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When does mental well-being matter for entrepreneurial income? The role of external objective resources from social contexts

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ABSTRACT

Entrepreneurs' mental well-being has increasingly captured the attention of both scholars and the broader public. Building on self-efficacy theory and conservation of resources (COR) theory, we examine how entrepreneurs' mental well-being influences their income. We theorize that while mental well-being positively influences entrepreneurial income, this baseline relationship is moderated by the external objective resources entrepreneurs access through their social contexts. Using a rich longitudinal dataset of 1,013 entrepreneurs in Germany between 2002 and 2015, we find that entrepreneurs' mental well-being is positively associated with their income. This relationship is weaker for entrepreneurs with access to external objective resources, specifically those with a high-earning spouse or prior state support, and stronger for those who have experienced resource loss through divorce. We also complement our analysis of the archival database with a randomized online experiment to test our underlying argument for the interaction effect between mental well-being and external objective resources on self-efficacy. Our findings offer new insights into how entrepreneurs' mental well-being, COR, and self-efficacy jointly shape their work-related outcomes.

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Entrepreneurial well-being; conservation of resources; entrepreneurial income; self-efficacy; external objective resources; social contexts

Introduction

Entrepreneurs' mental well-being[1] has increasingly attracted scholarly and public attention because of its implications for work-related outcomes, such as income (for a review, see Stephan 2018). Intuitively, mental well-being is likely to influence entrepreneurs and their success by fostering work motivation (Shir and Ryff 2022), commitment (Bradley and Roberts 2004), and persistence (Hessels et al. 2018). However, recent studies have painted a more complex picture. Specifically, entrepreneurs with lower mental well-being can also exhibit behaviours that support entrepreneurial outcomes, such as heightened entrepreneurial intentions (Gunia, Gish, and Mensmann 2021), stronger entrepreneurial orientation and risk tolerance (Yu, Wiklund, and Pérez-Luño 2021), greater alertness

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to opportunities (Moore, McIntyre, and Lanivich 2021), and swifter action on opportunities (Lerner, Verheul, and Thurik 2019), which can potentially lead to successful work-related outcomes (Wolfe, Patel, and Drover 2020).[2] This seemingly ambiguous evidence calls for a more integrative account of the conditions under which mental well-being influences entrepreneurial income (cf. Patel, Tsionas, and Oghazi 2023).

Consistent with this ambiguity, recent empirical studies have reported equivocal evidence regarding the relationship between entrepreneurs' mental well-being and their economic outcomes, including their income (e.g. Hatak and Zhou 2021; Patel et al. 2021; Wolfe, Patel, and Drover 2020). A key reason for such equivocal evidence may be that these studies have tended to adopt 'an undersocialized, individualistic perspective of entrepreneurs in their work context' and thus have not developed an integrative view of how entrepreneurs' mental well-being may interact with factors from not only their work domain but also other life domains (Stephan 2018, 311). Moreover, by relying predominantly on entrepreneurs' subjective evaluations through self-reports, this literature leaves it unclear how objective resources from the external environment shape the relationship between entrepreneurs' mental well-being and their income (cf. Demerouti 2025). For example, entrepreneurs with low mental well-being may rely on resources from other domains to cope with distress and achieve positive outcomes (Ahmed et al. 2022). Thus, considering the interplay between entrepreneurs' mental well-being and other social contexts, such as the family context (cf. Patel, Tsionas, and Oghazi 2023) and the institutional context (cf. Yu et al. 2024), may help explain the mixed evidence regarding the influence of mental well-being on income.

Against this backdrop, we ask, *how is entrepreneurs' mental well-being related to their income, and how does the availability of external objective resources alter this relationship?* These questions are important because entrepreneurs are embedded in multiple social contexts. Their outcomes are shaped not only by their internal psychological resources but also by the objective resources available in their surroundings (Sonnentag, Tay, and Nesher Shoshan 2023).

To address these questions, we draw on the emerging view that conceptualizes mental well-being as an internal psychological resource (Kummitha, Honig, and Urbano 2025; Sonnentag, Tay, and Nesher Shoshan 2023; Stephan 2018). We combine this view with conservation of resources (COR) theory to examine how entrepreneurs' mental well-being interacts with external objective resources across social contexts. Building on the concept of resource caravans in COR theory, which holds that individuals' internal and external resources are 'intimately tied' (Hobfoll 2011, 132), we argue that entrepreneurs can draw on constellations of resources across organizational, family, and institutional contexts to sustain functioning when their internal psychological resources are constrained (Hobfoll 2001). Understanding how entrepreneurs' internal (subjective) and external (objective) resources jointly shape entrepreneurial outcomes can therefore provide a more integrative account of the broader implications of mental well-being (Demerouti 2025; cf., Stephan 2018).

We examined these arguments in two complementary studies. First, we analysed a longitudinal dataset of 1,013 entrepreneurs in Germany from 2002 to 2015. We found a positive baseline effect of mental well-being on entrepreneurial income; however, this effect weakened when entrepreneurs had access to external objective resources, specifically by having a high-earning spouse and having received state support in the past, whereas it strengthened when they lost resources through divorce. Second, we conducted a randomized online experiment involving 224 entrepreneurs in Germany, Austria, and Switzerland. The experimental results support the arguments that mental well-being contributes to self-efficacy and that access to external objective resources reduces the role of entrepreneurs' mental well-being in maintaining self-efficacy.

Our study makes three contributions. First, we contribute to the emerging literature on entrepreneurial mental well-being by shifting the focus from whether mental well-being matters to when it matters. In doing so, we show that entrepreneurs with low mental well-being can still perform effectively when they have access to external objective resources across social contexts (Shir and Ryff 2022; Sonnentag, Tay, and Nesher Shoshan 2023; Stephan 2018). Second, we contribute to COR theory in entrepreneurship by introducing an objective view of resources. We capture the resources

entrepreneurs objectively have access to, complementing the prior focus on subjective perceptions of social resources (e.g., Lu et al. 2023; Newman et al. 2018) to theorize how resources shape entrepreneurial outcomes (cf. Demerouti 2025; Gabriel et al. 2025). Third, we contribute to research on entrepreneurial self-efficacy by offering an integrative view of how resources from different contexts jointly shape self-efficacy. We go beyond the prior scholarly attention given to self-reported perceptions (e.g. Marshall et al. 2020; Shahriar and Shepherd 2019; Tihic, Hadzic, and McKelvie 2021) and show how external objective resources and internal psychological resources jointly influence self-efficacy.

Theoretical background and hypotheses

Mental well-being and work-related outcomes: a self-efficacy theory perspective

In the eudaimonic view, mental well-being refers to an individual's psychological evaluation of themselves, specifically their functioning in life, including how they cognitively evaluate and affectively experience daily activities (Ryan and Deci 2001). Consistent with this view, a recent resource-based perspective conceptualizes mental well-being as an individual's subjective evaluation of their internal psychological resources (Gabriel et al. 2025; Pathak 2021), which enable persistence through challenging situations, such as entrepreneurship and its inherent high uncertainty (Wiklund et al. 2019). These psychological resources encompass cognitive evaluations (e.g. how individuals evaluate their lives), affective feelings (e.g. how they feel about a situation) (Stephan 2018), and relational behaviours (e.g. the ability to manage interpersonal interactions) (Pathak 2021).

As such, mental well-being shapes how individuals function, including whether they find meaning at work (Stephan et al. 2020), maintain motivation (Brieger, De Clercq, and Meynhardt 2021; Kummitha, Honig, and Urbano 2025), and ultimately perform well at work (Sonnentag, Tay, and Nesher Shoshan 2023). Consistent with this view, some research has shown that compared with entrepreneurs with lower mental well-being, those with higher levels of mental well-being are more likely to achieve higher income (e.g. Gorgievski et al. 2010; Gorgievski-Duijvesteijn et al. 2005; Hatak and Zhou 2021; Patel et al. 2021).

To explain this positive relationship between mental well-being and work-related outcomes, we draw on *self-efficacy theory*. According to self-efficacy theory, mental well-being reflects individuals' cognitions and affect about themselves, which shape behaviours such as *skill development*, *effort*, and *persistence* (cf. Bandura 1977). These mechanisms are critical for understanding how entrepreneurs' psychological resources translate into behaviours that influence work performance (Markman and Baron 2003; Shane, Locke, and Collins 2003). For example, entrepreneurs with higher mental well-being tend to exhibit greater self-efficacy, which in turn fosters behaviours that support entrepreneurship, including persistence (Hessels et al. 2018), time commitment (Bradley and Roberts 2004), and improvisation (Hmieleski and Baron 2008).[3]

Mental well-being and entrepreneurial income

Individuals with higher mental well-being are more likely to believe they can develop the skills necessary to achieve their envisioned goals (Shane, Locke, and Collins 2003). In this way, mental well-being fosters self-efficacy – that is, individuals' belief in their own capabilities – which drives behaviours that are essential for entrepreneurial success (Boyd and Vozikis 1994). For instance, compared with entrepreneurs with lower mental well-being, those with higher mental well-being are more likely to exhibit self-control (Stephan et al. 2020), think creatively (Shir and Ryff 2022), learn to take risks (Tran 2026), and coordinate different tasks simultaneously (Shepherd, Seyb, and Williams 2023). These self-efficacy-driven skills enable entrepreneurs to execute business tasks more effectively, thereby enhancing their work performance (Hmieleski and Baron 2008).

Mental well-being also encourages individuals to pursue positive work-related outcomes. Entrepreneurs with high mental well-being believe they possess the resources needed to devote time and energy to their work (Shir and Ryff 2022) and are more likely to engage in self-regulation, including self-monitoring and self-evaluation (Hmieleski and Baron 2008). These efforts facilitate work-related outcomes, such as higher entrepreneurial income (Hmieleski and Baron 2008). Moreover, individuals with high mental well-being believe in their ability to improve their lives over time (Bandura 1977), including their work lives (Conger and Kanungo 1988; Hessels et al. 2018). Even when entrepreneurs face setbacks during the entrepreneurial process, such beliefs motivate them to persist in exerting effort towards achieving their goals (Marshall et al. 2020), ultimately contributing to higher entrepreneurial income than that obtained by those without such strong beliefs (Markman and Baron 2003).

Overall, we argue that entrepreneurs with higher mental well-being are more likely to achieve better work-related outcomes (i.e. higher entrepreneurial income) than those with lower mental well-being because mental well-being fosters self-efficacy beliefs that encourage entrepreneurs to develop skills, exert effort, and persist in the face of obstacles.[4] Accordingly, we propose the following baseline hypothesis:

Hypothesis 1 (H1). Entrepreneurs' mental well-being is positively associated with their income.

Influence of external objective resources: COR theory

Although we generally expect entrepreneurs' mental well-being to be positively related to their income, we draw on COR theory to argue that individuals with low mental well-being may still perform effectively when they can draw on external resources from the environment to sustain functioning. COR theory is a motivational framework that explains how individuals cope with life challenges by drawing on the resources available to them (Hobfoll et al. 2018). In particular, COR theory recognizes both objective and subjective components: objective resources exist in the external environment independently of individual perceptions (e.g. household income), whereas subjective resources reflect individuals' internal evaluations of their own states (e.g. mental well-being) (Gabriel et al. 2025; Hobfoll 1989). Central to COR theory is the concept of resource caravans, which refers to the constellation of resources individuals can draw on across different domains, shaped by both internal subjective and external objective resources (Hobfoll 2001). Because internal and external resources are intimately tied and build an individual's resource reservoir (Hobfoll 2011), they may cross over between domains and jointly shape how individuals cope with challenging situations (Hobfoll et al. 2018). Critically, when a specific resource is constrained in an individual's resource reservoir – for example, when mental well-being is low – the individual can compensate for it by drawing on *resources from other domains*, including objective resources from organizational, family, and institutional contexts, to sustain their resource reservoir and functioning (Halbesleben et al. 2014; Hobfoll 2001).

Extant studies on entrepreneurs' mental well-being have also relied on COR theory. For instance, Gorgievski-Duijvesteijn et al. (2005) surveyed Dutch self-employed farmers and demonstrated how the loss of psychological resources constrains behaviours aimed at improving financial performance. Similarly, Xu and Jin (2022) used survey data from entrepreneurs in China to explain the negative relationship between entrepreneurs' stress and mental well-being as a process of resource loss. Moore, McIntyre, and Lanivich (2021) likewise used survey data to argue that entrepreneurs experiencing mental health issues are motivated to acquire and develop resources to remain alert to entrepreneurial opportunities.

Despite the usefulness of COR theory for explaining how entrepreneurs' mental well-being shapes their work outcomes, these studies have predominantly adopted an individual-centred approach that focuses on individuals' internal resource evaluations. This internal focus has led to a reliance on

self-report surveys capturing individuals' subjective evaluations of their resources, including their mental well-being (e.g. Brieger, De Clercq, and Meynhardt 2021; Gorgievski-Duijvesteijn et al. 2005; Newman et al. 2018; Xu and Jin 2022). Therefore, the literature tends to emphasize the subjective component of individuals' resources (Hobfoll 2001) but lacks an integrative account of how objective resources from the external environment interact with individuals' subjective evaluations of their internal psychological resources (Stephan 2018). Overlooking external objective resources thus limits our understanding of how internal and external resources jointly shape entrepreneurs' performance (cf. Demerouti 2025).

Building on the premise in COR theory that internal and external resources are interdependent, the following sections elaborate on three common sources of external objective resources for entrepreneurs – the organizational context, the family context, and the institutional context (Halbesleben et al. 2014; Hobfoll et al. 2018) – and theorize how the availability of these resources shapes the relationship between mental well-being and entrepreneurial income.

External objective resources from the organizational context: entrepreneurs versus employees

Resources from the organizational context differ substantially between entrepreneurs and employees. In general, employees tend to benefit more from organizational resources than entrepreneurs (Jolly, Kong, and Kim 2021). This difference stems from the nature of entrepreneurship, with entrepreneurs bearing primary responsibility for acquiring and allocating resources within their ventures rather than drawing on an established organizational infrastructure (Williamson, Gish, and Stephan 2021). During the startup phase, entrepreneurs often operate without the organizational scaffolding available in established firms and instead focus on accumulating resources for their ventures and employees, who expect to receive rather than provide resources (Marshall, Dibrell, and Eddleston 2019) and do not necessarily share the same responsibility for resource acquisition (Shir and Ryff 2022). As a result, entrepreneurs may be more likely to rely on their mental well-being to drive performance and generate income, as they cannot easily draw on organizational resources to support their functioning.

In contrast, employees with low mental well-being can typically rely on organizational resources to sustain their work performance (cf. Gabriel et al. 2025). For example, employees with limited psychological resources may receive alternative forms of resources, such as emotional support from colleagues or supervisors (Jolly, Kong, and Kim 2021), supportive feedback from supervisors, or access to in-house psychological counselling (Follmer and Jones 2018). Additionally, co-workers may compensate for an individual's reduced capacity by sharing tasks and responsibilities, thereby sustaining group performance and, in turn, enabling all group members to obtain rewards (cf. Williamson, Gish, and Stephan 2021).

Because employees can draw on organizational resources, the effect of their mental well-being on income is likely to be weaker. In contrast, entrepreneurs – who lack comparable organizational resources – are likely more dependent on their internal psychological resources, thereby strengthening the relationship between mental well-being and income. Accordingly, we propose the following:

Hypothesis 2 (H2). The positive relationship between mental well-being and income is stronger for entrepreneurs than for employees.

External objective resources from the family context: the spouse

Another important source of external objective resources is an individual's family (Jolly, Kong, and Kim 2021). Family members can provide valuable financial, human, and psychological resources to entrepreneurs who lack the personal resources needed to support their work (Miller, Steier, and Le

Breton-Miller 2016). Because the spousal relationship is among the most influential family ties (Bird and Zellweger 2018), we focus specifically on the relationship between an entrepreneur and their spouse. In contrast to other family relationships (e.g. between siblings or cousins), spouses often share economic interests and a household, making a spouse's income a particularly relevant and accessible objective resource from the external environment (Alshibani, Kristoffersen, and Volery 2025).

A spouse's income represents an important financial resource that can help sustain entrepreneurs' functioning when their internal psychological resources are constrained. Specifically, a high-earning spouse can provide financial stability, relieving pressure for immediate income generation (cf. Alshibani, Kristoffersen, and Volery 2025) and offering business investment when needed (Miller, Steier, and Le Breton-Miller 2016). As a result, when entrepreneurs are supported by their spouses' income, their own mental well-being likely becomes less critical for maintaining performance and generating income.

In contrast, entrepreneurs with low-earning spouses lack such external objective financial support and must rely more heavily on their own resources, including their mental well-being, to generate entrepreneurial income (cf. Gabriel et al. 2025). This increased financial pressure can impose additional emotional strain (Van Auken and Werbel 2006), reinforcing entrepreneurs' dependence on their mental well-being to cope with financial uncertainty (Williamson, Gish, and Stephan 2021).

Taken together, these arguments suggest that access to spousal financial resources reduces entrepreneurs' reliance on their mental well-being for generating income. Thus, we propose the following:

Hypothesis 3 (H3). The positive relationship between entrepreneurs' mental well-being and income is weaker for entrepreneurs with high-income spouses than for those with low-income spouses.

Loss of external objective resources from the family context: divorce

While a spouse can provide crucial resources, such as financial support, that buffer the effects of low mental well-being on income, the dissolution of a spousal relationship may remove such resources entirely. Divorce frequently leads to the loss of financial resources; declining living standards; and increased financial concerns (Andric et al. 2024), including potential alimony obligations (Weitzman 1980). Moreover, this life event is often stressful (Zhao and Li 2022) and typically involves conflict, emotional distress, and the disruption of established routines (Amato 2000; Miller, Wiklund, and Yu 2020).

Following the dissolution of an intimate relationship, individuals often require additional resources to adapt to new life circumstances. This adjustment may involve time-consuming activities (Tran 2026), such as relocating, dividing assets, and resolving child custody arrangements (Kitson and Morgan 1990; Mikolai and Kulu 2018). Divorce therefore constitutes a significant event of resource loss, removing objective financial support previously provided by a spouse while simultaneously generating new resource demands.

In addition, divorce can disrupt individuals' assumptions about themselves, others, and their environment (Zhao and Li 2022). Individuals may begin to question the reliability and availability of support from others (Amato 2000), which can reduce their inclination to seek external resources. In this context, entrepreneurs may rely more heavily on their internal psychological resources, particularly their mental well-being, to cope with increased demands and uncertainty (cf. Stephan 2018).

Thus, the loss of external resources following divorce, combined with increased resource demands, is likely to strengthen entrepreneurs' reliance on their mental well-being for sustaining functioning and generating income.[5] We hence propose the following:

Hypothesis 4 (H4). The positive relationship between entrepreneurs' mental well-being and income is stronger for those who have experienced divorce than for those who have not experienced divorce.

External objective resources from the institutional context: the state

External objective resources, such as social benefits provided by one's institutional environment, can also serve as valuable compensatory resources for entrepreneurs' psychological resources, potentially influencing the relationship between mental well-being and entrepreneurial income (Wiklund et al. 2019). Specifically, entrepreneurs' *prior experience* receiving social benefits, such as unemployment or subsistence benefits, likely shapes their perceptions of the institutional safety net, which may in turn compensate for their current situations if they are experiencing low mental well-being (Wanberg et al. 2020). For example, Caliendo and Kritikos (2010) relied on German data to examine entrepreneurs who received social benefits, such as the bridging allowance that pays early-stage entrepreneurs the same amount as the unemployment benefits they would have received if they had not started their new ventures. They found that those who have received such benefits feel a sense of security and are more willing to put in the effort to grow their businesses. Similarly, drawing on longitudinal European data, Bilan and Apostoaie (2023) found that in countries with strong social security systems, such as those offering generous unemployment benefits, entrepreneurs are more motivated to take entrepreneurial action despite their fear of financial losses.

These studies show that individuals' prior experience with state support makes the government safety net salient in their evaluations of resources (Wanberg et al. 2020), which can help reduce their psychological pressure to succeed at all costs. The reassurance of having accessed public support in the past may buffer the negative effects of low mental well-being on income-generating behaviours in the present by providing a sense of security that enables entrepreneurs to persist through challenges and pursue income generation (cf. Yu et al. 2024). Accordingly, we propose the following:

Hypothesis 5 (H5). The positive relationship between entrepreneurs' mental well-being and income is weaker for entrepreneurs who have prior experience acquiring social benefits from the state than for those who do not have such experience.

Methods

We conducted two complementary studies. In our main study, we used a longitudinal dataset from the German Socio-Economic Panel (SOEP) to test our hypotheses. We also conducted a between-subject experimental study to corroborate the underlying mechanisms and establish causality.

Main study

Data and sample

In the main study, we used the SOEP, a longitudinal database provided by the German Institute for Economic Research (DIW Berlin). Since 1984, the SOEP has collected annual household, occupation, and income data, including data on objective resources from the environment, such as spousal income and state social benefits. Starting in 2002, it also began including an adapted version of the Medical Outcome Study Short Form (MOS-SF) (see Ware, Kosinski, and Keller 1996) to collect biannual data on individuals' physical and mental health – that is, subjective evaluations of internal resources (Andersen et al. 2007). Together, these data capture both objective resources from the

external environment and individuals' subjective evaluations of their mental well-being. The data from 2002 to 2015 included 27,678 self-employed and employed individuals.

Following prior studies on entrepreneurs' mental well-being (e.g., Alshibani, Kristoffersen, and Volery 2025; Nikolova 2019; Wolfe, Patel, and Drover 2020), we used occupational status to identify entrepreneurs. Specifically, we classified individuals as entrepreneurs if they were self-employed in a given year and as employees if they had paid employment at that time. To address potential sample imbalance (Iacus, King, and Porro 2012), self-selection bias, and endogeneity (Abreu et al. 2019), we conducted coarsened exact matching (CEM) to create a matched sample of entrepreneurs and employees. Following prior studies on mental well-being, we coarsened the factors related to individuals' life and work situations that were likely to influence mental well-being, including gender, age, education, marital status, urban region, and industry (Abreu et al. 2019; Nikolova 2019). Using one-to-many matching to maximize the use of available observations (Iacus, King, and Porro 2012), we obtained a sample of 1,013 entrepreneurs and 5,489 employees.

Measurements

Dependent variable

For the entrepreneur subsample, we used *entrepreneurial income* to evaluate entrepreneurial success (Shepherd et al. 2019). We used the natural logarithm of income at time $t + 1$ to correct for skewness (Bird and Zellweger 2018). Similarly, for the employee subsample, the dependent variable—*main income*—captured an individual's income from paid employment in a given year at time $t + 1$. We applied the same logarithmic transformation. In an additional analysis, we winsorized the income variables at the top and bottom 1%, and the results remained consistent. Table A1 in the online appendix presents the details for all the measurements.

Independent variable

We used a composite index based on six items from the MOS-SF to measure *mental well-being* (see Andersen et al. 2007; Ware, Kosinski, and Keller 1996), which has established convergent validity (e.g. Jenkinson et al. 1997). The index ranged from 0 to 100, with higher values indicating higher mental well-being at time t (Hatak and Zhou 2021; Jenkinson et al. 1997; Nikolova 2019). The Cronbach's alpha was 0.88.

Moderators

We lagged all moderators (i.e. measures of resources in the family and institutional contexts) and control variables at time $t - 1$ to avoid simultaneity bias. Consistent with our theoretical argument, all three moderators captured external objective resources that exist independently of entrepreneurs' own perceptions (Demerouti 2025; Hobfoll 1989). *Spousal income* denoted the main salary that an individual's spouse obtained from paid employment at time $t - 1$. We used the natural logarithm to correct for skewness. *Divorced* was a binary variable coded 1 if an individual's marital status was divorced at time $t - 1$ and 0 otherwise. *Social benefit experience* was a binary variable coded 1 if an individual had received social benefits (i.e. unemployment and/or subsistence benefits) from the state in the past (e.g. Caliendo and Kritikos 2010; Wanberg et al. 2020) until time $t - 1$ and 0 if the individual had never received any social benefits.[6]

Control variables

We included several individual-level control variables. Entrepreneurs' *physical well-being* affects their capacity to perform entrepreneurial activities and earn income (Hatak and Zhou 2021). This variable was a composite index based on six items adapted from the MOS-SF (see Andersen et al. 2007; Ware, Kosinski, and Keller 1996), with higher values indicating higher physical well-being (Hatak and Zhou 2021; Jenkinson et al. 1997). *Full-time self-employment* indicated whether an individual was working as an entrepreneur full time (coded as 1) or part time (coded as 0) (Caliendo, Graeber, et al. 2023).

Gender was coded 1 for female and 0 for male. Female entrepreneurs may face more resource constraints (Love, Nikolaev, and Dhakal 2024), which may influence their ability to obtain income. *Education level* denoted an entrepreneur's number of years of formal education, which affects entrepreneurs' ability to recognize and exploit opportunities and can thus help increase income (Wolfe, Patel, and Drover 2020). *Urban region* was coded 1 if an individual lived in an urban area and 0 if they lived in a rural area. Urban regions are believed to have greater resource munificence than rural areas (Abreu et al. 2019).

We used three variables to capture *entrepreneurial experience*: (1) an entrepreneur's *own experience*, (2) their *parents' experience*, and (3) their *spouse's experience*. We measured all three variables as the number of years spent in self-employment before the entrepreneur's current self-employment. An entrepreneur's own experience captures human capital accumulation that directly supports income generation (Gilbert, McDougall, and Audretsch 2006). Parents' experience captures the intergenerational transmission of entrepreneurial knowledge, which may affect entrepreneurs' performance (Cooper, Gimeno-Gascon, and Woo 1994). Similarly, spouses' experience may shape entrepreneurs' access to advice that benefits business development (Bird and Zellweger 2018).

Additionally, we controlled for an individual's *age* in years, which may determine income level (Wolfe, Patel, and Drover 2020). *Widowed* was a dummy variable coded 1 if an individual reported being widowed in a given year and 0 otherwise. Being widowed constitutes a significant event of resource loss that can affect an individual's external objective resources and work-related behaviours (Gabriel et al. 2025). We measured entrepreneurs' *unemployment experience* as the number of years they spent unemployed before their current self-employment (Nikolova 2019). Finally, we included *previous entrepreneurial income from the same self-employment* (or *income from paid employment* for the employee subsample) in the previous year to control for serial dependence (Garson 2013).

In addition to these individual-level controls, we controlled for firm-related variables. We measured *firm age* (or *organizational tenure* for the employee subsample) as the number of years since founding. We captured *firm size* using dummy variables for different ranges of the number of employees. We also used *industry* dummy variables to control for industry effects that may influence entrepreneurs' resources and behaviours (Croonen, Noseleit, and Wyrwich 2025). Finally, we included survey *year* and *month* dummy variables to control for time effects.

Furthermore, we controlled for *survivor bias*—namely, the possibility that entrepreneurs with lower income or lower mental well-being are more likely to exit entrepreneurship, resulting in a non-random sample over time. We used a generalization of the Heckman selection model to generate a selection variable (*lambda*) to control for entrepreneurial exit (Lee 1983). We estimated Cox proportional hazard models to determine the likelihood of entrepreneurial exit, defined as transitioning from self-employment in a given year to not being self-employed in the following year, and included *lambda* as the sample-correction variable.

Results

To test H1 and H2 – namely, how mental well-being is related to income among entrepreneurs compared to employees – we analysed the two CEM subsamples: the entrepreneur subsample (1,013 individuals) and the employee subsample (5,489 individuals). We used generalized estimating equation (GEE) models, which are well suited for longitudinal panel data because they account for within-individual correlations across time periods without requiring distributional assumptions about the outcome variable (Ballinger 2004). Multicollinearity was not an issue, as the highest variance inflation factors were 1.58 for the entrepreneur subsample and 1.79 for the employee subsample.

Table 1 reports the descriptive statistics and correlations for the entrepreneur subsample (those for the employee subsample are presented in Table A2 in the online appendix.) Table 2 presents the GEE results. We examined the baseline effect of mental well-being on income in Model 1 for entrepreneurs and Model 2 for employees. Entrepreneurs' mental well-being had a significant and

Table 1. Main study: descriptive statistics of the means, standard deviations, and correlations for the variables for the entrepreneur subsample.

		M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Entrepreneurial income (log)	9.04	3.11																	
2	Mental well-being	51.40	9.01	**0.11**																
3	Spousal income (log)	5.81	4.99	0.01	−0.02															
4	Divorced	0.03	0.18	**0.02**	−0.01	−0.01														
5	Social benefit experience	0.32	0.47	**−0.10**	**−0.09**	0.01	**0.09**													
6	Physical well-being	51.76	8.44	**0.03**	**−0.06**	−0.01	**0.03**	**−0.04**												
7	Full-time self-employment	0.61	0.49	**0.41**	**0.04**	**0.03**	**−0.02**	**−0.03**	**0.05**											
8	Gender	0.42	0.49	**−0.24**	**−0.10**	**0.07**	**0.04**	**0.04**	0.00	**−0.34**										
9	Education level (in years)	13.69	2.95	**0.13**	**0.08**	**−0.03**	0.01	**−0.10**	**0.11**	−0.01	**0.02**									
10	Urban region	0.65	0.48	**0.04**	**0.05**	−0.01	0.01	**−0.11**	**0.08**	**−0.07**	**0.02**	**0.14**								
11	Entrepreneurial experience	1.03	2.74	**−0.05**	**−0.06**	0.00	**−0.04**	**0.11**	**−0.09**	**−0.05**	**0.04**	**−0.07**	−0.01							
12	Parents' entrepreneurial experience	0.04	0.67	**−0.04**	**−0.04**	**−0.03**	−0.01	**0.04**	**0.04**	−0.01	0.00	0.01	**0.03**	**0.04**						
13	Spouse's entrepreneurial experience	1.18	3.20	**−0.15**	**−0.04**	**−0.03**	**−0.22**	**0.06**	**−0.05**	**−0.08**	**0.12**	**−0.06**	**−0.03**	**0.36**	**−0.02**					
14	Firm age	9.41	9.53	**0.26**	**0.09**	**−0.02**	**−0.11**	**−0.28**	**−0.14**	**0.19**	**−0.16**	**−0.04**	**−0.03**	**0.04**	**−0.07**	0.01				
15	Entrepreneur's age	50.38	9.95	**0.17**	**0.13**	**0.05**	**−0.14**	**−0.12**	**−0.26**	**0.02**	**−0.08**	**0.08**	−0.01	**0.10**	**−0.18**	**0.10**	**0.55**			
16	Widowed	0.00	0.02	−0.01	0.01	**−0.04**	0.01	**−0.03**	**−0.05**	−0.01	**0.08**	**−0.05**	**−0.04**	**0.02**	**−0.02**	0.00	**0.06**	**0.11**		
17	Unemployment experience	1.12	2.06	**−0.16**	**−0.09**	**0.02**	**0.06**	**0.30**	**−0.09**	**−0.23**	**0.30**	**−0.17**	**−0.06**	**0.11**	**−0.05**	**0.15**	**−0.16**	0.00	**0.07**	
18	Previous entrepreneurial income (log)	7.28	4.54	**0.44**	**0.08**	**0.03**	0.01	**−0.11**	0.01	**0.31**	**−0.16**	**0.08**	0.00	**−0.02**	**−0.02**	**−0.09**	**0.27**	**0.21**	0.00	**−0.11**

Note: $N = 1{,}013$ entrepreneurs between 2002 and 2015. The values in **bold** font are significant at <0.05.
The dummy variables for firm size, industry, survey year, survey month, and lambda are excluded due to space limitations.

Table 2. Main study: GEE models for the effect of entrepreneurs' mental well-being on their income.

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6[d]	
	Coefficient		Coefficient		Coefficient		Coefficient		Coefficient		Coefficient	
Mental well-being (H1 & H2)	0.020	**	0.001		0.036	***	0.017	**	0.028	***	0.041	***
	(0.006)		(0.002)		(0.009)		(0.006)		(0.008)		(0.010)	
Spousal income	0.004		0.012	**	0.154	*	0.004		0.006		0.142	*
	(0.012)		(0.004)		(0.063)		(0.012)		(0.012)		(0.063)	
Divorced	0.275		0.035		0.286		−5.168	*	0.288		−4.855	*
	(0.337)		(0.101)		(0.335)		(2.175)		(0.336)		(2.171)	
Social benefit experience	0.134		0.052		0.150		0.127		1.499	*	1.401	*
	(0.146)		(0.045)		(0.145)		(0.146)		(0.674)		(0.672)	
Mental well-being × Spousal income (H3)					−0.003	*					−0.003	*
					(0.001)						(0.001)	
Mental well-being × Divorced (H4)							0.102	*			0.096	*
							(0.040)				(0.040)	
Mental well-being × Social benefit experience (H5)									−0.027	*	−0.025	†
									(0.013)		(0.013)	
Physical well-being	0.012	†	0.003		0.011		0.012	†	0.012	†	0.012	†
	(0.007)		(0.002)		(0.007)		(0.007)		(0.007)		(0.007)	
Full-time (self-) employment	1.583	***	0.796	***	1.601	***	1.591	***	1.586	***	1.611	***
	(0.136)		(0.044)		(0.136)		(0.136)		(0.136)		(0.136)	
Gender (female = 1)	−0.478	**	−0.083	†	−0.470	**	−0.471	**	−0.464	**	−0.452	**
	(0.140)		(0.048)		(0.140)		(0.140)		(0.140)		(0.139)	
Education (in years)	0.087	***	0.02		0.089	***	0.088	***	0.087	***	0.089	***
	(0.023)		(0.012)		(0.023)		(0.023)		(0.023)		(0.023)	
Urban region	0.562	***	0.003		0.57	***	0.572	***	0.552	***	0.569	***
	(0.129)		(0.037)		(0.128)		(0.129)		(0.128)		(0.128)	
Entrepreneurial experience (in years)	0.033		0.053		0.034		0.033		0.032		0.034	
	(0.023)		(0.040)		(0.023)		(0.023)		(0.023)		(0.023)	
Parents' entrepreneurial experience (in years)	0.002		0.048		0.005		0.001		0.003		0.005	
	(0.080)		(0.068)		(0.080)		(0.080)		(0.080)		(0.080)	
Spouse's entrepreneurial experience (in years)	−0.072	**	0.022	*	−0.072	**	−0.073	**	−0.071	**	−0.071	**
	(0.021)		(0.009)		(0.021)		(0.021)		(0.021)		(0.021)	
Firm age[a]	0.017	*	0.021	***	0.018	*	0.017	*	0.017	*	0.018	*
	(0.001)		(0.002)		(0.007)		(0.007)		(0.007)		(0.007)	
Individual's age	0.006		−0.014	***	0.005		0.006		0.005		0.005	
	(0.007)		(0.002)		(0.007)		(0.007)		(0.007)		(0.007)	
Widowed	2.577		−0.673	*	2.355		2.569		2.489		2.286	
	(2.434)		(0.261)		(2.432)		(2.431)		(2.431)		(2.426)	
Unemployment experience (in years)	−0.043		−0.017	*	−0.041		−0.042		−0.045		−0.043	
	(0.033)		(0.007)		(0.033)		(0.033)		(0.033)		(0.033)	
Previous entrepreneurial income (from the same self-employment)[b]	0.248	***	0.334	***	0.247	***	0.246	***	0.249	***	0.246	***
	(0.013)		(0.007)		(0.013)		(0.013)		(0.013)		(0.013)	
Lambda[c]	−0.246	†			−0.247	†	−0.228	†	−0.236	†	−0.22	†
	(0.132)				(0.132)		(0.132)		(0.132)		(0.131)	
Constant	2.528	**	5.239	***	1.669	†	2.607	**	2.061	*	1.386	

(*Continued*)

Table 2. (Continued).

	(0.848)		(0.475)		(0.919)		(0.847)		(0.875)		(0.940)	
Number of individuals	1,013		5,489		1,013		1,013		1,013		1,013	
Wald chi-squared (*F*)	1241.86	***	7281.19	***	1254.41	***	1251.05	***	1252.26	***	1272.67	***

Note: Standard errors are in parentheses. All the models included dummy variables for firm size, industry, survey year, and survey month. In additional analyses, we clustered the standard errors at the individual level for all the models, and the results remained consistent.

***$p < 0.001$, **$p < 0.01$, *$p < 0.05$, †$p < 0.1$.

[a]In Model 2 for the employee subsample, we used an employee's *organizational tenure* in their current job.

[b]In Model 2 for the employee subsample, we used an employee's *income from their main paid job*.

[c]In Model 2 for the employee subsample, we did not include lambda, as we assumed that an employee's organizational tenure accounted for survivor bias.

[d]Model 6 includes all the moderating effects. The results were consistent with those of Models 3–5. All the interaction effects remained consistent after the continuous variables (i.e. mental well-being and spousal income) were centred at their means. Additionally, when the same analyses used in Models 3–6 were performed with the employee subsample, we did not find any significant effects of mental well-being or its interaction with moderators ($p > 0.10$) on employees' main income.

positive relationship with entrepreneurial income (β = 0.020, $p = 0.002$), supporting H1. In contrast, employees' mental well-being was not significantly related to income (β = 0.001, $p = 0.478$). To interpret these effects substantively, an increase of one standard deviation (SD) in entrepreneurs' mental well-being corresponded to an increase of 19.29% in their annual income while holding all other variables at their means. In comparison, an increase of 1 *SD* in employees' mental well-being resulted in a slight increase of 1.18% in their income. Seemingly unrelated estimations of the coefficients for mental well-being across the two models indicated a chi-square value of 7.07 ($p = 0.008$), confirming that the effect was significantly larger for entrepreneurs than for employees. These results suggest that mental well-being is positively and significantly associated with entrepreneurial income but not with employees' income, thereby supporting H2 concerning the role of available organizational resources.[7]

Next, we investigated whether the relationship between entrepreneurs' mental well-being and income was moderated by their spousal income and divorce status. Model 3 revealed a significantly negative interaction between entrepreneurs' mental well-being and their spousal income (β = −0.003, $p = 0.016$). The simple slope for entrepreneurs whose spousal income was 1 *SD* above the mean was 0.006 ($p = 0.492$), whereas the slope was 0.020 when their spousal income was at the mean ($p = 0.001$) and 0.035 when their spousal income was 1 *SD* below the mean ($p < 0.001$). These results support H3: the positive relationship between entrepreneurs' mental well-being and income is attenuated when entrepreneurs have greater access to family financial resources, such as through high-income spouses, than when they have lower-income spouses (see Figure 1).

Model 4 revealed a significant positive interaction effect between divorce and entrepreneurs' mental well-being in predicting income (β = 0.102, $p = 0.011$). The simple slope for nondivorced entrepreneurs was 0.017 ($p = 0.007$), whereas the slope for divorced entrepreneurs was notably higher at 0.119 ($p = 0.003$). These results support H4: the positive relationship between entrepreneurs' mental well-being and income is weaker for entrepreneurs with access to family resources, such as those who have not experienced divorce, than for those who lack such resources due to divorce (see Figure 2).

Finally, Model 5 showed that entrepreneurs' prior experience receiving social benefits from the state significantly weakened the effect of mental well-being on income (interaction coefficient β = −0.027, $p = 0.038$). The simple slope for entrepreneurs with social benefit experience was 0.001 ($p = 0.896$), whereas the slope for those without such experience was 0.028 ($p < 0.001$). These results support H5: for entrepreneurs with prior experience receiving state benefits, the relationship

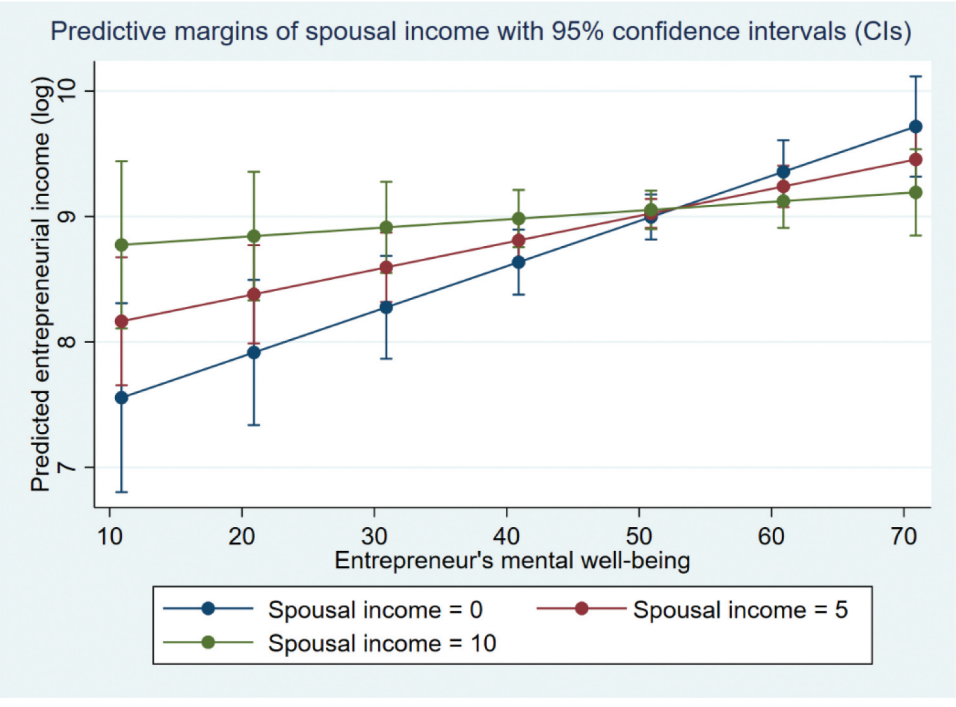


Figure 1. Main study: interaction effect of an entrepreneur's mental well-being and spousal income on entrepreneurial income.

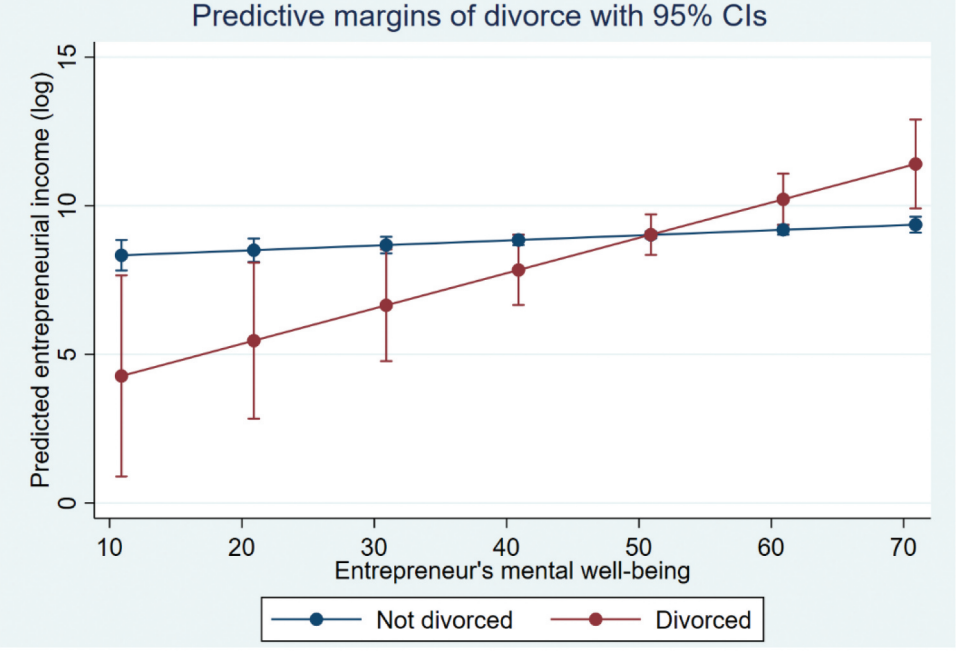


Figure 2. Main study: interaction effect of an entrepreneur's mental well-being and being divorced on entrepreneurial income.

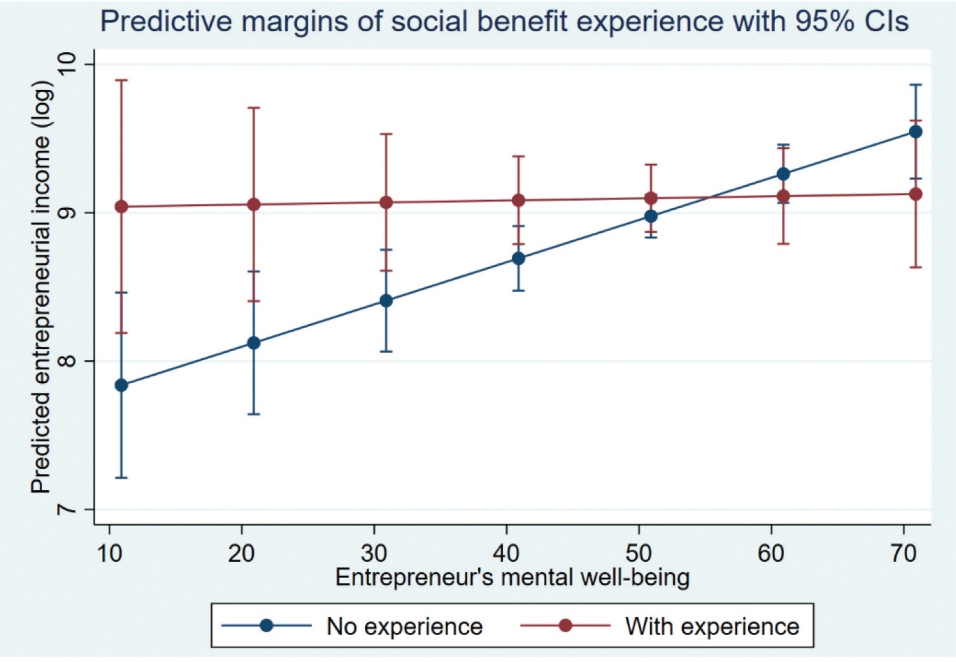


Figure 3. Main study: interaction effect of an entrepreneur's mental well-being and social benefit experience on entrepreneurial income.

between mental well-being and income is weaker than for those without such experience, suggesting that institutional resources reduce the extent to which income depends on mental well-being (see Figure 3).

Additional tests

Validity of the well-being measure

To investigate whether our measure captured long-term mental well-being rather than a momentary state, we identified 204 employees who did not experience any life-course events during the observation period (i.e. no widowhood; divorce; parental death; childbirth; or uncertain employment, such as self-employment or unemployment).

We conducted an analysis of covariance (ANCOVA) on these employees' mental well-being scores while controlling for gender, age, primary income, and work autonomy, in line with prior research (e.g. Stephan 2018; Stephan et al. 2020). The results show no significant variation in well-being across years ($p = 0.773$) or months ($p = 0.415$). In addition, the intraclass correlation coefficients (ICCs) based on one-way random effects were ICC(1) = 0.392 and ICC(2) = 0.794, indicating substantial within-individual consistency across years. These results indicate that the mental well-being measure captured stable individual mental well-being over time.

Selection bias

We examined whether individuals with higher mental well-being were more likely to become entrepreneurs. To test this relationship, we estimated a probit model with entry into self-employment as the dependent variable and mental well-being at $t-1$ as the key predictor. The analysis revealed no significant effect of prior mental well-being on the likelihood of entering into entrepreneurship ($p = 0.45$), suggesting that selection into entrepreneurship based on well-being

was not a concern. Together with the generalized Heckman selection model controlling for entrepreneurial exit in the main analysis, these results suggest that our findings are not driven by non-random selection into or out of entrepreneurship.

Endogeneity issues

To address potential endogeneity concerns beyond the sample comparability ensured by CEM, we employed several strategies. First, to address *reverse causality between mental well-being and income*, we applied the maximum likelihood method in structural equation modelling (ML-SEM), which simultaneously estimates contemporaneous and lagged effects of the independent variable on the dependent variable (Leszczensky and Wolbring 2022). We used the *xtdpdml* command in Stata to model dynamic panel data using maximum likelihood estimation. This model estimated the effect of mental well-being on entrepreneurial income over time while allowing for the possibility that mental well-being was influenced by income from a prior time point. Second, to address *endogeneity in life-course events*, we used one-time transition measures for divorce and widowhood. We coded transitions into these statuses as 1 in the year they occurred and 0 in all other years, including subsequent years in which individuals remained divorced or widowed. Third, to address *unobserved individual-level heterogeneity*, we conducted multilevel modelling with individual-level fixed effects (Aguinis, Gottfredson, and Culpepper 2013). Across all robustness checks, the results consistently support our main finding that entrepreneurs' mental well-being is positively related to income, in line with Model 1 ($\beta \geq 0.012$, $p \leq 0.019$).

We also addressed concerns related to *endogenous moderators*—that is, moderators that may have direct effects on the independent variable and thus potentially bias the interaction effects on the dependent variable – by using structural equation modelling (SEM). Specifically, we reestimated Models 1–5 using SEM while explicitly accounting for the possible effects of the moderators on individuals' mental well-being. The results remain consistent: entrepreneurs' mental well-being continued to show significant and positive relationships with entrepreneurial income ($\beta = 0.012$–0.033, $p < 0.001$–0.029).

The effects of external objective resources were also aligned with the main findings. Compared with that of entrepreneurs, the relationship between employees' mental well-being and income was weaker ($\beta = 0.004$, $p = 0.015$). The interaction between entrepreneurs' mental well-being and their spousal income was negative ($\beta = -0.003$, $p = 0.023$), the interaction with divorce was positive though nonsignificant ($\beta = 0.031$, $p = 0.123$), and the interaction with prior social benefit experience was negative ($\beta = -0.021$, $p = 0.058$). Since these external objective resources may have simultaneously influenced mental well-being, we conducted SEM using Model 6 from Table 2. The results show that entrepreneurs' mental well-being was significantly and positively related to entrepreneurial income ($\beta = 0.039$, $p < 0.001$). This baseline relationship varied by external objective resources from different contexts. (1) In the organizational context, employees' mental well-being had no significant effect on income ($p = 0.240$), unlike the significant positive effect for entrepreneurs. (2) For entrepreneurs in the family and institutional contexts, mental well-being interacted significantly and negatively with their spousal income ($\beta = -0.003$, $p = 0.035$), (3) significantly and positively with divorce ($\beta = 0.096$, $p = 0.014$), and (4) significantly and negatively with prior social benefit experience ($\beta = -0.029$, $p = 0.021$). These results are consistent with the main findings, confirming that our resource-based mechanism holds across different model specifications.

Alternative mechanisms

One alternative explanation is that entrepreneurs may perform well due to obsessive passion for work (cf. Luu and Nguyen 2024) and workaholic behaviours (cf. Tetzlaff, Jaskiewicz, and Wiklund 2023). To address this possibility, we included the number of working hours per week[8] as an additional control variable and behavioural proxy for workaholic tendencies associated with passion (Tóth-Király, Morin, and Salmela-Aro 2021) in Models 1–5. The results remain consistent: entrepreneurs' mental well-being continued to have a significant positive relationship with entrepreneurial

income (β = 0.016, $p = 0.011$). The effect of mental well-being weakened when entrepreneurs had access to external objective resources. Specifically, the effect of mental well-being was stronger for entrepreneurs than for employees (as the seemingly unrelated estimation had $\chi^2 = 3.22$, $p = 0.073$). Among entrepreneurs, the interaction with spousal income was negative and significant (β = −0.003, $p = 0.018$), the interaction with divorce was positive (β = 0.068, $p = 0.075$), and the interaction with social benefit experience was negative (β = −0.023, $p = 0.087$). Although the significance of the interaction effects was weaker than in the main analysis, the direction and magnitude of the effects remained consistent, suggesting that our resource-based arguments still held after accounting for passion-driven work behaviours.

Another alternative explanation concerns *mastery experience*, defined as individuals' belief in their ability to learn and overcome challenges (Boyd and Vozikis 1994). Entrepreneurs with high mastery experience may perform well regardless of mental well-being, as their confidence in managing complex tasks motivates persistence (Pak 2026). We used entrepreneurial experience, measured in years, as a proxy for mastery experience. Although this proxy does not directly capture entrepreneurs' belief in their capabilities, sustained entrepreneurial activities over time reflect experience managing complex tasks and responsibilities (cf. Conger and Kanungo 1988) as well as accumulated learning and the capacity to perform successfully (Raffiee and Feng 2014).

As shown in Table 2, previous entrepreneurial experience did not have a significant effect on entrepreneurial income (all p values ≥ 0.139). We further conducted analyses similar to those in Models 3–5 by adding an interaction term between mental well-being and previous entrepreneurial experience. The relationship between mental well-being and income remained significantly positive (β = 0.021, $p = 0.002$), whereas the interaction with previous entrepreneurial experience was not significant (β = −0.001, $p = 0.544$). These results do not support mastery experience as an alternative explanation for our findings, suggesting that the positive effect of mental well-being on entrepreneurial income is not driven by individuals' experience as continuing entrepreneurs.

Complementary experimental evidence

Sample and procedure

We complemented our main study with a between-subject experiment to test the combined effect of mental well-being and external objective resources (specifically, family resources) on *entrepreneurial self-efficacy*, the theorized mechanism underlying our main findings. We randomly assigned participants to four experimental conditions using a 2 × 2 factorial design based on our variables of interest: mental well-being and family resources. The experimental design and randomization allowed us to control for unobserved heterogeneity when we examined the causal effects (Aguinis and Bradley 2014) of entrepreneurs' mental well-being and external family resources on entrepreneurial self-efficacy.

We recruited participants through the alumni network of an entrepreneurship research centre at a Swiss university. We emailed an invitation, including a link to an online survey, to approximately 3,000 small and medium-sized business owners in Switzerland, Germany, and Austria. After excluding responses with failed attention checks to ensure data quality, we retained a final sample of 224 complete and usable responses from individuals who had founded or were in the process of starting their own businesses.[9]

Participants were randomly assigned to one of four conditions in a 2 (high vs. low mental well-being) × 2 (presence vs. absence of family resources) factorial design. They first provided demographic information and details about their companies. They then watched three professionally produced animated video clips about (1) an entrepreneur[10] and his startup, (2) his mental well-being, and (3) his relationship with his spouse, each of which was approximately 30 seconds long (see details below). Afterwards, participants were asked to take the perspective of the entrepreneur in the

video clips and evaluate his self-efficacy. Specifically, we asked participants to pay attention to information related to the key variables of interest in the vignette: the entrepreneur's mental well-being and family resources.

This vignette-based experimental design has been used in prior studies on entrepreneurs' mental well-being (e.g. Marshall et al. 2020) and is well suited for capturing subjective constructs, such as self-efficacy, arguably more effectively than secondary datasets (Schabram, Myers, and Hardin 2026) or cross-sectional studies, which may suffer from self-report bias and confounding among constructs (Oll et al. 2018). Moreover, the design enhanced the experiment's validity by capturing participants' implicit cognitive processes and behavioural responses (Aguinis and Bradley 2014) while also addressing ethical concerns associated with manipulating participants' own mental well-being (cf. Gunia, Gish, and Mensmann 2021) or asking about sensitive personal information, such as income.

Materials and intervention

We collaborated with an animation studio to create animated video clips rather than written scenarios, as motion pictures are more effective identification tools than text alone in brief experiments (Aguinis and Bradley 2014). To enhance experimental realism, consistent with the recommendations of Aguinis and Bradley (2014), we based the narrative on a real Swiss startup. The first video clip established the entrepreneur's baseline characteristics consistently across conditions. It depicted the founder leveraging his business and management education and prior pharmaceutical industry experience to start a company offering online medical diagnosis and monitoring services to patients.

Intervention on well-being

In the second video clip, we introduced information about the entrepreneur's mental well-being, aligning the content with the eudaimonic view of mental well-being (Ryan and Deci 2001) and the scale used in the main study. In the *high mental well-being* condition, the entrepreneur was portrayed as experiencing a positive psychological state throughout the startup process: feeling happy, relaxed, and energetic. He exceeded expectations, worked more thoroughly than usual, and had a more active social life than before starting the business. In contrast, the *low mental well-being* condition depicted the entrepreneur as feeling gloomy, stressed, and lacking energy during the entrepreneurial process. He accomplished less than expected, was less thorough than usual, and had no active social life.

Intervention on family resources

In the third video clip, we modified family resources by focusing on the entrepreneur's relationship with his spouse and whether she provided resources during the startup process. In the *presence of family resources* condition, the spouse provided objective financial resources by investing her own money in the startup as well as emotional resources by celebrating the entrepreneur's professional achievements and offering comfort during times of frustration. In the *absence of family resources* condition, the spouse kept her financial assets entirely separate from the startup and remained emotionally detached from the entrepreneur's work-related ups and downs.

Intervention checks

To check the effectiveness of our interventions, we measured participants' perceptions of the entrepreneur's mental well-being using the adapted MOS-SF scale (Andersen et al. 2007) employed in the main study. Perceived mental well-being was significantly greater in the high mental well-being condition ($M = 5.829$) than in the low mental well-being condition ($M = 2.608$, $t = 26.286$, $p < 0.001$), confirming the success of the mental well-being intervention. To validate the family resources intervention, we asked participants whether the entrepreneur's spouse had provided objective financial and emotional resources. Among the complete responses, 98.87% correctly identified the

presence or absence of such resources in their assigned condition, confirming the effectiveness of the family resources intervention.

Measurements

Our key dependent variable—*entrepreneurial self-efficacy*—was measured using a four-item scale adapted from Zhao, Seibert, and Hills (2005) with high internal consistency (α = 0.95). In addition, we captured three alternative behavioural outcomes that, according to Bandura (1977), represent core manifestations of self-efficacy – namely, skill development, effort, and persistence in the face of obstacles – all of which are central to entrepreneurial performance (Shane, Locke, and Collins 2003). *Entrepreneurial skills* were assessed using a six-item scale adapted from Baron and Tang (2009), which measured the entrepreneur's effectiveness in obtaining resources (α = 0.91). *Entrepreneurial effort* was measured using a single item from Uy, Foo, and Ilies (2015), which asked participants to evaluate the effort the entrepreneur put 'into venture tasks that require product or process creativity' (p. 381). *Entrepreneurial persistence* was measured using a tenacity scale adapted from Baum and Locke (2004) (α = 0.82).

The control variables included participants' *gender* (coded 1 if female), *age* in years, *education level* (dummy variables), *family structure* (dummy variables), *number of children*, *firm age* in years, and *industry* (dummy variables). The highest variance inflation factor among all included variables was 2.66 (i.e. <5), mitigating multicollinearity concerns. Table A3 in the online appendix provides detailed operationalizations of all the measures used in the complementary study.

Results

We first conducted an ANCOVA to determine whether participants evaluated the entrepreneur's self-efficacy differently across the four conditions. Mental well-being ($F = 78.36$, $p < 0.001$) and its interaction with family resources ($F = 12.20$, $p = 0.0006$) produced significant differences in participants' evaluations of the entrepreneur's self-efficacy. We also examined the effects of mental well-being and family resources on the key factors associated with self-efficacy and entrepreneurial outcomes – skills, effort, and persistence – and the results were consistent with those of the main analysis (see Table 3).

We subsequently conducted an ordinary least squares (OLS) regression analysis to confirm the mean-comparison results. Table 4 reports the descriptive statistics and correlations, and Table 5 summarizes the regression results. Model 7 revealed a significant positive effect of the entrepreneur's mental well-being on participants' evaluations of self-efficacy (β = 1.192, $p < 0.001$). Model 8 showed that the interaction between family resources and mental well-being had a significant negative effect on self-efficacy (β = −1.049, $p = 0.001$). In other words, the entrepreneur's mental well-being was more critical in shaping self-efficacy when the entrepreneur lacked family resources than when he had family resources (see Figure 4). For example, in the high mental well-being conditions, the presence or absence of family resources made a relatively small difference in self-efficacy evaluations ($M = 5.583$ with family resources vs. $M = 5.068$ without family resources). In

Table 3. Complementary study: ANCOVA results.

	Self-efficacy		Entrepreneurial skills		Entrepreneurial effort		Entrepreneurial persistence	
	F	*p*	*F*	*p*	*F*	*p*	*F*	*p*
Mental well-being (0/1)	78.36	0.0000	28.47	0.0000	32.85	0.0000	15.31	0.0002
Family resources (0/1)	52.38	0.0000	8.77	0.0009	6.02	0.0252	0.46	0.5083
Mental well-being × Family resources	12.20	0.0006	10.38	0.0003	11.17	0.0024	7.69	0.0073

Note: $N = 224$. The ANCOVA included all the control variables, including individual-level gender, age, education, family structure, and number of children and firm-level age and industry.

Table 4. Complementary study: descriptive statistics and correlation table.

		Mean	SD	Min.	Max.	1	2	3	4	5	6	7	8	9	10
1	Mental well-being (binary)	0.56	0.50	0	1										
2	Family resources (binary)	0.54	0.50	0	1	0.05									
3	Entrepreneurial self-efficacy	4.81	1.28	1.01	7	**0.45**	**0.40**								
4	Entrepreneurial skills	5.22	0.99	2.17	7	**0.33**	**0.22**	**0.59**							
5	Entrepreneurial effort	5.48	1.21	2	7	**0.28**	**0.16**	**0.42**	**0.50**						
6	Entrepreneurial persistence	5.15	1.07	1.55	7	**0.19**	0.03	**0.46**	**0.38**	**0.62**					
7	Participant's gender	0.57	0.50	0	1	0.06	0.10	0.05	0.05	0.09	**0.16**				
8	Participant's age	40.71	12.99	19	74	**−0.14**	−0.01	0.02	**0.15**	**0.14**	0.06	−0.04			
9	Participant's education level	5.43	1.19	1	7	0.11	0.13	0.05	0.09	0.03	0.12	0.05	−0.01		
10	Participant's number of children	1.65	1.34	0	5	**−0.14**	−0.12	0.01	0.13	**0.14**	0.06	0.07	**0.44**	**−0.15**	
11	Participant's firm age	8.42	9.82	0[a]	98	−0.05	−0.06	−0.01	0.09	0.09	0.00	0.04	**0.51**	0.00	**0.23**

Note: $N = 224$ individual responses. The values in **bold** font are significant at <0.05. The dummy variables for family structure and industry are excluded due to space limitations.

[a]One firm started in the same year the complementary study was conducted, so it had less than 1 year of history and was thus coded as having 0 years for its age.

contrast, in the low mental well-being conditions, the presence of family resources substantially improved self-efficacy evaluations ($M = 4.886$ with family resources vs. $M = 3.323$ without family resources), confirming that family resources reduce entrepreneurs' reliance on mental well-being in shaping self-efficacy.

Moreover, we examined the interaction effects of mental well-being and family resources on the alternative outcomes of entrepreneurial skills (Models 9 and 10), effort (Models 11 and 12), and persistence (Models 13 and 14). Consistent with the main analysis, the entrepreneur's mental well-being had a positive and statistically significant effect on participants' evaluations of his skills, effort, and persistence (all p values < 0.001). These effects were significantly weakened by the presence of spousal family resources (all p values < 0.01). We also tested the continuous mental well-being scale as an alternative independent variable, and the results were consistent with those reported in Table 5. Furthermore, we investigated whether the results varied by gender but found no gender differences.

Overall, the results of the complementary study support our assertion that external objective resources, such as family resources, reduce entrepreneurs' reliance on mental well-being in developing self-efficacy. Conversely, our study shows that when family resources are absent, mental well-being becomes the primary antecedent of self-efficacy, which prior studies have identified as a key driver of entrepreneurial performance (e.g. Caliendo, Kritikos, et al. 2023).

Discussion

Prior research on the relationship between entrepreneurs' mental well-being and income has produced equivocal findings (e.g. Hatak and Zhou 2021; Patel et al. 2021; Patel, Tsionas, and Oghazi 2023; Wolfe, Patel, and Drover 2020). A key reason is that this stream of research has largely adopted an individualistic perspective, focusing on entrepreneurs' internal psychological states while paying limited attention to how mental well-being interacts with resources from broader

Table 5. Complementary study: OLS regression for the effects of entrepreneurs' mental well-being and its interaction with family support on self-efficacy.

	Self-efficacy		Entrepreneurial skills		Entrepreneurial effort		Entrepreneurial persistence	
	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
	Coeff.	Coeff.	Coeff	Coeff	Coeff	Coeff	Coeff	Coeff
Mental well-being (binary)	1.192***	1.746***	0.743***	1.274***	0.766***	1.24***	0.543***	1.002***
	(0.145)	(0.212)	(0.127)	(0.185)	(0.158)	(0.233)	(0.145)	(0.215)
Family resources (binary)	0.967***	1.563***	0.364**	0.934***	0.354*	0.866**	0.05	0.543*
	(0.148)	(0.223)	(0.130)	(0.194)	(0.162)	(0.246)	(0.148)	(0.226)
Mental well-being × Family resources		−1.049**		−1.004***		−0.903**		−0.869**
		(0.300)		(0.262)		(0.331)		(0.304)
Participant's gender	0.014	0.010	0.223	0.219	0.082	0.077	0.154	0.151
	(0.157)	(0.153)	(0.138)	(0.134)	(0.172)	(0.170)	(0.158)	(0.155)
Participant's age	0.003	−0.003	0.001	−0.005	0.008	0.002	0.003	−0.003
	(0.008)	(0.008)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)
Participant's education level	−0.023	−0.041	0.045	0.027	0.034	0.020	0.015	0.000
	(0.063)	(0.061)	(0.055)	(0.054)	(0.068)	(0.068)	(0.063)	(0.062)
Participant's number of children	0.072	0.041	0.047	0.018	0.12	0.094	0.056	0.03
	(0.068)	(0.066)	(0.059)	(0.058)	(0.074)	(0.073)	(0.068)	(0.067)
Participant's firm age	−0.001	−0.002	−0.005	−0.006	0.001	0.000	0.003	0.002
	(0.008)	(0.008)	(0.007)	(0.007)	(0.009)	(0.009)	(0.008)	(0.008)
Constant	4.18***	4.212***	5.291***	5.322***	5.149***	5.17***	4.317***	4.343***
	(0.903)	(0.878)	(0.793)	(0.767)	(0.981)	(0.965)	(0.907)	(0.890)
R^2	0.433	0.467	0.279	0.33	0.256	0.284	0.186	0.219
Adjusted R^2	0.351	0.387	0.174	0.229	0.147	0.175	0.068	0.101

Note: $N = 224$ individual responses. Standard errors are in parentheses. All the models included dummy variables for participants' family structure and industry.
***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

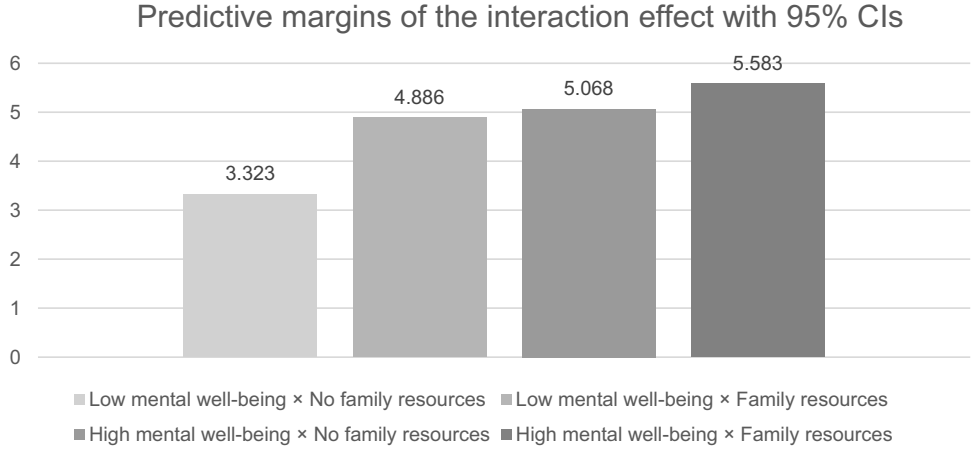


Figure 4. Complementary study: interaction effect of an entrepreneur's mental well-being and family resources on entrepreneurial self-efficacy.

social contexts (Ahmed et al. 2022; Stephan 2018). To address this limitation, we examined how entrepreneurs' mental well-being relates to their income and, importantly, when this relationship becomes less critical in the presence of external objective resources across organizational, family, and institutional contexts.

Our findings provide consistent support for this integrative perspective. First, using longitudinal data from the SOEP, we found a positive baseline relationship between entrepreneurs' mental well-being and income. This relationship is likely explained by self-efficacy, as entrepreneurs with higher mental well-being are more likely to believe in their capabilities and to exert effort and persist in achieving their goals. The results of the complementary experimental study support this mechanism by showing that mental well-being contributes to self-efficacy, including skill development, effort in performing tasks, and persistence in developing a business.

Second, our findings show that this relationship is contingent on the availability of external objective resources. Specifically, the relationship between mental well-being and income becomes weaker when entrepreneurs have access to external objective resources and stronger when such resources are limited. In the organizational context, employees' mental well-being has no significant effect on income, as they can draw on organizational resources that are unavailable to entrepreneurs (cf. Williamson, Gish, and Stephan 2021). In the family context, access to a high-income spouse weakens the relationship, whereas the loss of family resources through divorce strengthens it. In the institutional context, entrepreneurs' prior experience with social benefits similarly reduces the effect of mental well-being on income.

Taken together, these findings reconcile the mixed evidence in prior research by showing that the relationship between mental well-being and income is not uniform but depends on the broader resource environment in which entrepreneurs operate. Rather than asking whether mental well-being matters, we demonstrate when it becomes less critical for sustaining self-efficacy and generating income. In doing so, we offer an integrative resource perspective on entrepreneurial functioning (see the calls from Demerouti 2025; Kummitha, Honig, and Urbano 2025), in which internal psychological resources and external objective resources jointly shape entrepreneurial outcomes.

Theoretical contributions

Contributions to research on entrepreneurial well-being

Our study contributes to research on entrepreneurial well-being by advancing a more *socialized view* of mental well-being and its effects on work-related outcomes (see the calls from Gabriel et al. 2025; Sonnentag, Tay, and Nesher Shoshan 2023). Prior research has focused predominantly on entrepreneurs' subjective evaluations of their mental well-being, with limited attention given to how objective resources from different social contexts shape the relationship between entrepreneurs' mental well-being and performance (see Stephan 2018). While some studies have begun to consider specific social influences, such as the role of spouses (Hatak and Zhou 2021), less is known about how multiple contexts jointly influence the effectiveness of mental well-being (Shir and Ryff 2022).

By drawing on COR theory, we extend the emerging view of mental well-being as a *resource* (Kummitha, Honig, and Urbano 2025; Sonnentag, Tay, and Nesher Shoshan 2023) and show that its relationship with income depends on the broader resource environment in which entrepreneurs are embedded. Specifically, we demonstrate that access to external objective resources (e.g. spousal income or prior experience with social benefits) reduces entrepreneurs' reliance on their mental well-being, whereas the absence or loss of such resources (e.g. limited organizational support or divorce) strengthens this reliance. These findings shift the focus from whether mental well-being matters to how its implications depend on other resources, highlighting that entrepreneurs' functioning is shaped not only by their internal psychological resources but also by the objective resources

available in their social environment (also see the call from Sonnentag, Tay, and Nesher Shoshan 2023).

Contributions to COR theory and its application in entrepreneurship research

Our study also contributes to COR theory in entrepreneurship by introducing an *objective* and *integrative* view of resources. While prior research has recognized that individuals draw on multiple types of resources (Gabriel et al. 2025; Halbesleben et al. 2014; Hobfoll et al. 2018), much of this work has relied on self-reported perceptions of resources (e.g. Brieger, De Clercq, and Meynhardt 2021; Gorgievski-Duijvesteijn et al. 2005; Xu and Jin 2022), including perceptions of business networks (Newman et al. 2018) and family resources (Lu et al. 2023; Tihic, Hadzic, and McKelvie 2021). Such self-reported perceptions may be influenced by cognitive biases (Fasolo, Heard, and Scopelliti 2025). For example, individuals' reference points, such as focusing on past costs, present investments, or future gains, can shape how different people evaluate the same situation (Gabriel et al. 2025). The focus on an individual's own perception may thus result in a partial view of the resources entrepreneurs actually have when they make decisions (cf. Shir and Ryff 2022).

In contrast, our study captures external objective resources, including spousal income, organizational resources, and prior experience with social benefits, thereby providing a complementary perspective on what entrepreneurs actually have access to. In doing so, we respond to calls for a more comprehensive understanding of how resources from different domains jointly shape entrepreneurial outcomes (Kummitha, Honig, and Urbano 2025; cf. Moore, McIntyre, and Lanivich 2021). Our findings further provide empirical support for the idea that resources operate as interconnected constellations across domains (see the theoretical work of Demerouti 2025; Gabriel et al. 2025), showing how the availability of external objective resources interacts with an individual entrepreneur's internal psychological resources and shapes their performance.

Contributions to self-efficacy theory within the entrepreneurship literature

Finally, our study contributes to research on entrepreneurial self-efficacy by offering a *cross-contextual* perspective on how internal and external objective resources jointly shape self-efficacy. Prior studies have examined how external resources, such as business networks (Newman et al. 2018), family support (Tihic, Hadzic, and McKelvie 2021), and family conflicts (Lu et al. 2023; Shahriar and Shepherd 2019), influence entrepreneurial self-efficacy. However, that work has largely relied on self-reported perceptions and has thus examined resources in isolation – namely, by focusing on individuals' subjective evaluations (Marshall et al. 2020; Uy et al. 2024).

Our study extends the extant literature by integrating external objective resources with internal psychological resources to help explain self-efficacy. In our referent-based experiment with entrepreneurs, we controlled for key variables, including mental well-being and family resources, to identify the relationships between different resources and self-efficacy. This approach avoids common issues in cross-sectional studies, such as self-report bias and confounding relationships between constructs (Stevenson et al. 2020). Our findings show that mental well-being contributes to self-efficacy, whereas the presence of external objective resources reduces entrepreneurs' reliance on mental well-being in maintaining self-efficacy. This integrative perspective highlights the importance of considering multiple resource domains simultaneously when theorizing about entrepreneurial self-efficacy (also see the suggestions from Hessels et al. 2018; Uy et al. 2024).

Practical implications

Our findings also offer important implications for both entrepreneurs and policymakers. For entrepreneurs, our results suggest that those with low mental well-being do not necessarily face challenges alone or are destined to fail (cf. Williamson, Gish, and Stephan 2021). Instead,

they can remain functional and pursue their entrepreneurial goals when they have access to resources in their social contexts, particularly within their family and institutional contexts. Moreover, our findings highlight that when such external objective resources are limited or lost – for example, through divorce – entrepreneurs' own psychological resources become more critical for sustaining effort and performance. Thus, entrepreneurs with low mental well-being need not fear the entrepreneurial process if they are able to draw on resources available in their broader environment.

Our findings also have implications for policymakers seeking to support entrepreneurship and regional development. While business-related resources, such as funding and skill training, remain essential, our results suggest that nonbusiness resources can also play an important role in supporting entrepreneurs. In particular, policies that provide a safety net, such as targeted social benefits, can help reduce entrepreneurs' reliance on their internal psychological resources during periods of strain. Policymakers can therefore support the development of startup ecosystems that facilitate access to resources across domains, enabling entrepreneurs to draw on a broader constellation of support. For example, targeted support for entrepreneurs experiencing resource loss (e.g. following adverse life events) may be more effective than uniformly distributed benefits (cf. Solomon et al. 2022). More broadly, coordinating resources across institutional, organizational, and social domains may enhance both the effectiveness and efficiency of entrepreneurship policies, particularly for entrepreneurs facing constraints in their mental well-being.

Limitations and directions for future research

Our study has several limitations that offer avenues for future research. First, our measure of mental well-being in the main study aggregates its cognitive and affective dimensions (Ryan and Deci 2001). Future research could disentangle these dimensions using finer-grained data. For example, scholars could separately examine cognitive evaluations of life and affective experiences and their respective effects on entrepreneurial behaviours and income (cf. Stephan et al. 2020).

Second, future studies could extend our focus beyond entrepreneurial income to other firm-level outcomes (Shepherd et al. 2019), such as sales growth or profitability, as well as strategic actions, including innovation, acquisitions, or internationalization. In addition, future research could employ more granular measures of mental well-being, such as annual, monthly, or daily assessments, or alternative methods, such as diary studies and field observations, to capture the dynamics of well-being more precisely.

Third, although our experimental design allowed us to capture the relationships among mental well-being, external objective resources, and self-efficacy, the use of vignette-based scenarios limited our ability to directly intervene in actual well-being and income. This constraint prevented us from empirically testing the mediating role of self-efficacy in the relationship between mental well-being and income. Direct intervention of such constructs raises ethical and practical challenges in real-world settings (cf. Hsu, Mitchell, and Cao 2024). Future research could address this limitation by adopting quasi-experimental designs – for example, by leveraging exogenous shocks, such as changes in health or social policies (Gabriel et al. 2025) – to examine how changes in well-being and external objective resources affect self-efficacy and subsequent outcomes. In addition, qualitative research designs could provide further insights into mechanisms beyond self-efficacy, such as how entrepreneurs interpret and respond to resource availability across contexts.

Finally, in our additional test examining mastery experience, we relied on years of entrepreneurial experience as a proxy. This measure does not directly capture entrepreneurs' subjective beliefs about their capabilities (e.g. Uy et al. 2024). Future research could therefore employ more direct measures, such as survey-based assessments of perceived mastery, to more precisely examine whether and how mastery experience shapes the relationship between mental well-being and entrepreneurial income.

Overall, our study offers an integrative perspective on how entrepreneurs draw on both internal psychological resources and external objective resources from their environment to remain functional and perform in their work.

Notes

1. We adopt the World Health Organization (WHO) definition, which conceptualizes mental well-being and mental issues as points on a single continuum: high well-being reflects a high quality of life, whereas mental issues reflect the opposite (Stephan 2018). We focus on the eudaimonic view of mental well-being – individuals' functioning in life that shapes work-related outcomes – rather than the hedonic view centred on positive affect (Ryan and Deci 2001). The eudaimonic perspective captures a broader range of psychological functioning, including cognitive evaluations, affective experiences, and behaviours (Stephan 2018); perceptions of one's energy level (Stephan et al. 2020); and the ability to manage social relationships (Pathak 2021).
2. We avoid terms such as mental illness, problems, or conditions because they refer to clinically diagnosed disorders (Wiklund et al. 2018). Instead, we focus on variations in mental well-being. Notably, the image of the 'obsessive founder' with low mental well-being is often reinforced by prominent examples, such as Richard Branson (Virgin Group), who has attention-deficit/hyperactivity disorder (ADHD) (Archer 2014), and Steve Jobs (Apple) and Estée Lauder (Estée Lauder), both associated with obsessive-compulsive tendencies (Kendall 2013).
3. The relationship between mental well-being and self-efficacy may be dynamic, as individuals' high mental well-being may strengthen their self-efficacy beliefs (Boyd and Vozikis 1994), which in turn enhances their evaluations of their ability to manage challenges, further supporting their mental well-being (Marshall et al. 2020). We rely on the forward direction of this relationship – that is, from mental well-being to self-efficacy – to explain how entrepreneurs' psychological resources shape their work-related outcomes in terms of income.
4. A potential reverse relationship among income, self-efficacy, and mental well-being is theoretically distinct from our argument. We acknowledge that income may influence both self-efficacy and mental well-being. For instance, income can raise expectations for performance and thereby enhance self-efficacy (cf. Bandura 1977). However, such increased self-efficacy primarily drives behaviours that shape future income, such as skill development, effort, and persistence (cf. Markman and Baron 2003; Shane, Locke, and Collins 2003), rather than directly influencing mental well-being. Moreover, income and mental well-being represent distinct resource domains – financial and psychological, respectively (Hobfoll et al. 2018) – that do not necessarily directly alter one another (Nikolova 2019). Therefore, we treat them as theoretically distinct in our core argument while empirically accounting for their potential interdependence through structural equation modelling in our additional analyses.
5. The direct effects of divorce on an individual's mental well-being can be mixed. On the one hand, the disruption of life may impose psychological burdens following divorce (Kitson and Morgan 1990). On the other hand, divorce may release individuals from conflict-laden relationships and thereby improve their mental well-being (Wallerstein and Lewis 2004). Rather than focusing on these short-term and potentially offsetting effects, we emphasize the longer-term implications of divorce. In particular, the loss of family resources and the associated emotional and financial pressures, such as loneliness and childcare responsibilities, tend to persist over time (Mikolai and Kulu 2018). Accordingly, we measured divorce and widowhood based on individuals' marital status in a given year rather than focusing solely on the transition event and its immediate effects.
6. This measure captured whether an individual had received social benefits (including unemployment and/or subsistence benefits) prior to their current employment status (i.e. before becoming self-employed or employed in their current organization). In Germany, eligibility for unemployment benefits is based on employment status – specifically, being unemployed or working fewer than 15 hours per week – while subsistence benefits are provided when individuals cannot access other forms of social support. Importantly, eligibility is determined by labour market conditions rather than mental well-being, mitigating concerns about reverse causality. By focusing on prior benefit experience ($t - 1$), we further separated the timing of social benefits from current mental well-being, addressing potential endogeneity concerns.
7. In an additional analysis on firm size (in terms of number of employees), we found that most entrepreneurs in our sample (75.9%) had fewer than five employees, whereas 89.03% of the employee subsample worked in firms with more than five employees. This difference in firm size confirms that entrepreneurs in our sample had access to substantially fewer human resources than their employed counterparts, consistent with the organizational resources argument underlying H2.
8. Although working hours may not fully capture the compulsive dimension of workaholism, long working hours reflect its behavioural manifestation (Taris et al. 2008) and may confound the relationship between mental well-being and income.

9. We assessed the representativeness of our sample by comparing key demographic variables with those of nascent entrepreneurs in the 2016 Adult Population Survey of the Global Entrepreneurship Monitor (GEM) (https://www.gemconsortium.org/). Although our sample included a higher proportion of female participants, it was broadly comparable to the GEM population in terms of age, education, and industry.
10. We held gender constant across conditions to ensure consistency, following established practice in vignette studies on entrepreneurial mental well-being (e.g. Marshall et al. 2020).

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Author contributions

CRediT: **Josh Wei-Jun Hsueh:** Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing; **Miriam Bird:** Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review & editing; **Vangelis Souitaris:** Conceptualization, Funding acquisition, Resources, Supervision, Writing – original draft, Writing – review & editing; **Dean Shepherd:** Conceptualization, Writing – original draft, Writing – review & editing.

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