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High workload and investor conflicts: Short-term and sustained effects on entrepreneurial resilience

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ABSTRACT

Psychological resilience is important in entrepreneurship, yet little is known about how short-term and sustained exposure to entrepreneurial stressors influences resilience. Drawing on the challenge–hindrance stressor framework, we examine whether high workload (challenge stressor) and conflicts with investors (hindrance stressor) differentially shape entrepreneurs' resilience, and whether psychological detachment moderates these associations in the short term. Using survey data from 270 entrepreneurs collected over one year, we found that, in the short term, both stressors are associated with lower resilience via perceived stress, with psychological detachment moderating these effects. Over sustained exposure, high workload relates positively to resilience, whereas conflicts with investors relates negatively. We advance entrepreneurship research by clarifying how challenge and hindrance stressors strengthen or weaken resilience over time, and by identifying psychological detachment as a short-term coping mechanism. Practically, entrepreneurs can benefit from detachment practices under acute stress, while sustained workload may yield unexpected benefits for resilience.

KEYWORDS

Psychological resilience; challenge stressor; hindrance stressor; entrepreneurs' perceived stress; psychological detachment

Introduction

Founding and running a startup is inherently demanding. It involves high workload, financial strain, responsibility, and conflicts with stakeholders, all of which generate uncertainty, constant change, and considerable risk (see, for example, Janney & Dess, 2006; Sommer et al., 2009). In such environments, psychological resilience is an important capacity. The concept, introduced in psychology in the 1970s, was developed to explain why some individuals adapt positively despite adversity or trauma (Garmezy, 1974; Garmezy, 1996, 1993). It is generally defined by two elements: 1) the presence of adversity, and 2) positive adaptation in spite of it (for example, see Luthar & Cicchetti, 2000;

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Masten, 2001). Adversity can take many forms, but it always involves a disruption that requires adjustment and makes resilience relevant (Earvolino-Ramirez, 2007). Positive adaptation refers to coping or mastery and describes the ability to rebound and manage the demands imposed by adversity (Earvolino-Ramirez, 2007; Luthar & Cicchetti, 2000). This process requires mobilizing psychological and social resources—such as supportive relationships, self-awareness, a sense of control, or self-efficacy—to overcome challenges (Earvolino-Ramirez, 2007; Richardson, 2002). Thus, resilience is not only the capacity to withstand setbacks in entrepreneurship but also the ability to adapt by developing and applying resources to remain effective under demanding conditions (Ahmed et al., 2022; Baron, Franklin, et al., 2016; Santoro et al., 2018).

Building on these foundations, scholars have advanced different perspectives on resilience, conceptualizing it as a trait, a state-like capacity, or a dynamic process (see Ahmed et al., 2022). Trait-based accounts treat it as a relatively stable characteristic grounded in internal attributes and largely unaffected by context (for example, Block & Kremen, 1996; Ong et al., 2006), whereas state-based views see it as a stock of resources that can be drawn upon in specific situations (for example, Masten et al., 1990). More recently, a process view has gained attention, considering resilience as a dynamic phenomenon that develops through ongoing interaction with adversity, during which individuals build, mobilize, and apply adaptive capabilities (Ahmed et al., 2022; Williams et al., 2017; Windle, 2011). This view emphasizes the adaptive and maladaptive processes in response to challenges, including those encountered during an entrepreneurial journey (Ahmed et al., 2022).

Although psychological resilience is conceptually well established, its development and functioning in entrepreneurship are less well understood. One important gap concerns the role of entrepreneurship-specific stressors. While previous research has documented positive outcomes of resilience for entrepreneurs (Baron, Franklin, et al., 2016; Jenkins et al., 2014; Lafuente et al., 2019), less is known about the stressors that may influence resilience (Hartmann et al., 2022). Stressors are defined as "any event, force, or condition that results in physical or emotional stress" (APA Dictionary of Psychology, n.d.). Prior studies have identified various antecedents and protective factors that foster resilience (for example, González-López et al., 2018; Hayward et al., 2010; Newman et al., 2018), yet understanding entrepreneurship-specific stressors is particularly important because they trigger perceived stress and may, in turn, weaken resilience (Lazarus & Folkman, 1984; Masten, 2001). Common examples include high workload (for example, Baron, Franklin, et al., 2016; Cardon & Patel, 2015) and conflicts with investors (for example, Higashide & Birley, 2002; Yitshaki, 2008). According to Lazarus and Folkman's (1984) transactional model of stress, stress arises

when individuals appraise such stressors as personally significant and beyond their coping resources. Resilience is closely tied to how people handle these stressors, since how individuals manage them can affect the development of resilient qualities (Richardson, 2002). Studying specific entrepreneurial stressors can therefore clarify how they influence resilience.

A second gap concerns coping mechanisms that may moderate the impact of stressors on resilience (Ahmed et al., 2022). Although prior work has examined coping mechanisms for work-related stress more generally (Murnieks et al., 2020; Yamakawa et al., 2017), it remains unclear which mechanisms are most relevant in entrepreneurship. According to the stressor–detachment model (Sonnentag & Fritz, 2015), psychological detachment—the ability to mentally disengage from work during non-work time (Sonnentag & Fritz, 2015)—represents a promising candidate. Detachment facilitates recovery (Sonnentag et al., 2010), restores mental and emotional reserves (Safstrom & Hartig, 2013), and represents a strategy that entrepreneurs can actively implement themselves (Karabinski et al., 2021; Sonnentag et al., 2010). However, little is known about its role in moderating the relationships between entrepreneurial stressors and resilience.

A third gap concerns the temporal dynamics of resilience. While most entrepreneurship studies conceptualize resilience as a trait or a state-like capacity (Chadwick & Raver, 2020; Obschonka et al., 2018), only a few adopt a dynamic process perspective (for example, González-López et al., 2018; Shepherd et al., 2020). Yet prior research on the challenge–hindrance stressor framework (Cavanaugh et al., 2000) indicates that short-term and sustained effects of stressors may diverge, with some having negative consequences in the moment but generating benefits later (Crane & Searle, 2016; Rauch et al., 2018). Examining these patterns can clarify how resilience develops—whether it is strengthened or weakened—over time.

To address these gaps, we conceptualized resilience as a dynamic process and investigated the short-term and sustained effects of two stressors —*high workload* and *conflicts with investors*—on the psychological resilience of entrepreneurs. We also examined the mediating role of perceived stress and the moderating role of psychological detachment in the short-term model. Our research thus addresses three central research questions (RQ):

RQ1: *How are high workload and conflicts with investors related to the psychological resilience of entrepreneurs in the short term?*

RQ2: *Does psychological detachment moderate the short-term association between perceived stress and the psychological resilience of entrepreneurs?*

RQ3: *How is the psychological resilience of entrepreneurs related to sustained exposure to high workload and conflicts with investors?*

To address these questions, we first drew on the transactional model of stress (Lazarus & Folkman, 1984) and the challenge–hindrance stressor framework (Cavanaugh et al., 2000). We hypothesized that high workload and conflicts with investors are associated with lower resilience in the short term through perceived stress. Next, and drawing on the stressor–detachment model (Sonnentag & Fritz, 2015), we theorized that psychological detachment moderates this relationship by weakening the short-term negative association between perceived stress and resilience. Over time, however, we anticipated a divergence: sustained exposure to high workload is expected to strengthen resilience, whereas sustained conflicts with investors are expected to weaken it.

We tested these hypotheses using survey data collected at two time points. The first wave included 270 entrepreneurs, followed one year later by a second wave with 79 entrepreneurs from the same sample. Participants were recruited from the DACH region (Germany, Austria, Switzerland), and data were gathered through an online survey. We measured workload, conflicts with investors, perceived stress, psychological detachment, and resilience using established multi-item scales. To analyze the data, we employed structural equation modeling with latent variables, which enabled us to test mediation and moderation simultaneously while accounting for measurement error.

In brief, the analyses support all hypotheses. In our cross-sectional model (that is, looking only at T1), high workload and investor conflicts were negatively associated with resilience through perceived stress, with weaker associations among entrepreneurs reporting higher psychological detachment. In the sustained-exposure model (that is, looking at T1 and T2), high workload was positively related to resilience, whereas conflicts with investors remained negatively related.

Our study contributes to entrepreneurship research in three ways. First, by adopting a dynamic process perspective, we show that the associations of high workload and investor conflicts with resilience differ between short-term and sustained exposure. Both stressors were linked to lower resilience in the short term, but over time, high workload was associated with higher resilience, whereas investor conflicts were associated with lower resilience. This finding contributes to research on the dynamic nature of entrepreneurial resilience by clarifying how challenge and hindrance stressors follow different pathways. Second, we extend work on stress mitigation by examining psychological detachment as a coping mechanism that moderates the short-term negative effects of stress. Detachment represents a resource under the direct control of the entrepreneur, making it particularly relevant in entrepreneurial contexts in which stressors are pervasive, recovery opportunities are limited, and responsibility is high. Third, we add to the literature on stress in entrepreneurship by

identifying and measuring two entrepreneurship-specific stressors and by examining their effects. By classifying these stressors as either challenges or hindrances, we address recent calls in entrepreneurship research (Ahmed et al., 2022; Lerner & Nanda, 2020) and provide a clearer understanding of stress processes, explaining why some stressors may produce different outcome patterns than others, while also contributing to the broader discussion on the potential long-term benefits of specific stressors in entrepreneurship.

The remainder of this article is structured as follows. We first outline the theoretical background and develop our hypothesis. We then describe the methodology, data, and findings. Finally, we discuss implications and avenues for future research.

Theoretical background

Psychological resilience in entrepreneurship research

Entrepreneurs face considerable obstacles in establishing and sustaining ventures (Baron, Franklin, et al., 2016), which has made resilience an important focus of research (for example, see Ahmed et al., 2022; Chadwick & Raver, 2020; Hartmann et al., 2022). Previous studies have linked resilience to improvements in entrepreneurial outcomes such as venture performance (Santoro et al., 2020), re-engagement after failure (Chadwick & Raver, 2020; Lafuente et al., 2019), and mental health and well-being (Baron, Franklin, et al., 2016; Jenkins et al., 2014).

Psychological resilience rests on the development and mobilization of resources that help individuals overcome adversity (Richardson, 2002). In the literature, these resources are often referred to as "antecedents" of resilience, "protective factors," or "resilient qualities" (for example, Earvolino-Ramirez, 2007; Richardson, 2002). They can take various forms, but all represent aspects that entrepreneurs draw upon to cope with adversity and sustain effectiveness (Ahmed et al., 2022; Earvolino-Ramirez, 2007; Hartmann et al., 2022; Richardson, 2002). Research has identified cognitive (for example, Liu, 2020; West, 2007), emotional (for example, Cardon et al., 2012; Hayward et al., 2010), and social factors (for example, González-López et al., 2018; Newman et al., 2018) as important contributors (for a comprehensive review on psychological resilience and its antecedents in entrepreneurship, see Ahmed et al., 2022; Hartmann et al., 2022). Cognitively, entrepreneurship education has been shown to improve perceived control and autonomy, strengthening confidence in addressing challenges (González-López et al., 2018). Cognitive flexibility also supports adaptation, idea generation, and stress management (Wang et al., 2023). Self-efficacy, a central resource in conservation of resources theory (Hobfoll, 1989), is strongly associated

with resilience (Bullough et al., 2014). From an emotional perspective, the ability to foster positive emotions facilitates resilience-building (Hayward et al., 2010). Social resources, such as business networks and social support, also strengthen resilience (Ahmed et al., 2022; Newman et al., 2018). Beyond the individual level, contextual factors such as venture type, market characteristics, and environmental dynamism have been shown to affect resilience as well (Hartmann et al., 2022).

Although this body of work has identified many antecedents, most studies have focused on explaining differences in resilience levels, that is, *being* resilient (treating resilience as a trait or state), rather than on the processes through which resilience develops, that is, *becoming* resilient (resilience as a dynamic process) (Ahmed et al., 2022). A process perspective considers these antecedents as resources that are developed or mobilized in response to stressors and can change over time (Kumpfer, 1999; Masten, 2001). Yet only a small fraction of entrepreneurship studies have adopted this approach: Ahmed et al. (2022) reported that just four of 33 reviewed studies conceptualize resilience as a dynamic process, and fewer than half of those explicitly consider stressors. Against this backdrop, our study adopts a dynamic process perspective and examines how psychological resilience develops in response to entrepreneurship-specific stressors.

The transactional model of stress

Psychological resilience is often studied in relation to coping with stressors, since how individuals manage stressors can affect the development of resilient qualities (Richardson, 2002). A central lens here is Lazarus and Folkman's (1984) transactional model of stress, which views stress as a dynamic process arising when people appraise stressors as both personally significant and as taxing or exceeding their coping resources. The model distinguishes between primary appraisal (judging the significance of the stressor) and secondary appraisal (assessing available coping resources). Together, these determine the response to stress. Importantly, the model emphasizes that responses to stressors are not automatic but vary across individuals: two people may encounter the same stressor yet experience different levels of stress depending on their appraisals (Lazarus & Folkman, 1984). Stress outcomes further depend on whether demands are interpreted as harmful or as opportunities for growth, development, and well-being (Lazarus & Folkman, 1984). We draw on the transactional model of stress to explain how entrepreneurs' appraisals of entrepreneurship-specific stressors—specifically, high workload and conflicts with investors—relate to *short-term* stress responses and, in turn, resilience.

Psychological detachment as a coping mechanism in the stressor-resilience relationship

Building on the transactional model of stress, Sonnentag and Fritz's (2015) stressor–detachment model explains how individuals can reduce the acute negative effects of stressors through psychological detachment. Coping mechanisms are central in this regard, as Lazarus and Folkman (1984) emphasized. Psychological detachment, defined as "refraining from job-related activities and mentally disengaging from work during time off the job" (Sonnentag & Fritz, 2015, p. 72), is seen as particularly effective. By providing cognitive and emotional distance, detachment enables the replenishment of depleted personal resources, which supports recovery and well-being.

Importantly, detachment is not merely a passive form of rest but an intentional self-regulatory strategy: individuals deliberately disengage from work to protect themselves against stress and resource depletion (Sonnentag & Fritz, 2015). Because it is under individual control, effective under acute stress, and relatively efficient, psychological detachment may be especially relevant in entrepreneurial settings, where stressors are pervasive, opportunities for recovery are limited, and responsibility levels are high (Geurts & Sonnentag, 2006; Karabinski et al., 2021; Le Moal et al., 2025). Yet despite this potential, research on how psychological detachment moderates the relationships between stressors and resilience in entrepreneurship is scarce. We draw on the stressor–detachment model to explain how psychological detachment can mitigate the negative effects of *short-term* stress responses on resilience.

The challenge-hindrance stressor framework, high workload, and conflicts with investors

Research often distinguishes between "good" and "bad" stress (Crane & Searle, 2016). In line with this, and extending the transactional model of stress, Cavanaugh et al. (2000) introduced the challenge–hindrance stressor framework, which classifies job demands as either challenge or hindrance stressors. Challenge stressors, often labeled "good," are generally linked to opportunities for goal attainment and stimulate learning, personal growth, and the accumulation of coping resources (Cavanaugh et al., 2000; Crawford et al., 2010; Tang et al., 2022). Hindrance, or "bad," stressors, in contrast, are typically interpreted as threats that restrict growth, limit potential gains, and drain resources without initiating adaptive processes (Cavanaugh et al., 2000; Crane & Searle, 2016; Lerman et al., 2021).

High workload is typically classified as a challenge stressor (Podsakoff et al., 2007) and is among the most common demands faced by entrepreneurs (Baron, Franklin, et al., 2016; Cardon & Patel, 2015; Stroe et al., 2018). While high workload can increase strain and exhaustion (for example,

Crawford et al., 2010), previous studies also show it can serve as a motivational force, improving engagement and performance (LePine et al., 2016; Wright & Cropanzano, 2000).

Conflicts with investors, in contrast, are generally considered hindrance stressors. They often arise from misaligned perspectives, disagreements over strategy, or excessive interference by investors (Yitshaki, 2008) and are intensified by uncertainty, power asymmetries, and divergent goals in investor–entrepreneur relationships (Li & Zahra, 2012). Because investors influence strategic direction and financial viability, such conflicts can escalate quickly, affecting venture performance and survival (Shepherd et al., 2000; Vanacker et al., 2013). They have also been linked to negative psychological outcomes (Appelhoff et al., 2016), making them a particularly important stressor to examine in relation to the psychological resilience of entrepreneurs.

Building on the view of resilience as a dynamic process, we theorize that stressors may have divergent implications for the development of resilient qualities over time. Specifically, some types of stressors may consistently weaken resilience, whereas others may have initially negative consequences but contribute to growth later (Rauch et al., 2018). Drawing on the challenge-hindrance stressor framework, we explain how the two stressors, *high workload* and *conflicts with investors*, may have diverging associations with resilience *over time*.

Hypotheses development

Based on this theoretical background, we developed a short-term model linking workload and investor conflicts to resilience through perceived stress, incorporating psychological detachment as a moderator. Next, we developed a sustained-exposure model that examines how these relationships diverge over time. This distinction allowed us to separate momentary stress responses from longer-term adaptation processes, highlighting different pathways through which stressors influence resilience.

The short-term model

The short-term effects of high workload and investor conflicts on psychological resilience

Psychological resilience is commonly described as resting on two pillars: the presence of adversity and positive adaptation in spite of it (for example, Luthar & Cicchetti, 2000; Masten, 2001). When theorizing about short-term effects, we focus on the adversity pillar by examining how high workload and investor conflicts may weaken resilience through perceived stress. Perceived stress is included as a mediator because it reflects the immediate outcome of cognitive appraisal when

demands are judged as exceeding available coping resources (Lazarus & Folkman, 1984), thus capturing the acute impact of stressors on resilience.

Workload refers to the amount and difficulty of work tasks and responsibilities within a limited timeframe (Kirmeyer & Dougherty, 1988; Moore, 2000). While high workload can contribute to long-term benefits such as greater motivation, engagement, and performance (for example, Crawford et al., 2010; LePine et al., 2016; Wright & Cropanzano, 2000), its immediate effects may be less favorable. Specific elements of high workload, such as time pressure (Yu et al., 2025) or e-mail overload (Stich et al., 2019), have been shown to deplete personal resources and induce stress, thereby reducing individuals' capacity to cope effectively. Consistent with this, high workload is widely identified as a central source of stress in organizational settings (Bakker & Demerouti, 2017; De Clercq et al., 2016; Glaser et al., 1999). We therefore expect high workload to increase perceived stress in the short term.

Conflicts with investors are interpersonal disagreements or tensions arising from differences in goals, expectations, or communication between entrepreneurs and their investors (Appelhoff et al., 2016; Higashide & Birley, 2002; Li & Zahra, 2012). Such conflicts can reduce psychological well-being, satisfaction, and effectiveness due to their unpredictability (Frone, 2000; Frone et al., 1997). In entrepreneurial contexts, they create dependency and reduce perceived control, leaving entrepreneurs feeling less empowered to manage their ventures (Brettel et al., 2013). These conflicts often generate uncertainty and lead to feelings of having limited control over outcomes. Such uncertainty is well established in entrepreneurship research as an antecedent of perceived stress (Rauch et al., 2018). We therefore expect conflicts with investors to increase stress in the short term.

Taken together, workload and investor conflicts represent entrepreneurship-related stressors that may increase perceived stress and thereby weaken resilience. According to the transactional model of stress, stress arises when individuals appraise environmental demands as personally significant but exceeding their coping resources. When stress is intense, cognitive and emotional resources are depleted (Ganster & Rosen, 2013), reducing confidence, positive emotions, and self-efficacy (Ahmed et al., 2022; Baron, Mueller, et al., 2016). Limited opportunities for recovery in entrepreneurial contexts further constrain adaptation (Sonnentag & Fritz, 2015), reducing the capacity of entrepreneurs to maintain a positive outlook and rebound from setbacks (Hartmann et al., 2022), which ultimately undermines their resilience. Based on this reasoning, we hypothesize:

Hypothesis 1a: *High workload is negatively related to the psychological resilience of entrepreneurs in the short term; perceived stress mediates this relationship.*

Hypothesis 1b: *Conflicts with investors are negatively related to the psychological resilience of entrepreneurs in the short term; perceived stress mediates this relationship.*

The moderating role of psychological detachment

Psychological detachment refers to the ability to mentally disengage from work stressors during non-work time, thereby allowing relaxation, recovery, and the rebuilding of emotional and cognitive resources (Sonnentag et al., 2010). Detachment can be fostered through interventions such as mindfulness, emotion regulation, or boundary management (Karabinski et al., 2021), and prior research consistently links it to outcomes such as improved well-being and work engagement (Smit, 2016). We included psychological detachment in our short-term model, arguing that it moderates the relationship between perceived stress and resilience. Evidence suggests that even short, low-intensity interventions can be effective, and that self-administered formats may be as beneficial as face-to-face approaches (Bartlett et al., 2019; Karabinski et al., 2021). These findings indicate its potential role as a short-term stress buffer (Geurts & Sonnentag, 2006; Karabinski et al., 2021), making detachment a particularly relevant coping resource for entrepreneurs who often work under time pressure and have few opportunities for rapid formal recovery.

In Hypotheses 1a and 1b, we argue that high workload and investor conflicts weaken psychological resilience in the short term by increasing perceived stress. However, the strength of this relationship is likely to vary among individuals. Drawing on the stressor–detachment model (Sonnentag & Fritz, 2015), we propose that psychological detachment moderates this relationship. By enabling cognitive rest, better sleep (Sonnentag & Fritz, 2015; Sonnentag et al., 2010), and physiological recovery (for example, lower cortisol levels (Kollmann et al., 2019)), detachment helps preserve the resources needed for decision-making, emotional stability, and stress management (Barnes, 2012). In this way, it may reduce the extent to which perceived stress translates into weakened resilience (Masten, 2001).

In sum, psychological detachment is a process directly under entrepreneurs' control that can help sustain resilience under conditions of acute high stress. Accordingly, we hypothesize:

Hypothesis 2: *Psychological detachment moderates the relationship between perceived stress and psychological resilience, such that the negative association is weaker for entrepreneurs with higher levels of psychological detachment.*

The sustained-exposure model

Our model of sustained exposure to stressors addresses the adaptation pillar of psychological resilience and examines how it may be influenced by continued exposure to stressors. Thus, our theoretical focus is on the adaptive and maladaptive processes that alter resilience over longer periods, that is, the building or diminishment of resilient qualities. Conceptualizing resilience as a dynamic process (Masten, 2001; Richardson, 2002), we examined whether sustained exposure to high workload and conflicts with investors contributes to strengthening or weakening resilience. Building on the challenge–hindrance stressor framework (Cavanaugh et al., 2000), we propose that although both stressors weaken resilience in the short term, their effects diverge under sustained exposure, operating through a cognitive and an emotional pathway.

The long-term effects of sustained high workloads on psychological resilience

Workload is often classified as a challenge stressor involving "obstacles to be overcome to learn and achieve" (LePine et al., 2005, p. 765). Although high workload may initially feel taxing, over time it can stimulate cognitive and emotional processes that support resilience. Cognitively, sustained high workload requires entrepreneurs to engage in creative problem-solving and adaptation, which may strengthen cognitive flexibility—an important resource for managing unexpected changes (Martin & Rubin, 1995). Emotionally, entrepreneurs may also appraise challenge stressors as opportunities for growth and achievement, which can generate positive emotions such as excitement and accomplishment (LePine et al., 2005; Lerman et al., 2021; Searle & Auton, 2015). Because positive emotions are established antecedents of psychological resilience (Ahmed et al., 2022; Cavanaugh et al., 2000; Hayward et al., 2010), these processes suggest that sustained high workload may strengthen psychological resilience. We therefore hypothesize:

Hypothesis 3a: *Sustained high workload is positively associated with entrepreneurs' psychological resilience.*

The long-term effects of sustained conflicts with investors on psychological resilience

In contrast to high workload, conflicts with investors represent a hindrance stressor, defined as "stressful demands viewed by managers as unnecessarily thwarting personal growth and goal attainment" (LePine et al., 2005, p. 765). Such conflicts are typically resource-depleting and

linked to negative psychological outcomes over time (Cavanaugh et al., 2000). Cognitively, sustained exposure to these conflicts may reduce perceived autonomy and control (Brettel et al., 2013), eroding self-efficacy, which is a critical component of psychological resilience (Bullough et al., 2014). Emotionally, unresolved conflicts can lead to frustration and anger, generating cumulative negative emotions that deplete resources without triggering adaptive processes (Ahmed et al., 2022; Boswell et al., 2004; Masten, 2001). These processes suggest that sustained exposure to investor conflicts is likely to weaken resilience over time. We therefore hypothesize:

Hypothesis 3b: *Sustained conflicts with investors are negatively associated with entrepreneurs' psychological resilience.*

Figures 1 and 2 summarize the hypothesized relationships in our short-term and sustained-exposure model.

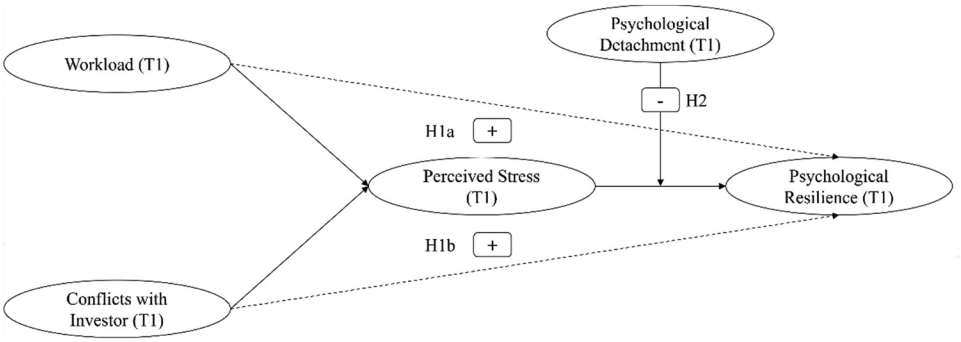

Figure 1. Short-term model. Note: Solid arrows represent our hypothesized associations. Control variables are not shown. Dotted lines represent effects that are not hypothesized.

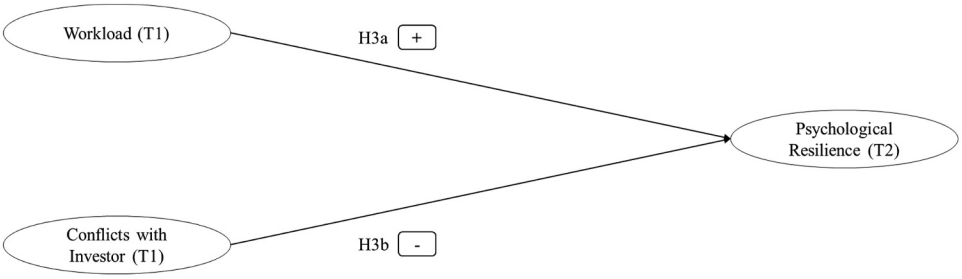

Figure 2. Sustained-exposure model. Note: Solid arrows represent the associations of our second-wave additional analysis.

Methodology

Sample and data collection

We conducted an online survey with entrepreneurs in the DACH region (Germany, Austria, and Switzerland). Treating these three countries as a single research context is common in entrepreneurship studies because they share a language and exhibit cultural and institutional similarities that create a coherent environment for entrepreneurial activity (Srećković, 2018; von Horn & Kudic, 2024). The countries are also closely linked through scientific, economic, and regulatory exchange, and firms operate under comparable market and institutional conditions (Srećković, 2018; von Horn & Kudic, 2024). Entrepreneurs in the DACH region therefore face similar market conditions and institutional logics, making the region a suitable and coherent context for analyzing entrepreneurial dynamics (see, for example, Otto et al., 2025; Richter et al., 2017; von Horn & Kudic, 2024).

To identify entrepreneurs in the DACH region, we used the PitchBook and Crunchbase databases, an approach commonly applied in entrepreneurship research (Gornall & Strebulaev, 2020; Lerner & Nanda, 2020). Where possible, we contacted entrepreneurs directly; otherwise, we used each venture's general e-mail address. Following prior entrepreneurship and organizational studies, data were collected in two phases (T1 and T2) (for example, Delgado-García & La Fuente-Sabaté, 2010; Mihalache et al., 2014; Simsek & Heavey, 2011).

The first wave (T1) took place in September and October 2022. Using the online survey tool Qualtrics, we distributed survey invitations to 21,711 entrepreneurs, with three reminder e-mails. Of these, 4,893 e-mails were undelivered (22.5 percent). We received a total of 815 responses (4.9 percent response rate). To ensure data quality, we excluded 233 respondents who spent fewer than 10 minutes on the survey. To confirm entrepreneurial status, respondents were asked whether they were part of the founding team; 35 who did not identify as founders or co-founders were excluded, as were those not holding an executive role in their venture. We further removed 277 respondents with missing values for study variables and controls, including 199 from ventures without investors, as these cases were not suitable for the investor conflict analysis. The final T1 sample comprised 270 entrepreneurs.

Among these respondents, 82.22 percent were male, 17.41 percent female, and 0.37 percent did not disclose their gender, reflecting the underrepresentation of women in entrepreneurship (Rocha & Praag, 2020). The average age was 43.05 years. Most respondents (75.56 percent) had not previously experienced a venture failure, and nearly half (49.63 percent) held a master's degree or higher. Industry representation included 34.07 percent in manufacturing and 65.93 percent in services.

At T1, we asked participants about their levels of workload, conflicts with investors, and perceived stress over the past several months, as well as their

psychological detachment and resilience, to capture effects in our short-term model. At T2 (October 2023), one year later, we collected the same measures again to examine how sustained exposure to high workload and investor conflicts relates to psychological resilience. This interval is consistent with prior research, which has used three-month windows to capture short-term effects and 12-month windows or longer to capture the effects of sustained exposure (Cyr et al., 2022; Garfin et al., 2018). At T2, we recontacted the T1 participants, resulting in a panel sample of 79 entrepreneurs.

Given the attrition between waves, we conducted *t*-tests to compare age, gender, education, industry type, and prior failure of those who completed both waves with those who participated only in T1 (Goodman & Blum, 1996). The tests indicated no significant differences, suggesting that attrition bias is unlikely. Tables 1 and 2 summarize the sample composition.

Table 1. Sample composition of first wave.

Sample characteristics	%		%
Venture industry		**Respondent education**	
Manufacturing industry	34.07	No degree	.37
Service industry	65.93	Certificate of Secondary Education	2.22
		High School (A levels)	2.96
Prior failure as entrepreneur		Bachelor's degree	19.26
Already failed as an entrepreneur	24.44	Diploma/Master/Magister/State Exam	49.63
Not failed with prior venture yet	75.56	PhD/MBA/Habilitation	23.79
		Other degree	1.85
Respondent gender			
Diverse	0	**Respondent age**	
Female	17.41	≤25 years	0
Male	82.22	26–36 years	19.26
N/A	.37	37–45 years	37.41
		46–55 years	28.52
		> 55 years	14.81

Note: $N = 270$ respondents.

Table 2. Sample composition of second wave.

Sample characteristics	%		%
Venture industry		**Respondent education**	
Manufacturing industry	41.77	No degree	0
Service industry	58.23	Certificate of Secondary Education	2.53
		High School (A levels)	2.53
Prior failure as entrepreneur		Bachelor's degree	10.13
Already failed as an entrepreneur	30.38	Diploma/Master/Magister/State Exam	51.90
Not failed with prior venture yet	69.62	PhD/MBA/Habilitation	27.85
		Other degree	5.06
Respondent gender			
Diverse	0	**Respondent age**	
Female	16.46	≤25 years	0
Male	83.54	26–36 years	12.66
N/A	0	37–45 years	37.97
		46–55 years	27.85
		> 55 years	21.52

Note: $N = 79$ respondents.

Measurement

We measured all study variables with validated multi-item scales, each using a seven-point Likert format (1 = *strongly disagree*; 7 = *strongly agree*), using the same survey at both measurement points. To ensure translation accuracy, we applied the iterative back-translation procedure (Douglas & Craig, 2007) to translate English items into German. Before the main study, we conducted a pretest of survey items in September 2022 with academics and practitioners. The full list of scales and items surveyed is provided in Table 3.

Table 3. Measurement scales.

Construct	Items	α	CR	AVE
Workload based on Moore (2000)		.831	.887	.708
Please rate the following statements:				
	The amount of work I do interferes with how well it is done.			
	The number of requests, problems, or complaints I deal with is more than expected.			
	I often feel busy or rushed.			
	I often feel pressured.			
Conflicts with investors based on (Jehn & Mannix, 2001)		.939	.950	.719
Please rate the following statements in relation to your main investor:				
Task conflict	There are often conflict of ideas.			
	There are often differences of opinion about the tasks to be done.			
	There are often differences of opinion about aspects of content.			
Relationship conflict	There are often tensions in the cooperation.			
	I am often annoyed about the cooperation.			
	There are often emotional conflicts.			
Process conflict	There are often disagreements about who has to do what.			
	There are often conflicts about responsibilities regarding certain tasks.			
	I often disagree with the division of tasks between me and the investor.			
Psychological resilience based on Sinclair and Wallston (2004)		.696	.819	.608
Please rate the following statements:				
	I look for creative ways to alter difficult situations.			
	Regardless of what happens to me, I believe I can control my reaction to it.			
	I believe that I can grow in positive ways by dealing with difficult situations.			
	I actively look for ways to replace the losses I encounter in life.			
Perceived stress based on Cohen et al. (1983)		.936	.946	.688
Please rate how often you felt or thought a certain way during the last months.				
	I was often upset because of something that happened unexpectedly.			
	I often felt that I could not control important things in my life.			
	I often felt nervous and "stressed."			
	I often felt insecure about my ability to handle my personal problems.			
	I often felt that things were not going my way.			
	I often found that I could not cope with all the things I had to do.			
	I was often not able to control irritations in my life.			
	I often felt that I was not on top of things.			
	I was often angered because of things that were outside of my control.			
	I often felt difficulties were piling up so high that I could not overcome them.			
Psychological detachment based on Sonnentag and Fritz (2007)		.829	.898	.773
Please imagine you spend a typical free evening and rate the following statements:				
	I forget about work.			
	I don't think about work at all.			
	I distance myself from my work.			
	I get a break from the demands of work.[a]			

Note. [a]Item was excluded due to low factor loading in CFA.

Workload and conflicts with investors

We measured workload, our first independent variable, using four items from Kirmeyer and Dougherty's (1988) workload scale, following Moore (2000). Items captured the extent to which respondents felt that the amount of work they did interfered with the quality of that work.

We measured conflicts with investors, our second independent variable, using a nine-item scale from Jehn and Mannix (2001), which distinguishes task, relationship, and process conflict (three items each). We adapted item wording to the entrepreneurial context and the investor—entrepreneur relationship. Task conflict involves disagreements about the content of work (Sapienza et al., 1996) (for example, "There are often differences of opinion about the tasks to be done"). Relationship conflict reflects interpersonal incompatibilities, including aspects such as tension and friction (Jehn & Mannix, 2001) (for example, "I am often annoyed about the cooperation"). Process conflict addresses disagreements about procedures, responsibilities, and resource allocations (for example, "There are often conflicts about responsibilities regarding certain tasks"). For the empirical analysis, we aggregated all subscales into a single measure of investor conflict (Jehn & Mannix, 2001).

Psychological resilience

We measured psychological resilience with Sinclair and Wallston's (2004) four-item scale, which includes items such as "I believe that I can grow in positive ways by dealing with difficult situations."

Perceived stress

We measured perceived stress with an adapted version of Cohen et al.'s (1983) 10-item scale, which is widely used in stress research (for example, Baron, Franklin, et al., 2016). Following common practice in research on acute stress responses (for example, Cyr et al., 2022), we asked entrepreneurs to rate how often they experienced stress during the past several months.

Psychological detachment

We measured psychological detachment with four items from Sonnentag and Fritz's (2007) scale, asking participants to rate their agreement with items such as "I don't think about work at all" in relation to their free evenings.

Controls

We included several control variables to account for factors that prior studies have found to be associated with psychological resilience in the literature. At the individual level, we controlled for age (Chadwick & Raver, 2020), gender (Wennberg et al., 2010), and education. Higher levels of education may foster the understanding that challenging circumstances can promote personal growth and resilience (Brykman & King, 2021; Shir et al., 2019). At the venture level, we

controlled for prior entrepreneurial failure, given evidence that past adversity may affect resilience (Hartmann et al., 2022). To measure experience with failure, we asked how many ventures respondents had founded and, if at least one, whether any had failed. Finally, we controlled for industry type, as sector-specific requirements may affect how entrepreneurs respond to challenges (Rauch & Frese, 2007).

Data tests and bias testing

Because we relied on self-reported survey data, common method bias (CMB) was a potential concern (Lindell & Whitney, 2001). To reduce this risk, we implemented several procedures recommended by MacKenzie and Podsakoff (2012). We separated the independent and dependent variables in the survey, avoided complicated wording, and conducted a pretest to ensure clarity of the survey items. We also emphasized confidentiality and anonymity in the survey introduction and noted that there were no right or wrong answers to reduce the likelihood of socially desirable but inaccurate responses (Chang et al., 2010; Nederhof, 1985).

We also tested for CMB statistically using two post hoc techniques. First, Harman's single-factor test showed that a single factor accounted for 33.16 percent of the variance. Because this is well below the 50 percent threshold, it suggests that no single factor dominated the data (Fuller et al., 2016; Podsakoff et al., 2003). Second, we applied the comprehensive confirmatory factor analysis (CFA) marker technique (Williams et al., 2010), which involves adding an unrelated marker variable measured with the same method as the study variables (Miller & Simmering, 2022). The comparison between the marker model and the baseline model ($\Delta X^2 = 1.00$, $df = 1$, $p = .32$) indicated no evidence of method bias affecting the results (Williams et al., 2010). Table 4 reports these analyses.

We tested for non-response bias by categorizing the sample into early, medium, and late respondents, following Berg (2005). We then conducted *t*-tests comparing early and late respondents on age, gender, education, prior

Table 4. Model fit indices and model comparisons for CFA models with marker variable.

Model	X^2 (df)		CFI	RMSEA (90% CI)	LR of ΔX^2	Model comparison
CFA with marker	804.68	(504)	.946	.047 (.041 - .053)		
Baseline	809.59	(517)	.948	.046 (.040 - .052)		
Method-C	808.59	(516)	.948	.046 (.040 - .052)	1.00, $df = 1$, $p = .32$	vs. Baseline
Method-U	782.66	(487)	.947	.048 (.041 - .054)	25.93, $df = 30$, $p = .63$	vs. Method C
Method-R	782.72	(497)	.949	.046 (.040 - .052)	25.87, $df = 19$, $p = .13$	vs. Method C

Note: CFA = confirmatory factor analysis; CFI = comparative fit index; RMSEA = root mean square error of approximation; LR = likelihood ratio test; U = unconstrained; C = common; R = restricted.

failure, and industry type. No statistically significant differences ($p > .05$) were found among these groups, suggesting that non-response bias is unlikely. We also tested for multicollinearity by calculating variance inflation factors (VIFs) for all structural relationships in the model. All VIFs were below the threshold of 3.00 (highest value: 1.91), thus yielding no evidence of multicollinearity (Hair et al., 2010).

Statistical procedures

We used structural equation modeling (SEM) to estimate our empirical model. SEM allows the simultaneous estimation of direct, indirect, and interaction effects, making it well suited to capture the complexity of our moderated mediation model (Hair et al., 2010; Preacher et al., 2007). Unlike hierarchical regression, which estimates indirect effects step by step, SEM models them within a single integrated model. In addition, SEM accommodates latent variables, thus enabling us to account for measurement error and obtain more reliable estimates (Hair et al., 2010; Hair et al., 2012; Williams et al., 2009).

We assessed reliability with Cronbach's alpha and composite reliability (CR), and convergent validity with average variance extracted (AVE). We also tested for non-response bias, attrition bias, and multicollinearity. SEM analyses were conducted in Amos 28, and supporting analyses were performed in Stata 17.

Results

Validity and reliability of measures

We assessed the fit of our theorized five-factor model at T1 using CFA. We removed one item from the psychological detachment scale due to a relatively low factor loading (.54). Following Andreou et al. (2011), we allowed error terms of similarly worded items within the same scale (perceived stress) and subscales (task, relationship, and process conflict) to covary to improve model fit.

The resulting measurement model demonstrated good fit ($X^2 = 691.930$; $df = 388$; $p = .000$), as indicated by the comparative fit index (CFI) = .943, standardized root mean square residual (SRMR) = .055, and root mean square error of approximation (RMSEA) = .054 (Hair et al., 2014). To evaluate discriminant validity, we compared this five-factor model with two alternatives: a four-factor model that combined workload and investor conflicts (X^2 [399] = 1568.286, $p < .001$, CFI: .780, RMSEA: .104, SRMR: .128) and a one-factor model with all items loaded on a single factor (X^2 [405] = 3171.277, $p < .001$, CFI: .481, RMSEA: .159, SRMR: .158). The five-factor model fit the data substantially better than either alternative, supporting discriminant validity.

Table 5. Means, standard deviations, and Pearson correlations.

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Psychological resilience	**.780**									
2. Workload	-.041	**.841**								
3. Conflicts with investors	-.142*	.237***	**.848**							
4. Perceived stress	-.201***	.609***	.405***	**.829**						
5. Psychological detachment	.061	-.090	-.018	-.242***	**.879**					
6. Individual age	.017	-.162**	.044	-.171**	.102	**n./a.**				
7. Gender	-.038	.038	.002	.092	-.029	-.156*	**n./a.**			
8. Education	.110†	.044	.042	-.057	-.028	.200***	.057	**n./a.**		
9. Prior failure	-.035	.044	.015	.031	.044	-.116†	.067	.019	**n./a.**	
10. Industry type	-.040	.029	-.043	-.017	-.044	-.078	.076	-.129*	.009	**n./a.**
Descriptive statistics										
Mean	5.38	4.58	2.24	3.50	3.27	43.05	1.19	4.94	1.76	1.66
Standard deviation	.98	1.39	1.15	1.43	1.56	9.80	.42	.94	.43	.47
Minimum	2.25	1.25	1	1.1	1	24	1	1	1	1
Maximum	7	7	1.67	7	7	74	4	7	2	2

Note: $N = 270$ respondents; Square root of AVE for reflective constructs on the diagonal appears in bold; Table displays the pairwise correlation coefficients.
† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

We also verified convergent validity. For all constructs, the AVE exceeded the recommended threshold of .5 (Hair et al., 2010), and the square root of each AVE was greater than its correlations with other constructs, consistent with the criteria of Fornell and Larcker (1981) and Hair et al. (2010). Table 5 reports descriptive statistics and correlations.

All Cronbach's alpha values indicated strong internal consistency (Nunnally, 1979). CR values exceeded the commonly accepted threshold of .70 (Bagozzi & Yi, 1988), with the lowest value being .819 for psychological resilience. Overall, these measures demonstrated good internal reliability. Table 3 reports all Cronbach's alpha and CR values.

To address potential endogeneity, we applied the Heckman correction (Hamilton & Nickerson, 2003). The coefficient of the correction term was not significant for any of the relevant relationships, indicating no evidence of endogeneity.

Structural model and hypothesis testing

We extended the measurement model from the CFA by adding the structural relationships and control variables. The resulting moderated mediation model demonstrated good fit (CFI = .968, RMSEA = .049, SRMR = .023). To test our hypotheses, we followed prior work (LePine et al., 2016; Muller et al., 2005) and used a dual-stage moderated mediation approach.

Mediation of perceived stress in the short-term model

We first examined the mediation hypotheses in the cross-sectional model. Workload at T1 was positively associated with perceived stress at T1 ($\beta = .544$, $p = .000$), as were conflicts with investors ($\beta = .349$, p

Table 6. Indirect effects and bootstrapping results.

			95% Bootstrapped Confidence Interval		
Independent variable	Mediator	Indirect effect	Lower	Upper	*p*-value
Workload	Perceived Stress	- .090*	– .143	– .039	.011
Conflicts with Investor	Perceived Stress	- .058**	– .100	– .026	.008

Note: $N = 270$ respondents at T1. Confidence interval based on 2.000 bootstrapped samples. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

= .000). In turn, perceived stress at T1 was negatively associated with psychological resilience at T1 ($\beta = -.165$, $p = .003$). Using bootstrapping (Preacher & Hayes, 2008), we found significant negative indirect effects of workload ($\beta = -.090$, $p = .011$) and of conflicts with investors ($\beta = -.058$, $p = .008$) on psychological resilience through perceived stress, supporting H1a and H1b, respectively. Table 6 presents the mediation results.

Moderation by psychological detachment in the short-term model

We next assessed the moderated mediation model at T1 using multigroup analysis. We divided the sample into groups with low and high psychological detachment. We estimated SEM models in which the path from perceived stress to resilience was either constrained to equality across groups or freely estimated. A chi-square difference test between the constrained and unconstrained models (Sauer & Dick, 1993) indicated a significant improvement in fit (ΔX^2 [1] = 9.453, $p = .002$), suggesting that psychological detachment moderated the relationship. The negative association between perceived stress and psychological resilience was weaker among entrepreneurs with high psychological detachment ($\beta = -.161$, $p = .020$) than among those with low detachment ($\beta = -.198$, $p = .020$). These results support H2. Table 7 summarizes the moderation results, and Figure 3 presents the overall model.

Effects of workload and conflicts with investors on psychological resilience in the sustained-exposure model

Analyses of the 79 entrepreneurs who participated in both T1 and T2 allowed us to assess the associations under sustained exposure. To verify

Table 7. Results of multigroup analysis.

	Psychological Detachment				
Independent variable	Low	High	ΔX^2 (df = 1)	*p*-value	Compared groups
Perceived stress → Psychological resilience	- .198**	- .161**	9.453	.002	low–high

Note: $N = 270$ respondents at T1. Standardized coefficients from Structural Equation Model shown. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

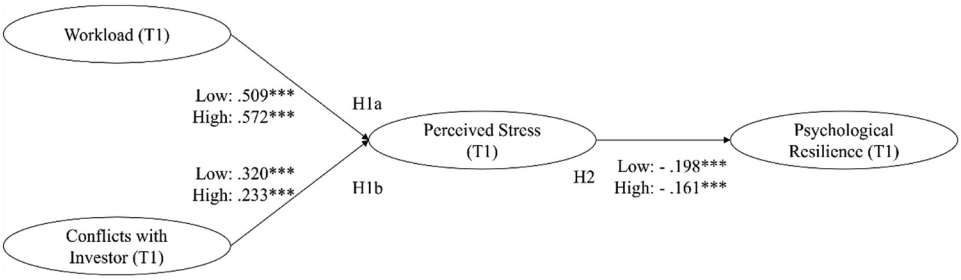

Figure 3. Results of moderated mediation as multigroup analysis. Note: Solid arrows represent our hypothesized associations. Control variables are not shown; The upper value (low) represents the standardized regression weight in the group in which psychological detachment is low. The lower value (high) indicates the standardized regression weight in the group where psychological detachment is high.

that these stressors persisted over time, we compared their levels across the two measurement points. Workload remained relatively stable (T1: $M = 4.62$, $SD = 1.39$; T2: $M = 4.38$, $SD = 1.29$), consistent with prior work suggesting that entrepreneurs can actively shape their work environments, making workload largely self-determined and stable over time (Shir et al., 2019). Conflicts with investors also showed little variation (T1: $M = 2.22$, $SD = 1.15$; T2: $M = 2.31$, $SD = 1.19$), likely reflecting the enduring nature of investor–entrepreneurs relationships, in which strategic priorities and expectations change slowly (Brettel et al., 2013). The stability of both stressors supports our interpretation of participants' experiences at T2 as sustained exposure.

Turning to the main analysis, workload at T1 had a significant and positive association with resilience at T2 ($\beta = .179$, $p = .017$). Conflicts with investors at T1 showed a negative association with resilience at T2, although this did not reach the conventional significance threshold of $p < .05$ ($\beta = -.155$, $p = .083$). Together, these findings suggest that, under sustained exposure, high workload as a challenge stressor may foster resilience, whereas conflicts with investors may weaken it, consistent with Hypotheses 3a and 3b, respectively. Figure 4 illustrates the results.

Robustness tests

We included a range of control variables in our main analyses to account for factors that may influence psychological resilience. For the first robustness check, we addressed the potential issue of overfitting arising from the inclusion of these controls (Harrell, 2015; Spector & Brannick, 2011). Following Becker et al. (2016), we re-estimated the SEM without any control variables, focusing solely on the primary explanatory variables. The results were consistent with those of

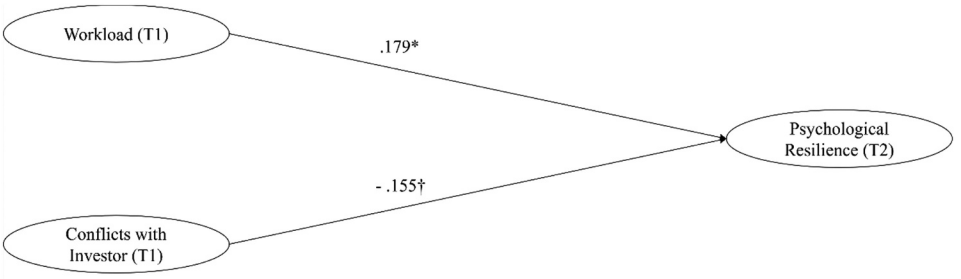

Figure 4. Results of additional analysis including second measurement point. Note: Solid arrows represent the associations of our second-wave additional analysis.

the full model, showing the same directions of association and similar regression coefficients at comparable significance levels. Table 8 reports the results.

For the second robustness check, we used an interaction term for the moderator instead of multigroup analysis. This alternative specification also produced results consistent with the main analyses, with direct and indirect associations in the same direction and of similar magnitude. The only exception was the interaction term for psychological detachment, which was only marginally significant (p-value < .100). Figure 5 presents the results of this robustness check.

Table 8. Robustness check—results of multigroup analysis without controls.

	Psychological Detachment				
Independent variable	Low	High	ΔX^2 (df = 1)	p-value	Compared groups
Workload → Perceived stress	.509***	.572***	9.517	.002	low–high
Conflicts with investors → Perceived stress	.320***	.233***	9.517	.002	low–high
Perceived stress → Psychological resilience	- .239**	- .197**	9.517	.002	low–high

Note: $N = 270$ respondents at T1. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

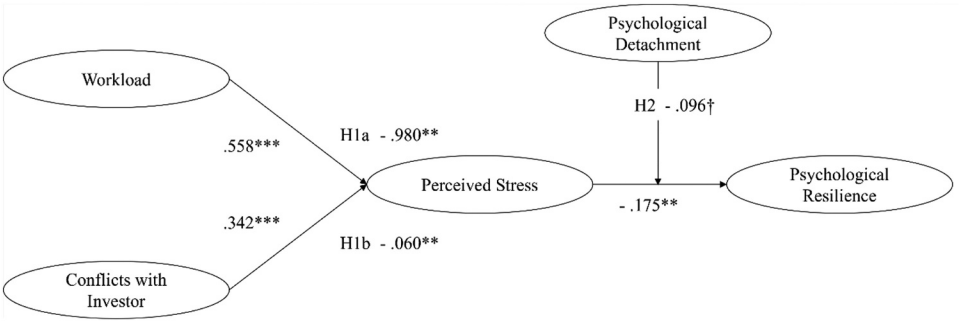

Figure 5. Robustness check—results of moderated mediation (interaction term). Note: Solid arrows represent our hypothesized associations. Control variables are not shown.

Discussion

We developed and tested a model examining how two entrepreneurial stressors relate to entrepreneurs' psychological resilience, considering both short-term and sustained exposure. In the cross-sectional model, higher workloads and conflicts with investors were associated with lower resilience through increased perceived stress, and psychological detachment moderated these associations. Over time, however, sustained exposure to high workload predicted higher resilience, whereas continued exposure to conflicts with investors predicted lower resilience.

Implications for research and theory

We contribute to entrepreneurship research by adopting a dynamic process perspective on resilience in the face of entrepreneurial stressors and by examining psychological detachment as an underexplored coping mechanism. This approach provides a basis for understanding how two entrepreneurship-specific stressors are associated with resilience and explains the different pathways through which resilience may be strengthened or weakened. We make three main contributions:

First, we advance the understanding of entrepreneurial resilience by applying a dynamic process perspective to examine heterogeneous resilience trajectories. This perspective, although emphasized in recent research calls (Ahmed et al., 2022; Hartmann et al., 2022), has received limited attention in entrepreneurship studies, which have largely conceptualized resilience as a dispositional trait or a state-like capacity. In addition, while prior work has emphasized personal factors such as personality traits (for example, Fisher et al., 2018; Nisula & Olander, 2023; Pérez-López et al., 2016) and beliefs (for example, Billingsley et al., 2021; Doern, 2016; González-López et al., 2018), few studies have examined resilience in relation to entrepreneurship-specific stressors (Hartmann et al., 2022). Our study addresses this gap by analyzing the diverging resilience trajectories associated with workload as a challenge stressor and investor conflicts as a hindrance stressor. Our findings suggest heterogeneous effects: both stressors were associated with lower resilience in the short term through perceived stress, whereas sustained exposure to high workload predicted an increase in resilience, and continued exposure to investor conflicts predicted a decrease. This dynamic underscores that entrepreneurs' resilience can be cultivated through sustained interaction with certain challenges, such as high workload, whereas this may not hold true for others, such as investor conflicts.

Drawing on the transactional model of stress (Lazarus & Folkman, 1984) and the challenge–hindrance stressor framework (Cavanaugh et al., 2000), we propose two distinct pathways that may account for these dynamics under

sustained exposure. A cognitive pathway reflects how sustained high workload, as a challenge stressor, can foster cognitive flexibility, whereas investor conflicts, as a hindrance stressor, may erode perceived control and autonomy. An emotional pathway reflects how sustained high workload may generate positive emotions that support adaptation, whereas conflicts with investors may foster cumulative negative emotions that weaken it. Together, these pathways suggest that resilience can be strengthened through repeated engagement with certain challenges, such as high workload, but is likely to be weakened by persistent interpersonal strain from investor conflicts. In doing so, we also contribute to the emerging literature on the role of emotions in resilience building (Hartmann et al., 2022). In particular, we propose that when founders repeatedly confront and master challenge stressors, this process generates feelings of accomplishment and positive emotions that, in turn, reinforce resilience.

Second, we contribute to the literature on resilience by examining the link between stress mitigation and resilience, which has received little attention in entrepreneurship research (Ahmed et al., 2022). We show that psychological detachment moderates the negative association between stress and resilience, weakening this link in the cross-sectional model. Psychological research has long recognized detachment as a key factor in recovery from work demands (Boekhorst et al., 2017; Lu & Chou, 2020; Sonnentag, 2012; Sonnentag et al., 2010). We extend this work by demonstrating its relevance for entrepreneurs, who face stressors that may be more pervasive, harder to avoid, and allow fewer opportunities for short-term recovery than those encountered by employees in established organizations. Entrepreneurs' strong sense of responsibility can also make detachment particularly difficult, further underscoring its value as a coping mechanism (Le Moal et al., 2025). Against this backdrop, our findings are in line with evidence from Karabinski et al. (2021) that even short, low-intensity detachment interventions can be beneficial. Since self-guided approaches have been shown to be as effective as face-to-face formats (Bartlett et al., 2019; Karabinski et al., 2021), detachment appears to be a particularly relevant resource to sustain resilience in entrepreneurial contexts, where time pressure and autonomy constraints limit access to formal recovery opportunities. In sum, by examining psychological detachment as a coping strategy under the direct control of entrepreneurs, our study identifies a context-sensitive process that can be drawn upon even during phases of high demand and limited time. In doing so, we also respond to calls for more research on the link between resilience and stress mitigation (Ahmed et al., 2022).

Third, we contribute to the nascent literature on stress in entrepreneurship. While it is widely acknowledged that entrepreneurship is stressful, prior work in this field has devoted less systematic attention to identifying, measuring, and studying the effects of domain-specific stressors than research in other

management contexts (Lerman et al., 2021). For example, research from organization science and information systems has examined context-specific stressors such as workplace bullying (Hauge et al., 2010), e-mail overload (Stich et al., 2019), lack of health insurance (Goh et al., 2016), and technostress (Ayyagari et al., 2011). We addressed this gap by studying two entrepreneurship-specific stressors, high workload and conflicts with investors, and examined their short-term effects and their effects under sustained exposure on psychological resilience. Moreover, by categorizing them as challenge or hindrance stressors, we respond to explicit calls in entrepreneurship research and show how this can help clarify stress processes and differences between short-term and sustained effects (Ahmed et al., 2022; Lerman et al., 2021). In this context, our findings add nuance to the still-limited discussion of the possible long-term benefits of stressors in entrepreneurship. While Rauch et al. (2007) reported that stress can lower the risk of firm failure after 12 years, our proposed emotional and cognitive pathways may offer a founder-level explanation for why some stressors may yield positive effects for both the entrepreneur and the venture, whereas others do not.

Practical implications

Translating these findings into guidance for entrepreneurs, three points stand out. First, high workload is not necessarily harmful; under sustained exposure, it can contribute to psychological resilience. This suggests that entrepreneurs may consider adopting a "what doesn't kill you makes you stronger" mindset and, as proposed by Lerman et al. (2021), actively engage with stressors by reframing how they perceive them. Thus, viewing periods of intense workload not only as challenges to be endured but also as opportunities for growth may improve their capacity to adapt over time. Second, the consistent negative association between conflicts with investors and resilience emphasizes the importance of carefully selecting and maintaining investor relationships. Beyond financial or strategic considerations, the interpersonal quality of the relationship appears to be a critical factor. Third, psychological detachment represents an accessible strategy for mitigating the immediate impact of stress on resilience. Entrepreneurs may benefit from deliberately disengaging from work-related thoughts and prioritizing recovery through relaxation or recreational activities.

Our study also has implications for entrepreneurial support institutions such as funding agencies, incubators, and chambers of commerce. The psychological consequences of entrepreneurial challenges are often underestimated and stigmatized despite their strong impact on founders. Addressing this requires awareness-building to normalize the topic and the provision of practical tools. In particular, interventions related to psychological detachment (for example, mindfulness, boundary management, or positive work

reflection) could be integrated into support programs, since they help buffer the short-term effects of perceived stress and sustain resilience during acute periods of pressure. Finally, our evidence on sustained effects suggests that while some stressors can strengthen resilience, others steadily erode it. Support initiatives may therefore wish to emphasize tools that help founders manage hindrance stressors, such as investor conflicts, for example, through mediation services, conflict resolution training, or targeted coaching.

Limitations and avenues for future research

This study has several limitations that open avenues for future research. First, although we proposed cognitive and emotional pathways through which challenge and hindrance stressors may relate to resilience in our sustained-exposure model, we did not measure them directly. Future research could test these propositions by incorporating explicit measures of emotions and cognition as mediators.

Second, our reliance on self-reported data introduces potential biases, including social desirability. We sought to reduce these risks by emphasizing anonymity, assuring respondents that there were no right or wrong answers, and applying procedural and statistical checks for common method bias. Nevertheless, the exclusive reliance on self-reports may still have influenced responses. Future research could complement survey data with external ratings, behavioral measures, or archival data.

Third, although our two-wave design has advantages over a purely cross-sectional approach, it does not allow for definitive causal inference. By separating predictors (T1) from outcomes (T2), we reduced concerns about reverse causality and gained some insight into associations over time. We further strengthened this by grounding our proposed relationships in established theory. Nonetheless, future research could extend this work with designs more powerful for causal analysis, including natural experiments, cross-lagged panel models, or event-based longitudinal approaches.

Fourth, our research design also has methodological limitations. Specifically, our measures captured general perceived stressors rather than explicit events of adversity, as the latter are difficult to assess in large samples. Event-specific longitudinal designs measuring resilience before, during, and after adversity could address this limitation.

Fifth, the generalizability of our findings may be limited due to our focus on the DACH region. Extending the research to other regions and cultural contexts could provide a broader understanding of how entrepreneurial stressors relate to resilience. In addition, while our study focused on workload and investor conflicts as two key entrepreneurship-specific stressors, future research could explore other challenge and hindrance stressors. One promising direction for future research is to investigate how family relationships

influence psychological resilience. Although respect and support from family members have been shown to foster resilience (Duchek, 2018; Zehra & Usmani, 2023), little is known about the role of work–family conflict (Ahmed et al., 2022; Shelton, 2006).

Lastly, while we focused on psychological detachment as a coping mechanism, future research could examine additional strategies. Proactive coping (Aspinwall & Taylor, 1997), meaning-focused coping (Folkman & Moskowitz, 2007), or social-capital-based coping, such as support from mentors or networks (Dale & Newman, 2010), may complement detachment. These strategies are longer-term and more integrative, potentially altering entrepreneurs' cognitive framing and the development of psychological resilience.

AI Declaration

During the preparation of this work the authors used ChatGPT to improve spelling and grammar. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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