Studies*, 51, 433–459.
- *Ho, V. T., Wong, S. S., & Lee, C. H. (2011). A tale of passion: Linking job passion and cognitive engagement to employee work performance. *Journal of Management Studies*, 48, 26–47.
- *Houfourt, N., Fernet, C., Vallerand, R. J., Laframboise, A., Guay, F., & Koestner, R. (2015). The role of passion for work and need satisfaction in psychological adjustment to retirement. *Journal of Vocational Behavior*, 88, 84–94.
- *Houfourt, N., Philippe, F. L., Vallerand, R. J., & Ménard, J. (2014). On passion and heavy work investment: Personal and organizational outcomes. *Journal of Managerial Psychology*, 29, 25–45.
- Hunter, J. E., & Schmidt, F. L. (2004). *Methods of meta-analysis: Correcting error and bias in research findings* (2nd ed.). Thousand Oaks, CA: Sage.
- Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38, 635–672.
- *Huyghe, A., Knockaert, M., & Obschonka, M. (2016). Unraveling the "passion orchestra" in academia. *Journal of Business Venturing*, 31(3), 344–364.
- Isen, A. M. (2000). Some perspectives on positive affect and self-regulation. *Psychological Inquiry*, 11, 184–187.
- Isen, A. M., & Daubman, K. A. (1984). The influence of affect on categorization. *Journal of Personality and Social Psychology*, 47, 1206–1217.
- Isen, A. M., & Reeve, J. (2005). The influence of positive affect on intrinsic and extrinsic motivation: Facilitating enjoyment of play, responsible work behavior, and self-control. *Motivation and Emotion*, 29, 297–325.
- *Jamil, A., Omar, R., & Panatik, S. A. (2014). Identity threat, resistance to chance and entrepreneurial behavioural engagements: The moderating role of entrepreneurial passion. *Asian Social Science*, 10, 1–16.
- Kahneman, D., Diener, E., & Schwarz, N. (1999). *Well-being: The foundations of hedonic psychology*. New York: Sage.

- Kang, L. (2006). *Passion at work: How to find work you love and live the time of your life*. New York: Prentice Hall.
- Kepes, S., Banks, G. C., McDaniel, M., & Whetzel, D. L. (2012). Publication bias in the organizational sciences. *Organizational Research Methods*, 15(4), 624–662.
- *Kim, H. (2013). Passion on teaching beliefs and efficacy. *Academic Exchange Quarterly*, 17, 1–8.
- *Klaukien, A., Shepherd, D. A., & Patzelt, H. (2013). Passion for work, nonwork-related excitement, and innovation managers' decision to exploit new product opportunities. *Journal of Product Innovation Management*, 30, 574–588.
- *Kong, D. T. (2016). The pathway to unethical pro-organizational behavior: Organizational identification as a joint function of work passion and trait mindfulness. *Personality and Individual Differences*, 93, 86–91.
- *Kong, D. T., & Ho, V. T. (2018). The performance implication of obsessive work passion: Unpacking the moderating and mediating mechanisms from a conservation of resources perspective. *European Journal of Work and Organizational Psychology*, 27(2), 269–279.
- *Lajom, J. A. L., Amarnani, R. K., Restubog, S. L. D., Bordia, P., & Tang, R. L. (2018). Dualistic passion for work and its impact on career outcomes: Scale validation and nomological network. *Journal of Career Assessment*, 26(4), 631–648.
- *Lavigne, G. L., Forest, J., & Crevier-Braud, L. (2012). Passion at work and burnout: A two-study test of the mediating role of flow experiences. *European Journal of Work and Organizational Psychology*, 21, 518–546.
- *Lavigne, G. L., Forest, J., Fernet, C., & Crevier-Braud, L. (2014). Passion at work and workers' evaluations of job demands and resources: A longitudinal study. *Journal of Applied Social Psychology*, 44, 255–265.
- *Li, J. J., Chen, X. P., Kotha, S., & Fisher, G. (2017). Catching fire and spreading it: A glimpse into displayed entrepreneurial passion in crowdfunding campaigns. *Journal of Applied Psychology*, 102(7), 1075.
- *Liu, D., Chen, X. P., & Yao, X. (2011). From autonomy to creativity: A multilevel investigation of the mediating role of harmonious passion. *Journal of Applied Psychology*, 96, 294–309.
- Lv, J., & Maeda, Y. (2019). Evaluation of the efficacy of meta-analytic structural equation modeling with missing correlations. *Structural Equation Modeling: A Multidisciplinary Journal*, 1–24. <https://doi.org/10.1080/10705511.2019.1646651>
- *Ma, C., Gu, J., & Liu, H. (2017). Entrepreneurs' passion and new venture performance in China. *International Entrepreneurship and Management Journal*, 13(4), 1043–1068.
- *Ma, C., Gu, J., Liu, H., & Zhang, Q. (2017). Entrepreneurial passion and organizational innovation: The moderating role of the regulatory focus of entrepreneurs. *Journal of Developmental Entrepreneurship*, 22(03), 1750020.
- *Mageau, G. A., Vallerand, R. J., Charest, J., Salvy, S. J., Lacaille, N., Bouffard, T., & Koestner, R. (2009). On the development of harmonious and obsessive passion: The role of autonomy support, activity specialization, and identification with the activity. *Journal of Personality*, 77, 601–646.
- *McAllister, C. P., Harris, J. N., Hochwarter, W. A., Perrewé, P. L., & Ferris, G. R. (2017). Got resources? A multi-sample constructive replication of perceived resource availability's role in work passion–job outcomes relationships. *Journal of Business and Psychology*, 32(2), 147–164.
- McDaniel, M. A. (2009, April). *Cumulative meta-analysis as a publication bias method*. Paper presented at the annual meeting of the Society for Industrial and Organizational Psychology. LA: New Orleans.
- Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review*, 1(1), 61–89.
- Miller, D. (2009). *No more dreaded Mondays: Ignite your passion and other revolutionary ways to discover your true calling at work*. Waterbrook Press.
- Mittness, C. R., Cardon, M. S., & Sudek, R. (2010). The importance angels place on passion when making investment decisions: Why does it matter to some and not all angels? *Frontiers of Entrepreneurship Research*, 30, 1–14.
- Mittness, C., Sudek, R., & Cardon, M. S. (2012). Angel investor characteristics that determine whether perceived passion leads to higher evaluations of funding potential. *Journal of Business Venturing*, 27, 592–606.
- *Molino, M., Dolce, V., Cortese, C. G., & Ghislieri, C. (2017). An Italian adaptation of the entrepreneurial passion scale. *BPA-Applied Psychology Bulletin (Bollettino di Psicologia Applicata)*, 65(279).
- *Monteil-Campos, H. (2017). Impact of entrepreneurial passion on entrepreneurial orientation with the mediating role of entrepreneurial alertness for technology-based firms in Mexico. *Journal of Small Business and Enterprise Development*, 24(2), 353–374.
- *Montiel-Campos, H., & Palma-Chorres, Y. M. (2016). Technological entrepreneurship: A multilevel study. *Journal of Technology Management & Innovation*, 11(3), 77–83.
- *Mueller, B. A., Wolfe, M. T., & Syed, I. (2017). Passion and grit: An exploration of the pathways leading to venture success. *Journal of Business Venturing*, 32(3), 260–279.
- *Murnieks, C. Y., Mosakowski, E., & Cardon, M. S. (2011). Pathways of fire: An empirical look at entrepreneurial passion. *Frontiers of Entrepreneurship Research*, 31(2), 138–150.
- *Murnieks, C. Y., Mosakowski, E., & Cardon, M. S. (2014). Pathways of passion: Identity Centrality, passion, and behavior among entrepreneurs. *Journal of Management*, 40, 1583–1606.
- *Nasiru, A., Keat, O. Y., & Bhatti, M. A. (2015). Influence of perceived university support, perceived effective entrepreneurship education, perceived creativity disposition, entrepreneurial passion for inventing and founding on entrepreneurial intention. *Mediterranean Journal of Social Sciences*, 6, 88–95.
- O'Boyle, E. H., DeSimone, J., Barrick, M., & Ryu, J. (August, 2019). *Best practices in the conducting and reviewing of systematic reviews*. Paper presented at the annual meeting of the Academy of Management. Boston: MA.
- Oldham, G. R., & Hackman, J. R. (2010). Not what it was and not what it will be: The future of job design research. *Journal of Organizational Behavior*, 31, 463–479.
- *Padham, M., & Aujla, I. (2014). The relationship between passion and the psychological well-being of professional dancers. *Journal of Dance Medicine and Science*, 18, 37–44.
- *Patel, P. C., Thorgren, S., & Wincent, J. (2015). Leadership, passion and performance: A study of job creation projects during the recession. *British Journal of Management*, 26, 211–224.
- *Pereira, M. M., Ferreira, M. C., & Valentini, F. (2018). Evidências de validade da escala de paixão pelo trabalho em amostras brasileiras. *Psico-USF*, 23(1), 151–162.
- *Perttula, K. H. (2004). *The POW factor: Understanding and igniting passion for one's work*. Unpublished Doctoral Dissertation.
- *Philippe, F. L., Vallerand, R. J., Andrianarisoa, J., & Brunel, P. (2009). Passion in referees: Examining their affective and cognitive experiences in sport situations. *Journal of Sport & Exercise Psychology*, 31, 77–96.
- Porter, L. W., & Lawler, E. E. (1968). What job attitudes tell about motivation. *Harvard Business Review*, 46(1), 118–126.
- *Prates, M. E. F., Both, J., & Rinaldi, I. P. B. (2019). The physical education teachers and the passion for teaching activity in higher education. *Journal of Physical Education*, 30.
- *Qadeer, F., Ahmed, A., Hameed, I., & Mahmood, S. (2016). Linking passion to organizational citizenship behavior and employee performance: The mediating role of work engagement. *Pakistan Journal of Commerce and Social Sciences*, 10(2), 316–334.
- Rosenberg, H., & Kraus, S. (2014). The relationship of "passionate attachment" for pornography with sexual compulsivity, frequency of use, and craving for pornography. *Addictive Behaviors*, 39, 1012–1017.

- Rosso, B. D., Dekas, K. H., & Wrzesniewski, A. (2010). On the meaning of work: A theoretical integration and review. *Research in Organizational Behavior*, 30, 91–127.
- [†]Serrano-Fernández, M. J., Boada-Grau, J., Gil-Ripoll, C., & Vigil-Colet, A. (2017). Spanish adaptation of the passion toward work scale (PTWS). *Anales de Psicología/Annals of Psychology*, 33(2), 403–410.
- Shane, S., Locke, E. A., & Collins, C. J. (2003). Entrepreneurial motivation. *Human Resource Management Review*, 13, 257–279.
- [†]Shi, J. (2012). Influence of passion on innovative behavior: An empirical examination in Peoples Republic of China. *African Journal of Business Management*, 6, 8889–8896.
- Shi, L., & Lin, L. (2019). The trim-and-fill method for publication bias: Practical guidelines and recommendations based on a large database of meta-analyses. *Medicine*, 98(23), e15987.
- [†]Shockley, J., & Turner, T. (2016). A relational performance model for developing innovation and long-term orientation in retail franchise organizations. *Journal of Retailing and Consumer Services*, 32, 175–188.
- [†]Sirén, C., Patel, P. C., & Wincent, J. (2016). How do harmonious passion and obsessive passion moderate the influence of a CEO's change-oriented leadership on company performance? *The Leadership Quarterly*, 27(4), 653–670.
- Smilor, R. W. (1997). Entrepreneurship: Reflections on a subversive activity. *Journal of Business Venturing*, 12, 341–346.
- [†]Stenholm, P., & Renko, M. (2016). Passionate bricoleurs and new venture survival. *Journal of Business Venturing*, 31(5), 595–611.
- [†]Stroe, S., Shepherd, D., & Wincent, J. (2018). Fear of failure and negative affect in early stage entrepreneurs: Regulation through passion. In *Academy of Management Proceedings* (Vol. 2018, No. 1, p. 14444). Briarcliff Manor, NY 10510: Academy of Management.
- [†]Swanson, S., & Kent, A. (2017). Passion and pride in professional sports: Investigating the role of workplace emotion. *Sport management review*, 20(4), 352–364.
- Thoresen, C. J., Kaplan, S. A., Barsky, A. P., Warren, C. R., & De Chermont, K. (2003). The affective underpinnings of job perceptions and attitudes: a meta-analytic review and integration. *Psychological Bulletin*, 129(6), 914–945.
- Thorgren, S., & Wincent, J. (2013). Passion and challenging goals: Drawbacks of rushing into goal-setting processes. *Journal of Applied Social Psychology*, 43, 2318–2329.
- Thorgren, S., & Wincent, J. (2015). Passion and habitual entrepreneurship. *International Small Business Journal*, 33, 216–227.
- [†]Thorgren, S., Wincent, J., & Sirén, C. (2013). The influence of passion and work-life thoughts on work satisfaction. *Human Resource Development Quarterly*, 24, 469–492.
- [†]Trépanier, S. G., Fernet, C., Austin, S., Forest, J., & Vallerand, R. J. (2014). Linking job demands and resources to burnout and work engagement: Does passion underlie these differential relationships? *Motivation and Emotion*, 38, 353–366.
- Trope, Y., Ferguson, M., & Raghunathan, R. (2001). Mood as a resource in processing self-relevant information. In J. P. Forgas (Ed.), *The handbook of affect and social cognition* (pp. 256–274). Mahwah, NJ: Erlbaum.
- Vallerand, R. J. (2015). *The psychology of passion: A dualistic model*. New York: Oxford Press.
- Vallerand, R. J., Blanchard, C., Mageau, G. A., Koestner, R., Ratelle, C., Léonard, M., ... Marsolais, J. (2003). Les passions de l'âme: On obsessive and harmonious passion. *Journal of Personality and Social Psychology*, 85, 756–767.
- Vallerand, R. J., & Houliort, N. (Eds.). (2019). *Passion for Work: Theory, Research, and Applications*. Oxford University Press.
- Vallerand, R. J., Houliort, N., & Forest, J. (2014). Passion for work: Determinants and outcomes. In M. Gagné (Ed.), *The Oxford handbook of work engagement, motivation, and self-determination theory* (pp. 85–105). Oxford, UK: Oxford University Press.
- [†]Vallerand, R. J., Paquet, Y., Philippe, F. L., & Charest, J. (2010). On the role of passion for work in burnout: A process model. *Journal of Personality*, 78, 289–312.
- Vallerand, R. J., Salvy, S. J., Mageau, G. A., Elliot, A. J., Denis, P. L., Grouzet, F. M., & Blanchard, C. (2007). On the role of passion in performance. *Journal of Personality*, 75(3), 505–534.
- Viechtbauer, W. (2010). Conducting meta-analyses in R with the metafor package. *Journal of Statistical Software*, 36(3), 1–48.
- Viechtbauer, W., López-López, J. A., Sánchez-Meca, J., & Marín-Martínez, F. (2015). A comparison of procedures to test for moderators in mixed-effects meta-regression models. *Psychological Methods*, 20(3), 360.
- Viswesvaran, C., & Ones, D. S. (1995). Theory testing: Combining psychometric meta-analysis and structural equations modeling. *Personnel Psychology*, 48(4), 865–885.
- Vroom, V. R. (1964). *Work and motivation*. New York: Wiley.
- Wang, C. K. J., Liu, W. C., Chye, S., & Chatzisarantis, N. L. (2011). Understanding motivation in internet gaming among Singaporean youth: The role of passion. *Computers in Human Behavior*, 27, 1179–1184.
- Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review*, 26, 179–201.
- [†]Yahui, S., & Jian, Z. (2015). Does work passion promote work performance? From the perspective of Dualistic Model of Passion. *Advances in Management*, 8, 9–15.
- Yu, J. J., Downes, P. E., Carter, K. M., & O'Boyle, E. (2018). The heterogeneity problem in meta-analytic structural equation modeling (MASEM) revisited: A reply to Cheung. *Journal of Applied Psychology*, 103(7), 804–811.
- Yu, J. J., Downes, P. E., Carter, K. M., & O'Boyle, E. H. (2016). The problem of effect size heterogeneity in meta-analytic structural equation modeling. *Journal of Applied Psychology*, 101(10), 1457.
- [†]Yukhymenko-Lescroart, M. A., & Sharma, G. (2019). The relationship between faculty members' passion for work and well-being. *Journal of Happiness Studies*, 20(3), 863–881.
- [†]Zigarmi, D., Galloway, F. J., & Roberts, T. P. (2018). Work locus of control, motivational regulation, employee work passion, and work intentions: An empirical investigation of an appraisal model. *Journal of Happiness Studies*, 19(1), 231–256.
- [†]Zito, M., & Colombo, L. (2017). The Italian version of the Passion for Work Scale: First psychometric evaluations. *Revista de Psicología del Trabajo y de las Organizaciones*, 33(1), 47–53.

AUTHOR BIOGRAPHIES

Jeffrey M. Pollack is an associate professor in the Poole College of Management at North Carolina State University. His main research area is entrepreneurship, and his work focuses on the determinants of performance, both at the individual and firm levels. Jeff's research has been published in journals including *Academy of Management Journal*, *Psychological Bulletin*, *Journal of Business Venturing*, *Entrepreneurship Theory and Practice*, *Journal of Management Studies*, *Journal of Organizational Behavior*, and *Journal of Management*.

Violet T. Ho (PhD, Carnegie Mellon University) is Professor of Management at the University of Richmond. Her research interests include work passion, social networks, and employment arrangements. She has published in *Academy of Management Review*, *Journal of Management*, *Journal of Management Studies*, *Organizational Behavior and Human Decision Processes*, and *Organization Science*.

Ernest H. O'Boyle holds the Dale M. Coleman Chair of Management in the Kelley School of Business at Indiana University. His research interests include individual differences, counterproductive work behavior, and research methods. O'Boyle is an associate editor at *Journal of Management* and sits on the editorial boards of

Personnel Psychology, *Organizational Research Methods*, and *Journal of Applied Psychology*.

Bradley L. Kirkman is the General (Ret.) H. Hugh Shelton Distinguished Professor of Leadership in the Department of Management, Innovation, and Entrepreneurship at the Poole College of Management at North Carolina State University. He received his PhD in Organizational Behavior from the Kenan-Flagler Business School at the University of North Carolina at Chapel Hill. His research focuses on leadership, international management, virtual teams, and work team leadership and empowerment.

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of this article.

How to cite this article: Pollack JM, Ho VT, O'Boyle EH, Kirkman BL. Passion at work: A meta-analysis of individual work outcomes. *J Organ Behav*. 2020;1–21. <https://doi.org/10.1002/job.2434>