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Specific, situated, intra-individual, dialectical, and open:

New avenues to integrate and advance the research on passion for work

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Abstract

In almost two decades, the research on passion for work has produced a variety of definitions, measures, and models specifying components, predictors, and outcomes the construct. A challenge for the next generation of research studies will be the integration of these diverse theoretical and methodological approaches with each other and with other fields related to the study of motivation and emotion.

This article proposes approaches that shall help to integrate and advance the research on passion for work by implementing recent innovations and insights from the research on related motivational and emotional constructs. The following solutions are proposed: (1) specifying the exact facets of passion for work in theoretical models and measures, (2) using psychometric network models to examine the relationships among the facets and the facets' relationships with relevant predictors and outcomes, (3) formulating and testing process models that distinguish between state- and trait development and include recursive feedback loops, (4) examining the ambivalent motivation and mixed emotions accompanying passion for work with intra-individual methods, (5) working towards cumulative scientific insights by adopting multi-lab collaborations and other open science practices, and (6) distinguishing between the facets that drive affective thriving and those driving perseverance in the face of obstacles.

Keywords: Passion for work, facets, network models, situation-specific measures, intra-individual analyses, ambivalent motivation, open science.

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New avenues to integrate and advance the research on passion for work

*“(...) there is no such thing as a life of passion
any more than a continuous earthquake, or an eternal fever.
Besides, who would ever shave themselves in such a state?”*

(Lord Byron, July 5th, 1821/1833)

In almost two decades, the research on passion for work has produced various definitions, measures, and models specifying components, predictors, and outcomes of the construct. A challenge for the next generation of research is the integration of these diverse theoretical and methodological approaches with each other and with other relevant research fields. This article seeks to contribute to such an integration. It aspires to reconcile some core insights from various passion models with insights from other relevant research fields, including the literature on related motivation and emotion constructs, the literature on relevant measurement and methodological issues, and the literature on states, traits, and development. The article consists of two main parts, the first of which summarizes research gaps in the previous literature and the second of which makes suggestions how to address these gaps.

Crucial research gaps in the current literature on passion for work

This article addresses the following, as of yet unanswered research questions: (1) What exactly is passion for work, what are its facets, and how does it differ from related constructs? (2) How should we measure passion for work, and what are appropriate measurement models? (3) How does passion for work differ from related constructs? What does passion for work contribute to the prediction of relevant outcomes beyond the contributions made by other constructs? Which specific passion facets account for such incremental validity in predicting which outcome? (4) How do malleable, fluctuating aspects of passion for work interact with stable components? Which of these components are linked to which outcomes

and which predictors? (5) How can we reconcile that some studies consider positive and negative experiences as rather mutually exclusive, while others report co-occurrences of positive and negative experiences in the same passionate individuals? (6) How can we integrate the calls for more intra-individual methods in the recent psychological literature into studies on passion for work, and what advancements do we expect to gain from these novel methods? (7) What definition, measurement model, and study design could integrate the insights from the afore-mentioned points, and the insights from the various approaches in the previous research, in a joint framework? A detailed description of these research gaps ensues.

What is passion for work? A multifaceted construct with sometimes fuzzy boundaries

Since this special issue gives a comprehensive overview of the state of the research on passion for work, features of the various definitions and models shall only briefly be addressed here. When summarizing research gaps in the previous literature and proposing approaches to integrate core elements of various models, this article will rely mainly on the research on the dual model of passion (e.g., Vallerand et al., 2003; Vallerand & Houliort, 2019), aspects of entrepreneurial passion (e.g., Cardon, Wincent et al., 2009; for an overview, see Newman et al., 2019), research distinguishing between malleable and stable aspects of passion for work (Chen et al., 2018; O’Keefe et al., 2018; Duckworth et al., 2007; Jachimowicz, Wihler, Bailey, & Galinsky, 2018) and models distinguishing between specific facets of passion for work (Moeller, 2014; Moeller, Ivcevic, et al., under review).

Many definitions of passion for work overlap so much with other constructs (e.g., work engagement, commitment, personal interest) that it is often unclear where one construct begins and the other ends (for overviews, see Moeller, 2014 and Newman et al., 2019). Consequently, there are multiple labels referring to similar phenomena, which is called a jangle fallacy (Block, 1995), and many different definitions of passion for work describing slightly different phenomena, called a jingle fallacy (ibid.). Both jingle and jangle fallacies make it difficult for researchers to know what exactly someone means when he uses the term

passion. This hinders researchers from building upon previous research in a cumulative way, because it is often unclear if previous studies addressing passion for work actually referred to the same phenomenon. Unclear boundaries of passion to related constructs in combination with jingle and jangle fallacies also prevent the integration of insights from other motivational constructs into the research on work passion, because it is unclear in which aspects passion overlaps with similar constructs, such as engagement, commitment, or emotions.

Notwithstanding the diversity in definitions and measures of passion for work, it seems that there is agreement in regard to conceptualizing passion as multi-faceted construct. A facet represents one specific psychological mechanism. Most models and measures of work passion include a number of passion facets and measure passion as a composite (mean or latent variable) of various facets (for an overview, see e.g., Newman et al. 2019).

Conceptualizing passion as a multi-faceted construct enables us to examine the nature of passion for work more in-depth by addressing research questions such as: (1) Which of these facets need to be experienced by a person for this person to be labeled passionate? (2) Can one facet's presence compensate for the absence of another for a person to still be labeled passionate? (3) What would be an appropriate measurement model to describe the relationship among these facets in a passionate person? (4) In which facets does passion for work overlap with related constructs, such as work engagement and commitment, and are there any facets, or combinations thereof, that are unique to the passion construct? (5) Which exact facet accounts for which outcome or correlate of passion? Which predictor affects which facet? What are the psychological *mechanisms* and processes behind these statistical relationships among the passion facets and the predictors, correlates, and outcomes of passion? (6) In what intra-individual combinations are these facets experienced by individuals with a passion for work? (7) Does the passion construct have incremental validity in explaining relevant work experiences and work outcomes, if passion is systematically compared to all related psychological constructs? This question needs to be examined on the level of specific facets,

raising the additional question of which facets account for that incremental validity of passion. (8) Which facets develop at which time line? (stable versus fluctuating facets).

How should we measure passion? What are appropriate measurement models to represent the relationships among its indicators and facets?

In addition to the different definitions and models, there are various measures of passion for work, including the dual model passion scale (Vallerand et al., 2003; Ho, Kong, Lee, Dubreuil, & Forest, 2018), measures of entrepreneurial passion (for an overview, see Newman et al., 2019), measures of lay people's beliefs about passion (Chen et al., 2018; O'Keefe et al., 2018; Jachimowicz, To, Menges, Akinola, 2018), and facet measures of work passion (e.g., Moeller, Ivcevic, et al., under review). To reduce confusion due to jingle and jangle fallacies and to build upon each other's work in a cumulative way, it seems desirable to strive towards some agreement about how to measure passion for work.

The first step towards that goal would be the agreement about facets and items to be included in measures of passion for work. The next step would be the identification of a corresponding measurement model. There have been recent debates in the motivation and emotion literature about the features of different measurement models. It has been pointed out that the commonly used structural equation models have strict underlying assumptions that may be unrealistic and in conflict with theoretical assumptions of theories about emotions and other constructs (e.g., Lange et al., 2020; Haslbeck, Ryan, Robinaugh, Waldorp, & Borsboom, 2019). We will discuss below if the same critique applies to measures of passion for work, and whether alternative measurement models might be more realistic and in harmony with theoretical assumptions about the relationships among passion items and passion facets.

So far, most studies have measured overall passion or its facets (e.g., harmonious and obsessive passion), in form of a composite (mean score or latent variable). To justify these composite measurements, many studies refer to findings of acceptable model fit indices in confirmatory factor analyses (CFA; e.g., Jachimowicz, To, et al., 2018; Vallerand, Rousseau,

Grouzet, Dumais, & Grenier, 2006; Vallerand, 2010). While CFA are frequent in Psychology and motivation research, they are not automatically the most appropriate measurement models, and as far as we know, a systematic debate about appropriate measurement models for the passion construct is yet to emerge. There are several alternative models with less restrictive and vastly different implications for the structure of passion items and facets, that, as far as we know, seem not to have been considered yet by the passion literature (see Figure 1). In addition, there are various statistically equivalent models that may show the same model fit but imply very different conclusions about the inter-relations and causal dependencies of the examined items or facets (see e.g., Brick & Bailey, 2020; Lange et al., 2020; Tomarken & Waller, 2004). Figure 1 gives an overview of some possible measurement models, with the lower left model (the so-called *reflective measurement model*, also called CFA or confirmatory SEM) being the most frequently applied in the research on passion.

There are several reasons to consider measuring passion for work with other than the commonly used reflective measurement model: First, the reflective measurement model or CFA has strict underlying assumptions that may be unrealistic, particularly for a multi-facetted construct as passion (for an overview of the assumptions underlying various measurement models, see Lange et al., 2020). For instance, the reflective measurement model assumes that the latent variable represents *one mechanism or entity causing* all the inter-correlations among the indicators or facets, which may seem implausible.

Moreover, the reflective measurement model or CFA assumes that the residuals (variance component in each item not explained by the latent factor) are uncorrelated, which several studies on the dual model passion scale found to be unsupported by empirical evidence (Marsh et al., 2013; Peixoto et al., 2019). A few studies have therefore suggested to loosen the constraint of uncorrelated residuals in exploratory structural equation models (ESEM; see Figure 1) allowing correlations among the residuals, both within and across the indicators of harmonious and obsessive passion (ibid.). This decision, however, should give

rise to a broader debate about the appropriate measurement model used to represent passion for work. Ideally, the measurement model should be derived from the theoretical model of the construct and the use of confirmatory theory testing through model fit indices is the way to know whether the data support the theoretical structural model of passion.

Now that the measurement model had to be revised due to discrepancies between the empirical structure (correlated residuals) and the theoretically assumed structure (expecting uncorrelated residuals), we should take this as a reason to review the theoretical assumptions that we have about relations among passion indicators, and the most appropriate measurement model reflecting these assumptions best. A much-needed debate about appropriate measurement models for modeling passion for work should address for instance the following questions: Do we really assume that all relations among the indicators of passion are *caused* by *one single psychological mechanism*, in passionate individuals, as the CFA assumes? If so, what is this psychological mechanism underlying this assumed latent variable? The finding of substantial correlations among the residuals of the latent factors representing harmonious and obsessive passion (Marsh et al., 2013) suggests that a measurement model with less restrictive assumptions might be more appropriate. If we do not assume that one single mechanism causes the correlations among passion indicators, we might maybe want to consider for instance a formative measurement model, in which the latent variable is constituted by what the indicators have in common, rather than being the *cause* of their shared variance.

Section 2.2 summarizes reasons to consider psychometric network models for measuring work passion.

Figure 1. Measurement models representing the *structure* of passion for work.

State- versus trait facets of passion for work

While previous research has included many fluctuating constructs, such as state emotions and flow, as facets and correlates of passion, there is a lack of empirical longitudinal studies capturing such states and their fluctuations across work situations. The available intensive longitudinal studies needed to capture states at best address related constructs, such as work engagement (Riedl & Thomas, 2019), workaholism (Snir & Zohar, 2008), flow at work (Fullagar, & Kelloway, 2009); or they capture situational experiences of passion in other than work contexts (e.g., in adolescents' everyday lives, Moeller et al., 2017).

Since we know so little about people's passionate experiences in specific work situations, it is unclear how the abstract multifaceted construct of passion relates exactly to the experiences that people make. How exactly do people feel, think, and act, in which exact situations, if they are passionate about their work? And how do the rather stable passion components, such as the "inclination" (Vallerand et al., 2003), the identification (e.g., Vallerand et al., 2003; Cardon et al., 2009) and the long-term goals (Moeller, Ivcevic, et al., under review) relate to the presumably fluctuating passion components? We need intensive longitudinal studies in combination with theoretical process models describing the development of state and trait passion facets on their respective time lines, describing the psychological mechanisms of the facets' interactions with each other, and describing the facets' respective contributions to relevant outcomes, or unique dependencies on antecedents.

Rethinking the relation of passion to positive and negative outcomes

Much of the research on passion for work so far has been influenced by the dual model of passion (Vallerand et al., 2003; Vallerand & Houlfort, 2019), which often describes a person's passion as either predominantly harmonious, or as predominantly obsessive (e.g., Vallerand, Paquet, Philippe, & Charest, 2010). Other models of passion for work have left out the negative component and define passion for work as a mainly positive experience (e.g., Cardon et al., 2009). In contrast, several studies found that positive and aversive experiences

can co-occur in passionate individuals (e.g., Moeller, Keiner, & Grassinger, 2015; Wang, Khoo, Liu, & Divaharan, 2008). This raises the question whether a passion for work is best described as dualistic (either predominantly obsessive, or predominantly harmonious), or as an ambivalent experience (positive and negative at the same time). Recent findings of ambivalent motivation in the closely related work engagement construct suggest that substantial groups of employees report ambivalent combinations of high work motivation (engagement) co-occurring with high levels of stress and burnout symptoms (Moeller, Ivcevic, White, et al., 2018). In line with this finding, we might want to consider whether the emerging literature on mixed emotions (e.g., Hoemann, Gendron, & Barrett, 2017; Miyamoto, Uchida, Ellsworth, 2010; Moeller, Ivcevic, Brackett, & White, 2018) may provide insightful additions to our understanding of ambivalence in individuals with a passion for work. The possibility that harmonious and obsessive aspects may co-occur is supported by the finding that their assumed precursors, intrinsic and extrinsic motivators, may co-occur within individuals (Lepper, Corpus, & Iyengar, 2005). In addition to theoretical models explaining such possible ambivalence in people with a passion for work, we may want to consider process models specifying the long-term dynamics among harmonious and obsessive experiences. So far, the relationship between harmonious passion (HP) and obsessive passion (OP) was mostly considered time-invariant, since differences between HP and OP are expected to go back to the way an activity was originally internalized, and such past internalization seems unlikely to change. However, due to the lack of longitudinal studies, we do not know yet whether a predominantly harmonious passion, if it exists, may turn into an OP, or vice versa, if work conditions change. We may, for instance, hypothesize that changes to work conditions causing goal conflicts or exhaustion may increase the obsessive and negative experiences in a formerly harmoniously passionate activity (think for instance of a healthcare worker during a pandemic, an athlete before the Olympic games, or a researcher before a deadline).

Intra-individual and person-oriented analyses

The afore-mentioned ambivalence or intra-individual co-occurrence of harmonious, positive, and obsessive, negative experiences may be overlooked if inter-individual and correlation-based methods are used to examine the relationships between these experiences. Such inter-individual and correlation-based methods prevail in the vast majority of studies on passion for work and for other activities. More intra-individual analyses of co-occurrences and profiles of positive and negative experiences and other facets of passion seem needed for various reasons: (1) First intra-individual methods have revealed ambivalent intra-individual co-occurrences of positive and negative passion facets (see above), and systematic replications of these findings are needed, (2) the prevailing inter-individual and correlation-based methods often overlook co-occurrences / co-endorsements of two constructs within the same individuals, because correlations or positive regression coefficients do not imply co-endorsement, and because various subgroups of individuals with widely different profiles of the correlated variables can hide behind such overall, inter-individual coefficients (Anscombe, 1973; Matejka & Fitzmaurice, 2017), (3) Studies on related constructs indicate that the intra-individual structure and processes may differ between individuals, and that intra-individual methods in combination with intensive longitudinal studies are needed in order to discover such heterogeneity (e.g., Fleeson, 2004; Mischel & Shoda, 1995; Molenaar, 2004).

Integrating diverse models and measures of passion for work by implementing recent innovations in the research on motivation and emotions

After summarizing research gaps above, we now propose approaches to address these gaps. This section seeks to integrate recent innovations and insights from the larger literature of emotion and motivation into the research on passion for work, hoping that this will help reconciling separate passion for work definitions and measures in joint models and studies.

Specifying the exact facets of passion for work

When defining passion, it seems helpful to acknowledge the multi-faceted structure of passion for work more explicitly in definitions and psychometric models. This would be helpful for the following reasons: (1) Defining passion as a multi-faceted construct seems to be the minimal consensus that most, if not all, passion researchers can agree to. (2) Defining and measuring the specific facets of passion, and of other multi-faceted constructs, enables us to delineate the differences from and overlaps with related constructs. (3) Correlations among specific facets generally tend to be stronger and content-wise easier to interpret than correlations among more abstract higher-order factors (e.g., Armstrong & Anthony, 2009; Beauducel, Liepmann, Felfe, & Nettelstroth, 2007; Bipp, Steinmayr, Spinath, 2008; Schimmack, Oishi, Furr, & Funder, 2004). (4) Specifying facets enables us to distinguish between the unique contributions of different facets to relevant outcomes, and the differential dependency of different facets on different predictors. And (5), distinguishing between all relevant specific facets of passion enables us to find an appropriate measurement model. Some of these points are discussed more in detail below.

First, describing passion as a multi-faceted construct is very common among passion researchers, see for instance in the taxonomy of facets in the entrepreneurial passion literature (Newman et al., 2019). Thus, identifying the specific facets which two definitions, models, or measures agree, and those they do not agree about seems an important first step towards identifying the core of passion and integrating the various passion definitions and measures.

Second, specifying the exact facets of passion allows us to delineate more precisely in which of these facets the passion construct overlaps with or differs from related constructs. For example, engagement for work also involves the facets of liking, finding important, spending time and energy, and positive emotions, but unlike (obsessive) passion, engagement comes without the connotation of negative, obsessive feelings and irrational persistence (Gorgievski-Duijvesteijn & Bakker, 2010; Ho, Wong, & Lee, 2011). On the other hand,

workaholism is extremely similar to obsessive passion, both theoretically as empirically (ibid.; Birkeland & Buch, 2015). Specifying facets also helps distinguishing passion from organizational and work commitment, another multi-faceted construct, which according to one review differs from passion mainly in the facet of urging approach motivation / desire, which passion includes and commitment does not (Moeller, 2014). So far, our knowledge about overlaps between passion and related constructs has been predominantly empirical, with intercorrelations being reported and interpreted. Ideally, such empirical findings of partial overlaps should be preceded or at least accompanied by theoretical assumptions about the *psychological mechanisms* underlying such covariance.

The third reason to define and measure passion for work in terms of specific facets is the insight that correlations or regression coefficients among facets are often easier to interpret than similar findings concerning relationships among higher order factors (e.g., Armstrong & Anthoney, 2009; Beauducel, Liepmann, Felfe, & Nettelnstroth, 2007; Bipp, Steinmayr, Spinath, 2008; Schimmack, Oishi, Furr, & Funder, 2004). Imagine finding a moderate or high correlation among HP and OP, as it has been reported in numerous studies (e.g., Rip et al., 2006; Vallerand et al., 2007, Séguin-Lévesque et al., 2003; Vallerand et al., 2003). Both HP and OP are multi-faceted themselves, with HP including facets such as goal harmony, being enables to “live a variety of experiences”, and positive feelings; and obsessive passion including facets such as goal conflicts, addiction-like symptoms such as urge/craving, withdrawal symptoms and ill-advised persistence, and aversive feelings (e.g., Vallerand et al., 2003; p. 760). In addition, HP and OP should theoretically both include the passion criteria (liking, finding important, spending time and energy, calling one’s passion, and identifying with the activity), each of which can be considered a facet (or two facets, in the case of time – facet 1 – , and energy – facet 2). Thus, the moderate correlation between HP and OP could be due to them sharing these passion criteria, or due to the possible intra-individual co-occurrence among genuinely harmonious and genuinely obsessive experiences

(e.g., mixed emotions), which was observed in several intra-individual studies (e.g., Moeller, Keiner, & Grassinger, 2015; Wang, et al., 2008). Examining only the correlation among both multi-facetted sub-factors of passion, makes it hard to determine which exact facets, or items, account for this correlation. In contrast, distinguishing between the more specific facets of HP and OP would be much easier to interpret, and possibly helpful in finding out which exact facets account for the correlation among HP and OP. That much insight can be contributed by examining the facet-level relations has been shown by research on constructs related to work passion, including vocational interests (Armstrong & Anthoney, 2009) and conscientiousness, of which grit is a facet (Schmidt, Lechner, & Danner, 2020; Ponnock et al., 2020).

The fourth reason to distinguish between facets of passion for work refers to the relations among passion and its predictors, correlates, and outcomes. As section 0 points out below, passion facets can be classified for instance into those accounting for emotional-motivational thriving (e.g., flow, positive emotions, desire, energy, interest), and those accounting for striving and perseverance in the face of obstacles (e.g., identification, long-term goals, trait perseverance/grit, or the ability to endure suffering accompanying obsessive passion). Does it not seem plausible that different predictors would affect these facets differently? Or that different facets make different contributions to the explanation of relevant outcomes? If you were a manager or a coach in a professional sports team, would you not wish to know which exact facet is a) lacking in your employees/athletes, b) malleable and influenceable by your actions, and c) relevant for the central desired outcome?

The fifth reason to distinguish between specific facets refers to the need to be specific in the definition in order to find the most appropriate measurement model. Everyone understands roughly what is meant if the term passion is used in definitions, but under closer inspection, it often turns out that different people -including different researchers- understand and capture different things when referring to the term. Thus, clarity about specific facets is needed when searching a measurement model that captures what we mean by passion.

The need to disentangle specific passion facets includes the need to specify granular emotions. We often read that (harmonious) passion for work is characterized by positive emotions (e.g., Cardon et al., 2009; Gorgievski-Duijvesteijn, & Bakker, 2010), or that some experiences of (obsessive) work passion are characterized by negative emotions (Gorgievski-Duijvesteijn, & Bakker, 2010), but not all positive emotions are alike, nor is one negative emotion exchangeable with another. Recently, the research on emotions has emphasized the granularity of emotions, the unique experience and unique psychological mechanisms linked to specific emotions, the need to measure emotions on the level of such specific facets instead of as higher-order factors (e.g., Lange et al., 2020), and the unique predictions contributed by such granular, facet-level emotions to relevant outcomes. In line with this, we may ask which exact positive or negative emotions accompany passion (see e.g., Forest, Mageau, Sarrazin, & Morin, 2011). Are those emotions frequently accompanying (harmonious) passion for work rather enthusiasm, joy, and/or happiness, or interest, curiosity, positive surprise, or satisfaction, relief, or hope? Vice versa, are the negative emotions accompanying (obsessive) passion for work frustration, anger, and/or anxiety, or boredom, hopelessness? While none of these emotions might be ruled out, some may be more frequent, thus more characteristic, for passion. These granular emotions feel very different and should thus influence the motivation to engage and persist in work activities in different ways. For instance, anger comes with approach motivation and aggression, while anxiety comes with avoidance and flight motivation. Curiosity and interest are characterized by positive approach motivation, while satisfaction and relief are more contemplative, retrospective, and less of a driver for proactive approach behavior. Therefore, identifying the specific emotions accompanying passion for work will likely tell us more about the exact mechanisms and reasons linking these emotions with passion, which in turn will help us formulate differentiated predictions about the effects of each emotion on relevant outcomes, such as behavioral persistence, turnover intentions, achievement, pro-social or supportive behavior towards clients or colleagues.

Describing the structure of passion facets in psychometric network models

If we define passion as a multi-faceted construct, we need a corresponding measurement model describing these facets, as well as the theoretical assumptions and previous empirical findings about the relationships among these facets. Such a measurement model for a multi-faceted construct like passion for work should take into account that the inter-correlations among the different passion facets may vary among facets, meaning some facets may be stronger related to each other than others. We see no theoretical reason to constrain the correlations among passion facets to the covariance explained by a higher-order passion factor. Instead, it seems plausible – and even has been demonstrated empirically in various studies (e.g., Marsh et al., 2013) – that certain facets and single items can have residual correlations beyond their degree of covariance that is explained by the passion construct. Moreover, our measurement model should account for the possibility that some individuals endorse only some of the facets, while others endorse all of them, and thus, we are also looking for measurement models that are able to reveal intra-individual co-endorsement patterns, which correlation- or regression-based models do not necessarily reveal (see Moeller, Ivcevic, Brackett et al., 2018; Moeller, Ivcevic, White, et al., 2018).

In the research on other multi-faceted constructs, network models have been proposed to measure multi-faceted constructs, including the psychological symptoms of psychological disorders (e.g., Fried et al., 2017; Pe et al., 2015), the interplay of personality facets (e.g., Costantini et al., 2015) or the relations among granular emotions (e.g., Lange et al., 2020). I propose that the psychometric network model discussed by Lange et al. (2020) and other network approaches meet the above-mentioned requirements for a measurement model representing crucial theoretical assumptions of the passion for work construct. The psychometric measurement model assumes that the construct, passion, *is constituted* by the ensemble of its facets and by the (causal) relationships among these facets. It requires all relevant facets to be measured, requiring a comprehensive taxonomy of passion facets as its

theoretical basis. The psychometric network model allows for the relationships among facets to vary within and between individuals (see the idiographic state networks in Figure 2).

Network models further assume that the facets have causal influences on each other and that these interactions among facets are theoretically insightful and constitutive of the overall construct (passion for work). This is a crucial feature that the network model offers beyond the commonly used structural equation models (formative or reflective measurement models).

Thus, a network model is an appropriate representations of the assumed structure of passion for work, because of the following reasons: 1) It allows to specify, measure, and disentangle the facets of passion for work as distinct sub-constructs, 2) it allows for different relationships (correlations or regression coefficients) among different pairs of facets, 3) unlike the CFA and other formative measurement models, it does not represent the multi-facetted construct with one latent variable, thus does not insinuate that one entity or one mechanism has to *cause* the inter-correlations among the facets, and it thus allows for such “residual” correlations among facets that would otherwise would have led to a model rejection in CFA.

Process models describing how situational experiences relate to stable traits

Specifying the facets of passion and representing them in network models, can help us realize a third goal: Understanding how fluctuating states relate to rather stable motivational dispositions in people with a passion for work. We already established above that many definitions and measures of passion include on one hand fluctuating facets known to vary from one moment to the next, such as flow, emotional states, or specific action plans (e.g., Forest, Mageau, Sarrazin, & Morin, 2011; Vallerand et al., 2003; Moeller et al., 2017), and on the other hand facets considered as rather stable, such as inclinations, identification, long-term goals, or personality trait facets, including perseverance/grit (e.g., Jachimowicz, Wihler, et al., 2018; Moeller et al., 2017; Tosun and Lajunen, 2009; Balon et al., 2013). But how do such fluctuating and rather stable facets play together? Do situational passionate experiences (e.g., rewarding experiences of success, competence, joy, flow) lead to the development of trait-like

motivational inclination towards a given work activity (e.g., well-developed personal interest, long-term goals, dispositional task values or competence beliefs)? Or are people born with a disposition for a certain passion for a certain work, and this disposition just makes it more likely for them to experience motivational states such as flow and positive state emotions during such activities? Or is this passion just the label that we apply to name the overall interaction of a person with an activity in a given situation?

Several theories about related motivational constructs assume that motivational states may lead to the development of motivational traits, which might suggest that similar processes might apply to the development of passion for work. For example, the four-phase model of interest development (e.g., Hidi & Renninger, 2006) assumes that repeated experiences of the fluctuating situational interest may lead to a well-developed personal interest, which is a rather trait-like disposition (e.g., Hidi & Renninger, 2006). Similarly, the dynamic expectancy-value model (Moeller, Viljaranta et al., under review; see also Eccles & Wigfield, 2020) assumes that rather stable competence beliefs and task value evaluations may develop out of repeated situational experiences. We do not know yet for sure if similar state-to-trait developmental processes contribute to the development of a passion for work, because most studies on passion for work are rather cross-sectional than longitudinal, and few examine the presumably fluctuating and the presumably stable facets in joint studies.

However, the idea of development from states to the traits is supported by several theoretical reasons: First, passion is very similar to well-developed personal interest, even causing some researchers to call passion “the end of the interest continuum” (Gagné, 2007, p. 99). Due to large overlaps of interest with passion, we might adapt that the four-phase development of interest from situational to well-developed interest to describe the development from passionate state experiences to a manifest and rather stable work passion.

Further reason supporting such assumed state-to-trait development and state-trait interactions can be found in system theories of personality (Mischel & Shoda, 1995) and the

person-situation debates in personality research (e.g., Funder, 2006; Kenrick & Funder, 1988; Roberts & Caspi, 2001). These theories describe dynamic state-trait relations, including the possibilities that traits change through repeated situational experiences (Newcomb, Koenig, Flacks, & Warwick et al., 1967; Kenrick & Funder, 1988) and that the behavior and experience in a given situation is determined by both stable and malleable aspects (Fleeson, 2004; Funder, 2006; Mischel & Shoda, 1995; Kenrick & Funder, 1988). Network-like systems of interacting personality facets were described as early as 1995 (Mischel and Shoda, 1995) and have seen a recent boom in numerous articles on the network relationships among personality facets (e.g., Costantini et al., 2015; 2019; Fonseca-Pedrero et al., 2018).

A link between these theories of personality development and a passion for work can be drawn due to the trait-like passion components that have been described in several models and studies (e.g., Balon et al., 2013; Cardon et al., 2009; Duckworth et al., 2007; Moeller et al., 2017; Obschonka et al., 2019; Tosun and Lajunen, 2009). If we assume that a part of passion is a rather stable inclination, meaning a trait-like tendency to act in a certain way, then we may want to learn from the personality research about the possible development of such traits, and their relationships to specific affective and motivational states. Some of the insights from the person-situation debate that may help moving the research on passion for work forward are: (1) stable and malleable facets interact in specific situations, (2) these interactions are determined by characteristics of the situation and context, malleable and stable characteristics of the person, and specific interaction mechanisms (e.g., Mischel & Shoda, 1995; Funder, 2006), (3) dynamic systems models help understanding the interplay of affective and cognitive state and trait components (e.g., Mischel & Shoda, 1995), (4) Within-person variability must be studied to understand the interplay of fluctuating and stable determinants of behavior (e.g., Fleeson, 2004), and (5) Individuals vary in their intra-individual structure and processes among such personality facets (e.g., Mischel & Shoda, 1995)

Figure 2 proposes a multilevel model integrating these insights from the person-situation personality debate and the facet and network approaches. The specific contents of possible interactions among specific state and trait components are depicted in Figure 3. The multilevel model of Figure 2 defines work passion as the ensemble of passion facets, whose inter-relations are depicted in network models. The lower networks in Figure 2 represent the intra-individual moment-to-moment dynamics among facets, based on variance between situations, within individuals. The upper networks represent the cross-sectional, presumably stable inter-individual correlations among traits, based on variance between individuals.

This multilevel model describes various processes of change: (1) The moment-to-moment predictions among passion facets on the state-level (lower networks), (2) the state-to-trait development (arrows from the state- to the trait-level; bottom-up causality) and (3) trait-to-state influences, (arrows from the trait to the state level; top-down causality).

Figure 2. Multilevel integrations of intra-individual state and inter-individual trait relationships among passion facets in a) a nomothetic approach and b) idiographic approaches (model adapted from Moeller, Viljaranta, Tolvanen, Kracke, & Dietrich, under review).

Figure 2 comes in two versions: The nomothetical version (model A) on the left, which assumes that one intra-individual model appropriately describes the intra-individual processes and structure among passion facets in the sample, and the idiographic version (model B) on the right, which allows for differences (heterogeneity) between individuals in regard to the intra-individual structure and processes among passion facets. The latter is in line with the heterogeneity described in Mischel and Shoda (1995) and in the recent literature on idiographic networks and intra-individual analyses (e.g., Beck & Jackson, 2000). We will address the reasons for including such idiographic models more in detail below in section 4.4.

All of the assumed developmental processes depicted in Figure 2 (moment-to-moment, state-to-trait and trait-to-state) yet have to be tested for passion for work. A useful method for such empirical tests would be the experience sampling method (ESM; e.g., Larson & Csikszentmihalyi, 2014). ESM is typically used to capture fluctuating experiences, such as state emotions, flow, or short-term goal setting (Ketonen et al., 2018). So far, ESM has been used rarely in studies on passion (e.g., passion in adolescents, Moeller et al., 2017), or studies on related constructs, such as work engagement and workaholism (Snir & Zohar, 2008). In order to combine the state assessments of ESM studies with the long-time perspective needed for studies of traits, future studies could combine intensive short-time period of data collection (e.g., one week of intensive experience sampling) with a longer time span capturing the possible emergence of henceforth rather stable motivational dispositions (e.g., with measurement bursts in the same individuals a few months or years apart, Moeller et al., 2017).

While Figure 2 aimed to illustrate the multiple levels of analysis and the time lines of development to help integrating state and trait aspects in joint *research designs*, we need more specific hypotheses about the mechanism that we expect to link state-to trait aspects of passion. Such specific hypotheses are depicted in Figure 3, which builds upon the personality trias (situation, person, behavior/experience) described by Funder (2006) and the interactions

between situational, personal, contextual, and interactinal determinants described in the person-object theories of interest (e.g., Krapp, 1998; Moeller et al., 2020).

Figure 3 shows which situation characteristics and person characteristics are expected to predict the experience of passionate states in specific situations. An important feature of this model are the feedback loops, processes through which the situational experience of passion facets changes the person or the situation characteristics of future experiences. Through these iterative feedback processes, the situational experiences of passion-related facets in specific contexts and moments are outcomes and predictors, of person and situation characteristics.

Such feedback processes (e.g., personality traits influencing state experiences and state experiences influencing personality traits) are assumed by some authors of the person-situation debate in the personality literature (e.g., Mischel & Shoda, 1995; (Kenrick & Funder, 1988) and they are in line with the idea that passion facets can influence each other mutually (see the lower networks in Figure 2 and the network model 2 in Figure 1). Feedback processes also help us solve the apparent contradiction that some constructs, such as flow or positive emotions, are alternately described as predictors and outcomes of passion in previous studies (references). By describing feedback processes, we gain mechanisms allowing us to consider flow and positive emotions to be both predictors and outcomes of other passion facets. A further advantage of feedback processes in their ability to describe self-reinforcing processes (vicious circles or virtuous circles. Depending on their desirability). Figure 3 shows feedback processes that seem plausible in the development of passion for work, such as the feedback loop from the state experience to the person (person develops skills, or preferences, or expectations about own success and future reward) or the feedback loop from the state experience to the activity or context characteristics (e.g., increasing challenges, increasing social support by colleagues, supervisors or mentors, promotions leading to a new work environment or new work tasks, in- or decrease in rank and reputation).

Figure 3: Pathways of possible interactions between person-specific and activity-specific determinants of passion for work (adapted from Moeller, 2014; see also an adapted version for entrepreneurial passion in Newman et al., 2019).

One such self-reinforcing mechanism may be the experience of reward or incentive salience, which by definition raises the likelihood of a re-engagement and a desire for more (e.g., Berridge, 2007). The experience of rewarding emotional and motivational states (positive state emotion, feeling of success, flow) may motivate the person to re-engage in similar activities in the future in the hope to experience similar reward again. This, in turn, may lead over time to gains in expertise and achievement, positive feedback from supervisors or colleagues for showing up, spending extra time, getting more done, radiating a positive attitude, etc. Such praise, in turn, is likely to be experienced as a rewarding state, which in turn may re-inforce the motivation to engage in similar activities in the future. Over time, we can imagine such a virtuous circle to culminate in an awareness of the individual that this activity is really “their thing”, entailing processes of increasing identification with and fondness of the activity that has provided so many rewarding experiences. The involvement of the reward may explain the overlap of (obsessive) passion with concepts like workaholism and obsession (Birkeland & Buch, 2015; Gorgievski-Duijvesteijn & Bakker, 2010).

Dialectical models of ambivalent motivation: The need for intra-individual methods

As stated above under section 1.4, both positive, intrinsic, and negative, aversive feelings and experiences can accompany passion, sometimes even in the same individuals. Likewise, the assumed predictors of HP and OP, intrinsic and extrinsic motivators, can co-occur in the same individuals (Lepper, Corpus, & Iyengar, 2005). While it has been an important first step to integrate both aspects in one joint model, the dual model of passion (Vallerand et al., 2003), it appears that the dualistic interpretation of HP and OP as almost mutually exclusive experiences, or as distinct types of people (e.g., Vallerand et al., 2003; Vallerand, 2012) does not do justice to the ambivalent nature of passion (Moeller, Ivcevic, et al., under review) and other forms of work motivation (e.g., exhaustive engagement, see Moeller, Ivcevic, White, Menges, & Brackett, 2018). Let us therefore propose a *dialectical understanding of passion as a form of ambivalent motivation* by including the following assumptions into definitions, measures, and study designs of passion for work:

Statement 1: Work passion may be accompanied by positive, enjoyable and negative, aversive feelings and experiences. These feelings and experiences can co-occur in the same individuals, maybe even the same situations, which we shall call ambivalent motivation and interpret in reference to the research on mixed emotions (e.g., Larsen, & McGraw, 2011; Hoemann, Gendron, & Barrett, 2017) and other forms of ambivalent work motivation (e.g., exhaustive engagement, see e.g., Moeller, Ivcevic, White, et al., 2018). In other cases, a person's passion can be characterized by predominantly positive experiences, which we shall continue to call an HP, or by predominantly negative feelings, which we shall call an OP, in line with the distinction in the dual model of passion (Vallerand et al., 2003).

Statement 2: We need intra-individual analytical methods to discover the intra-individual co-occurrence of positive and negative experiences and feelings in individuals with a passion for work. Such methods can include analyses revealing intra-individual profiles (e.g., cluster analysis, latent profile analysis), methods revealing co-endorsements (e.g., co-

endorsement network analysis, see Moeller, Ivcevic, Brackett, & White, 2018), or sometimes the simple visual inspection of scatter plots, with positive experiences on one axis and negative experiences on the other axis, to discover or rule out groups with ambivalent motivation (see e.g., Moeller, Keiner, & Grassinger, 2015). It is important to keep in mind that correlation- or regression-based methods, both inter- and intra-individual ones, may obfuscate subgroups showing unexpected profiles (Anscombe, 1973; Matejka & Fitzmaurice, 2017), which may lead to ambivalent motivation being overlooked unless scatter plots and the intra-individual profiles are inspected. Likewise, we should keep in mind that even the strongest correlations or regressions do not necessarily reveal or imply co-endorsements (because the co-variance may be driven by the individuals who did not endorse the relevant items), so that intra-individual co-endorsement analyses (e.g., Moeller, Ivcevic, Brackett, & White, 2018) are needed for conclusions about the co-occurrence of two psychological experiences in the same person, the same situation, or the same team or organization. For these purposes, it would seem a promising avenue for the hitherto mostly inter-individual passion research to embrace the intra-individual methods which are currently seeing a boom of innovation and debate in many other fields of social sciences, including many studies on motivation and emotions in achievement settings (e.g., Beck & Jackson, 2020; Brose et al., 2020; Voelkle, Brose, Schmiedek, & Lindenberger, 2014; Molenaar, 2004; Murayama, Goetz, Malmberg, Pekrun, 2017; Reitzle & Dietrich, 2019).

Statement 3: We do not yet know much about the dynamics in the relationships among these positive and negative experiences over time. We need longitudinal studies to find answers to questions such as: Can a person's passion for work develop from a harmonious one into a more obsessive passion if for example the circumstances and work attributes change (e.g., think about a nurse who loves her job but then faces extreme stressors and goal conflicts when a pandemic hits, or about an athlete who is harmoniously passionate except for the time leading up to an important competition, causing increased practice time, stress and

conflicts with other goals in life, such as family-related goals or goals related to other work activities)? If a HP can turn into an OP, and maybe an OP into a HP, can we actively change a person's passion (think about a manager or sports coach who sees the risk for exhaustion and wishes to help their employees / athletes get back from an OP into a HP)? On what time line do individuals who report ambivalent passion experience positive and negative feelings? Do those ambivalent experiences occur in the same situations, or sequentially, and what are the implications of one or the other? What are the predictors, correlates, and outcomes of such ambivalent passion? How sustainable is such ambivalent passion, for instance, is it a pathway from a HP turning into an OP or vice versa?

Statement 4: In a next step, intervention studies could examine which facets can be influenced by managers, colleagues, or employees themselves, and which facets are less malleable. Without such knowledge, managers can only select the individuals to their organization, or select their behavior towards employees, based on the employees' passion, but maybe managers may want to know how to optimize their employees' passions, how to increase it or how to turn an OP into an HP, if possible. For such aspirations to be evidence-based, we need intervention studies. Distinguishing between the malleable and the less malleable facets may help us find out which facets should be targeted in such interventions.

Integrating processes of striving and thriving

The here proposed conceptualization of passion for work as facet-specific, possibly ambivalent, and consisting of processes running on different time lines, may help solving the puzzle of enthusiastic perseverance in effortful and partially aversive courses of action, which seems particularly relevant for the research on passion for work, given that work typically involves some aversive experiences and some need for perseverance in the face of obstacles.

Nearly every motivational theory can explain why people engage and persist in activities that are fun, perceived as valuable, interesting, in line with personal goals and identities. In other words, many motivational theories can explain motivation as long as the

motivated choice is a rational and/ or a hedonistic choice. Such rational choice or hedonistic explanations would suggest that individuals stop feeling motivated and should give up on an activity or a work task as soon as it becomes too costly, too adverse, or too painful.

Other constructs describe why people persist through adverse, effortful, or painful periods, those constructs mainly emphasize the ability to cope and regulate the negative emotional consequences of such adversity (e.g., self-regulation) or the power of principles, willpower, and sheer stubbornness, all of which can be considered ways of subduing one's feelings and ways of putting rational considerations above the affective motivational drivers.

The interesting feature of passion, however, lies in its ambivalence. Instead of just enduring the adverse periods, we see individuals who despite of all the suffering claim passionately that they cannot imagine doing any other work than this, who describe an urging desire to go back and do the same work activity again, individuals who seem to *persist not despite but because of their feelings towards the activity*. This may be the unique niche, or research desideratum, that passion may fill like no other motivational construct so far.

At first, it appears paradoxically, how can someone report such an urging desire and positive evaluation of an activity which may be extremely costly, dangerous, and even painful, all the while reporting strong negative feelings about that activity? What exactly are their motivational drivers? The answer may lie in the concepts introduced above, particularly the dynamic interplay of different facets over various time spans. A passion, for work or for other activities, is expected to be driven by positive affective motivational forces, but also expected to persist in the absence of such positive drivers. These may be two different motivational mechanisms, emotional thriving and effortful striving, that may come together or follow each other subsequently. To understand their interplay over time, I propose a distinction between the motivational forces that energize approach motivation and enthusiasm (positive emotions, flow, and the aspects of work activities that are experienced as being fun and autotelic), on one hand, and the motivational forces that allow individuals to endure in the

absence of autotelic experiences (grit, long-term goals, self-regulation, self-control skills, and the mixture of unfazed indifference, stubbornness, and determination that Finns call *sisu*; e.g., Lahti, 2013), on the other hand. The former be called thriving and the latter striving.

While each of these both sides can exist without the other, we can assume that a motivation is stronger and more resilient if they co-occur in the same individual. A person with a lot of willpower and grit may persist in an adverse activity (e.g., an athlete preparing for the Olympic games after an injury), but may burn out after a while, or may reconsider after a while if this costly activity was the most rational or sustainable choice after all, or if the persistence in the face of obstacles resembles an escalated commitment that should be ended. On the other hand, a person with strong positive feelings, frequent flow experiences, and autotelic, fun, gameful work experiences may want to quit once a dry spell or an extended phase of difficulties comes up. The sweet spot of motivational resilience, however, may lie in an individual's ability to alternate between one and the other and to recalibrate the motivational strategy to changing environmental circumstances.

The fun parts may contribute the motivational energy, drive, approach motivation, and the anticipation of better times even when the going gets tough. On the other hand, the long-term goals, grit/perseverance trait, and determination may carry across the dry spell, the times when an activity is difficult, frustrating, stressful, painful, or when nothing seems to be working and when none of the basic needs are met (e.g., when one feels incompetent, lonely or ostracized, and constraint in one's autonomy).

The assumed interplay of processes of striving and thriving is depicted in **Fehler!** **Verweisquelle konnte nicht gefunden werden.** below, and Table 1 shows which passion facet is expected to cause engagement and persistence during which phase of this model. The important features of this model are (1) the distinction between passion facets that drive striving (e.g., grit, particularly the grit perseverance facet, identification, long-term goals) and passion facets that drive the emotional thriving (e.g., flow, enjoyment), (2) the assumed

compensation mechanisms, with striving (persistence) compensating for a temporary lack of thriving (fun), with recovery compensating for the loss of resources through both the striving and thriving processes, and with thriving compensating for the lack of fun during striving phases, (3) the assumption that aspects of thriving and striving may co-occur and that this co-occurrence may be the reason for the sometimes observed ambivalence and mixed emotions, and (4) the addition of recovery processes, which may account for much of the sustainability in passionate work (to paraphrase Arnold Bakker, who tweeted: “Being too engaged is asking for trouble. Engagement is a peak, and peaks need lows. For example by psychologically detaching from work in the evening.” (Bakker, 2018; see also the quote by Lord Byron at the beginning of this article).

It should be noted that the distinction between thriving and striving resembles somewhat the distinction between pull and push motives described in regard to the Sport Commitment Model by Scanlan and colleagues (Scanlan, Russell, Magyar, & Scanlan, 2009; Scanlan, Still, Stewart, & Croaker, 2010) and adopts the distinction between interest-driven factors and persistence-emphasizing factors in Duckworth et al.’s (2007) grit model. Thus, the strive and thrive model is proposed not in the hope to replace other models, but in the hope of helping to reconcile them, on the basis of the above-mentioned innovations (facet-specificity, network structure, feedback loops, state-trait distinction, and ambivalent motivation).

Insert Figure 4 here

Insert Table 1 here

Cumulating insights by joining forces in multi-lab collaborations

To achieve an integrative cumulation of insights across labs and across disciplines, the research it would be helpful to swap the currently prevailing practice of models, measures and studies being developed in silos, for collaborations across research teams to facilitating debate and integration. The goals of such collaborations can range from working towards a consensus on definitions and measures, to multi-lab data collections or joint secondary

analyses of existing data, following examples of, for instance, the ManyLab project (e.g., Moshontz et al., 2018), the ManyBabies project (e.g., ManyBabies Consortium, 2020), or the ManyPrimates project (Altschul et al., 2019). Multi-lab collaborations could compare the incremental validity of various measures in large-scale surveys to figure out which model or which facet provided which insight, and which facet or measure was the best predictor for which outcome. Furthermore, collaborative studies could test the replicability of research findings across samples, or their generalizability across contexts (e.g., across work organizations, work domains, and other context and work attributes). These would be important steps towards the cumulating integration of various definitions, measures, and insights from various data sources in joint frameworks.

As specific measures facilitating cumulative research processes, I propose: 1) joint concerted efforts to launch debates among passion researchers about facets, definitions, and measures of passion for work, 2) collections and overviews of passion measures and information about their psychometric properties on one joint open repository, 3) multi-lab data collections, and 4) making existing data open for secondary data analysis.

The first suggestion, joint concerted efforts to launch debates among passion researchers about facets, definitions, and measures of passion for work, could for instance be facilitated through conference panel or roundtable discussions, webinars, retreats, or hackathons, adopting the communication toolbox that used in the open science movement and entrepreneurship research (e.g., Chartier, Kline, McCarthy, Nuijten, Dunleavy, & Ledgerwood, 2018; Cristia, Tsuji, & Bergmann, 2020; Irani, 2015). The technology and communication infrastructure is ready to be used (e.g., Crüwell et al., 2019). Joint debates of passion for work researchers could be accompanied, or preceded, by (online) surveys asking these researchers, for instance, about the passion facets they would in- or exclude from the definition of passion for work, and about their reasons for these suggestions. The goal of such a survey and subsequent in-person debate could be the development of a taxonomy of passion

facets as a joint reference facilitating the later debate about boundaries and similarities among passion models and related constructs in the future. There are several examples in the literature of highly insightful write-ups of such past debates about controversial research topics, such as the publication summarizing the positivism dispute in the German Sociology in the 1970ies (Adorno et al., 1976), or the written-up documentation of the panel discussion “can we create gifted people” from the 1993 CIBA foundation symposium (Ericsson, Krampe, & Heizmann, 1993). These previous examples suggest that an actual debate with the forth- and back exchange of arguments and suggestions can yield much insight that the currently prevailing publishing of separately working researchers hardly reaches.

The second suggestion, *joint collections and overviews of passion measures and information about their psychometric properties on one joint open repository*, can be reached by collaborating across research teams when sharing passion scales, other passion measures, and information about their psychometric properties. Currently, researchers who make their passion measures freely available do that for their own measures, often on their own websites or in appendices of more or less openly accessible publications. Easier access and better overview of existing passion measures could be provided by using the open repositories that the open science movement has established, such as an etherpad linked to a project page on the Open Science Framework, similarly to open item repositories such as the International Personality Item Pool (Goldberg et al., 2006) or the repository for Experience Sampling Method items (Kirtley et al., 2018). A repository could also link each measure to information about available translations by other than the original authors, and inform about current work on translations by any team.

These various measures should be posted on the repository accompanied by detailed information about their psychometric properties. In a next step, the various passion measures should be combined systematically in joint empirical studies, to compare findings (e.g., incremental validity) across measures and facets, to determine to what degrees and in which

facets different measures overlap with or differ from each other. This would be a change from the current practice, in which most researchers use mostly their own favorite measure.

The third suggestion, joining forces in multi-lab collaborations could be implemented by researchers from various labs and locations gathering data with similar methods in parallel, enabling them to study the replicability across labs and samples, and the generalizability across contexts (e.g., organizations, work cultures, etc.). This may also make large-scale data collections possible at a scale that no individual team could have achieved, which could be used as a means to compare many different passion measures, and/or passion facets, in regard to their incremental validity in predicting relevant outcomes. In another approach, existing datasets including similar constructs could be pooled across labs for secondary data analyses. Such secondary data analyses could for instance re-analyze data with novel (e.g., intra-individual) methods or examine whether findings remain invariant across different work contexts and samples or across different teams of analysts (see e.g., Bastiaansen et al., 2020).

The fourth suggestion, open data, would facilitate the re-use and therefore the transparent and efficient use of research data, and would serve the merging of existing data across labs for joint secondary data analysis. Re-analyses of transparently and openly shared data would serve to check whether previously reported findings and conclusions remain robust when different methods, such as the above-mentioned intra-individual analyses are used, or if such novel methods add novel insights. Pooling existing datasets across samples and labs also provides opportunities to examine whether findings remain invariant across work contexts and work cultures, or if systematic differences between these contexts reveal the existence of contextual boundary conditions. For instance, we might want to test the hypotheses that some domains, jobs, or periods in history, provide more reasons to feel obsessed and aversive about work than others, having in mind how healthcare workers feel during a pandemic, researchers before a deadline, or athletes before important competitions. Following this example, we might have hypotheses about domain- and time-

specific boundary conditions concerning the relations of obsessive passion and certain negative emotions with other passion facets and passion outcomes. A way to test this hypothesis would be to examine these relationships in large datasets including data from many different domains, or data from before and during the recent COVID-19 pandemic. While this might be difficult for a single lab, it might be fast and easy for a collaboration of many labs. Open data sharing can be done retrospectively (by making existing data available that publications were based upon) and prospectively (by committing to making upcoming data available in the future, as soon as publications are accepted).

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Tables

Table 1: Which passion facets are expected to contribute to which strive and thrive phases

	<i>paddling</i>	<i>Good weather surf</i>	<i>Stormy weather surf</i>	<i>Recovery</i>
<i>Striving facets</i>	X		X	
grit	X		X	
identification	X		X	
Long-term goals	X		X	X
Action plans	X	X	X	X
Obsessive experiences	X		X	
Negative emot. (e.g., stress, frustration)	X		X	
<i>Thriving facets</i>		X	X	X
Desire/ approach motivation	X	X	X	
Harmonious experiences		X	X	X
Liking		X		X
Positive emotions (e.g., joy)		X	X	X
Recovery				X
Resources building				X
Goal re-evaluation				X
Flow		X	X	
Interest		X	X	