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Small Business Owners and Daily Recovery Experiences: The Link with Well-Being and Burnout

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Small Business Owners and Daily Recovery Experiences: The Link with Well-Being and Burnout

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ABSTRACT

Small Business Owners and Daily Recovery Experiences: The Link with Well-Being and Burnout*

We analyse the links between daily recovery experiences after work (detachment, relaxation, mastery and control) and mental health (well-being and burnout) based on four surveys of French small business owners. First, comparing our results with those of employees' recovery experiences, we find that small business owners have fewer recovery experiences for all four dimensions. Second, controlling for gender, age, life partner, education level, executive experience, business size, capital ownership and type of entrepreneur, both linear regressions and SEM analysis show that the quality of overall daily recovery experiences increases well-being and reduces burnout. Third, we show that the detachment component is not correlated with well-being, and the mastery component is not correlated with burnout. Relaxation and control are most strongly associated with wellbeing, whereas control has the strongest association with burnout. Many implications (including clinical) are discussed.

JEL Classification: I12, I31, L26

Keywords: small business owners, entrepreneurs, daily recovery experiences, well-being, burnout, France

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Small business owners and daily recovery experiences: The link with well-being and burnout

1. Introduction

Improving small business owners' health is not only their personal but also a societal concern given the responsibility they have for their personnel and the role their business may play in chains, networks and ecosystems. Engaging in systematic recovery experiences is a well-documented strategy for employees to replenish physical and mental resources depleted by work demands (Rivkin et al., 2024; Sonnentag & Fritz, 2007). Recovery experiences refer to “psychological states people are in during non-work time, that is, how they live through and experience their non-work time” (Sonnentag et al., 2022, p. 35).

To the best of our knowledge, the empirical link between systematic recovery experiences and the mental health of business owners has not been studied, with the exception of Bennett et al. (2023), Battisti et al. (2024) and Obschonka et al. (2023). However, these studies present some limitations. Bennett et al. (2023) focused on early-stage entrepreneurs, which may not represent more established small business owners who face different challenges in maintaining recovery practices over time. Battisti et al. (2024) primarily examined resilience, leaving the direct impact of daily recovery experiences on mental health underexplored. Obschonka et al. (2023), while addressing psychological detachment, did not investigate the broader range of recovery dimensions such as relaxation and mastery. In contrast, our study offers a more comprehensive analysis by examining four key dimensions of recovery (detachment, relaxation, mastery, and control) and their distinct effects on both well-being and (using the WHO-5) burnout (using the BMS-10).¹ Additionally, we utilize four independent datasets, which allows for a broad generalization of our findings across different groups of small business owners, ensuring robust and reliable conclusions. In the present study, we use the well-known approach of the quality of daily recovery experiences (Sonnentag & Fritz, 2007).

We use data from four surveys among French business owners and linear regressions as well as SEM analysis to study the link between overall daily recovery experiences (DRE) and its four dimensions (detachment², relaxation, mastery and control) on the one hand and two dimensions of mental health (well-being and burnout) on the other hand. Our setup uses the DRE approach of Sonnentag (2001) which is based on two theories. *First*, the job-stress theory and, in particular, the effort-recovery model (Meijman & Mulder, 1998), which posits that disengaging from work (physically and mentally) is necessary to start a recovery process. *Second*, the resource theory, and particularly the conservation of resources model (Hobfoll, 1989), which focuses on the motivation that drives humans to both maintain their current resources and pursue new resources.

Our findings reveal that small business owners³ experience less satisfying overall DRE compared to employees, with detachment emerging as the least effective dimension of recovery. Controlling for

¹ For the remainder of the article, we will use the term “well-being” to refer to perceived well-being and “burnout” to refer to the perception of burnout.

² For the remainder of the article, we will use the terms "detachment" and "psychological detachment" interchangeably.

³ In the present study, we will use the terms ‘entrepreneur’ and ‘small business owner’ interchangeably.

demographic and business factors, both linear regressions and SEM analysis show that while overall DRE enhances well-being and reduces burnout, detachment does not significantly correlate with well-being, nor does mastery with burnout. Control stands out as the most beneficial recovery dimension for both well-being and burnout reduction, highlighting the need for tailored recovery strategies in the entrepreneurial context. Given small business owners' unique involvement in their work, detachment appears less effective in fostering well-being, and mastery may lack impact on burnout due to the ongoing learning demands of their roles. Our study underscores the clinical relevance of emphasizing control in recovery interventions. Structured yet flexible schedules, training programs on recovery strategies, and support networks advocating planned recovery times can maximize recovery quality for small business owners, helping them maintain autonomy while enhancing psychological well-being and preventing burnout.

2. Brief review of the literature

The present paper aims to contribute to the literature on small business owners' health and that on recovery. We concisely address both issues below.

2.1. Small business owners and mental health

Recent studies have shown that small business ownership can be salutogenic as well as pathogenic (Stephan, 2018; Stephan et al. 2023; Torrès & Thurik, 2019), that measuring the health of small business owners can suffer from selection effects (Rietveld et al., 2015) and that the health of small business owners is linked with personality traits, demographic characteristics, type of business, personal motivations and values, firm and financial resources and working conditions (Stephan, 2018). To the best of our knowledge, recovery experiences are not mentioned.

There are two approaches to recovery. The *first* approach refers to the notion of activity, which initiates the recovery process; different types of activities exist, and not all of them allow recovery. Indeed, activities with few daily obligations (e.g., physical activity, watching television, seeing friends) are a source of well-being and allow recovery (Sonnentag et al., 2022), whereas activities with frequent daily obligations (e.g., cleaning, taking care of children) do not allow for recovery (Sonnentag, 2001; Steed et al., 2021). The *second* approach refers to the psychological experience underlying the activity, perceived and lived beyond work time or during breaks at work (Sonnentag et al., 2022). According to Sonnentag and Fritz (2007), four experience dimensions (detachment, relaxation, mastery, and control) are critical to recovery beyond work time. It is not only the activity that the individual performs that allows recovery but also the way it is experienced (Sonnentag et al., 2022; Sonnentag & Fritz, 2007).

In many dimensions of mental health, small business owners show better results than employees do, with the exception of burnout. Empirical work reports higher burnout levels among business owners than among employees (Jamal, 2007; Lin et al., 2020). Small business owners are subject to work overload (Thurik et al., 2023), constant pressure (Lechat & Torrès, 2016a), emotional demands (Lechat & Torrès, 2016b; Tahar et al., 2023), lower sleep quality (Guiliani & Torrès, 2018; Gunia, 2018; Kollmann et al., 2019) and high stress (Dahl et al., 2010; Wach et al., 2021; Williamson et al., 2021), which can lead to a state of burnout (Fernet et al., 2016; Torrès & Kinowski-Moysan, 2019) or even depression and exit (Hessels et al., 2018). However, recent studies have started to challenge this notion, suggesting that entrepreneurs may not systematically experience more burnout than employees. For instance, research has highlighted that the relationship between entrepreneurship and burnout may depend on several factors, including personality traits and coping strategies (Hessels et al., 2017;

Obschonka et al., 2023). These studies suggest that while entrepreneurs face high levels of stress, their experience of burnout may be more complex and contingent on individual and contextual variables.

Burnout is a “state of physical, emotional, and mental exhaustion caused by a long-term involvement in situations that are emotionally demanding” (Pines & Aronson, 1988: p. 9). Since burnout was first documented in the 1970s among social and health care workers (Freudenberger, 1974; Maslach, 1976), it has gradually been recognized as a ubiquitous phenomenon (Maslach & Leiter, 2016). However, the burnout of small business owners has only recently attracted scholarly interest (Fernet et al., 2016; Hatak et al., 2015; Jamal, 2007; Lechat & Torrès, 2016b; De Mol et al., 2018; Omrane et al., 2018; Shepherd et al., 2010; Soenen et al., 2019; Tahar et al., 2023; Torrès et al., 2022a; Wei et al., 2015).

2.2. Recovery

Recovery was initially studied in the fields of physical illness, physical disability, and substance abuse and later in mental health (Ralph, 2000). The goal was to improve physical and mental symptoms to a degree sufficient for them to no longer interfere with daily functioning (Davidson et al., 2005; Moos & Schaefer, 1984). Sonnentag (2001) expanded on research concerning employee downtime, exploring how evening recovery activities not only contribute to stress reduction but also enhance overall well-being. Moreover, this novel approach investigated the experiences of recovery following these activities, providing a perspective on how individuals recalibrate and restore their energy. This perspective serves as an alternative to traditional well-being models that focus primarily on work characteristics, such as the job demands–resources model (Demerouti et al., 2001) or the challenge-hindrance framework (Cavanaugh et al., 2000). Recovery refers to “unwinding and restoration processes during which a person’s strain level that has increased as a reaction to a stressor or any other demand returns to its pre-stressor level” (Sonnentag et al., 2017, p. 366). The recovery process plays a “crucial intervening role in the relationship between stressful work characteristics on the one hand, and health, well-being and performance capability on the other hand” (Sonnentag & Geurts, 2009, p. 2). Unlike sleep, which is largely governed by automatic biological processes (Scott et al., 2021), the dimensions of detachment, relaxation, mastery, and control offer entrepreneurs the ability to actively engage in their recovery. This approach allows to explore strategies that entrepreneurs can consciously adjust to enhance well-being and reduce burnout. Moreover, while the link between sleep and mental health is well-established in the literature (Guiliani & Torrès, 2018; Gunia, 2018), our study provides a fresh perspective by emphasizing non-work activities that entrepreneurs have more direct control over.

The initial theoretical framework for examining recovery experiences is the effort-recovery model (ERM) (Meijman & Mulder, 1998), derived from the load-capacity model in physiology, which incorporates psychological effort and resource restoration. The ERM proposes that individuals utilize psychological resources such as energy in their work-related activities, which are essential for task completion and fostering both individual and collective performance, albeit at the cost of resource depletion. Recovery can take place once these activities cease, which may reduce stress levels (Sonnentag & Fritz, 2015), diminish emotional exhaustion (Donahue et al., 2012), and alleviate emotional rumination (Sonnentag & Bayer, 2005). Similarly, research on managers has demonstrated that recovery opportunities significantly affect well-being by mitigating work-home interference and stress, leading to better overall health outcomes (Taris et al., 2006). Additionally, the conservation of resources (COR) model proposed by Hobfoll (1989) complements this understanding by emphasizing the importance of preserving and accumulating personal resources. This is especially pertinent for small business owners, who face high demands and unpredictable work environments and require effective resource management to maintain health and business success. Both the ERM and COR models are

supported by empirical evidence primarily involving employed populations (Bennett et al., 2016; Bosch et al., 2018; Feldt et al., 2013; Sonnentag and Fritz, 2007; Bennett et al., 2023). Like employees, small business owners mobilize resources at work on a daily basis. Thus, by extension, we expect daily recovery to be positively related to small business owners' well-being. We advance the following hypotheses:

H1. The quality of DRE is positively related to small business owners' well-being.

H2. The quality of DRE is negatively related to small business owners' burnout.

The quality of recovery from daily activities after work depends on the emotions and state of mind they generate. Sonnentag and Fritz (2007) distinguish four sources of recovery: *Detachment* is mentally disconnecting from work, ceasing to think about work or ruminate. *Relaxation* consists of relaxing (muscularly and/or emotionally). *Mastery* refers to changing horizons, learning new things, or doing different activities from those experienced at work. *Control* is having a sense of control over one's time and schedule (even if only for a short period of time each day).

Bennett et al. (2018) suggested that daily recovery experiences (DRE) impact fatigue and vigour through two processes. The *first* process involves reducing or halting the psychological load from work tasks, which is achieved primarily through psychological detachment and relaxation. This cessation helps stop prolonged negative effects, such as fatigue, allowing states to return to normal levels. The *second* process focuses on the creation of additional psychological resources, which typically occur through mastery and control experiences. Given these dual pathways, we cannot expect the four subdimensions of recovery to be related to well-being and burnout among small business owners in similar ways. We have no firm a priori ideas about the relative effects of the four sources of daily recovery activities on our two measures of mental health. We leave our expectations open for ex post interpretation.

3. Data and measurement

In this section, we start with a presentation of our total survey, followed by a description of the dependent variables, DRE and control variables. Our total survey consists of four mildly different surveys. Their differences may extend the scope of our findings, provided that, of course, they show similar links between recovery experiences, well-being and burnout. Supplementary material 1 contains the details of the four surveys: CMA30, AG2R La Mondiale, Amarok, AIPALS.

3.1. Our total survey

We conducted our study via online questionnaires sent out in the period from April 2021 through January 2022. Only responses from complete questionnaires were retained. In addition, the responses of individuals who systematically replied similarly to a large number of questions were eliminated. In total, we retained 1043 responses.

3.2. Measures

Table 1 summarizes some descriptive statistics from our total survey for our seven main variables. Cronbach's alpha is largely sufficient for all multi-item variables. We see that among the four dimensions of DRE that between detachment and relaxation has the highest and that between detachment and mastery has the lowest correlation. Correlations of DRE, well-being and burnout for the four surveys are available in our Supplementary material 2 (Tables B1 through B4).

Given that our data collection relied on self-reported measures, we conducted Harman's one-factor test to assess the presence of common method bias (Podsakoff et al., 2003). The analysis revealed that the first factor explained 37.8% of the total variance, which is well below the recommended threshold of 50%. This result indicates that common method bias is not a significant concern.

---Table 1 about here---

3.2.1. Dependent variables

Well-being is a subjective measure of some positive dimensions of mental health. It was assessed via a measurement instrument (the 5-item World Health Organization Index, WHO-5), which is derived from the WHO-28 developed for the WHO European Regional Office (Johansen, 1989). The WHO-5 was first presented at a WHO meeting in Stockholm (Johansen, 1998) and provides a score based on responses to five standardized questions. The items followed a headline stating, *"Over the past month..."*. A sample item is *"I felt good and in a good mood"*.

The response modalities and the values assigned to them are as follows: never = 0; from time to time = 1; less than half the time = 2; half the time = 3; most of the time = 4; all the time = 5. The well-being score is calculated by first summing the values obtained for the five questions (i.e., a number from 0 to 25) and then multiplying this sum by 4 to obtain a score of 0-100. The mean of the total survey is 46.9 while the Cronbach alpha is .91.

Burnout is a state of fatigue or inability to function normally in the workplace when demands exceed an individual's ability to meet them. The risk of burnout has been assessed by a measurement instrument (Burn-out Measure Short version, BMS) developed by A. Pines (Malach-Pines, 2005). The 10-item version (BMS-10) of the instrument translated into French by Lourel et al. (2007) was administered. This instrument produces a score based on the answers to ten standardized questions. The items followed a headline stating, *"When you think about your work, currently, how often..."*. A sample item is *"Do you feel tired?"*.

The response modalities and the values assigned to them are as follows: never = 1; almost never = 2; rarely = 3; sometimes = 4; often = 5; very often = 6; always = 7. The burnout score is obtained by averaging the answers to the 10 questions; it takes a value between 1 and 7. A higher score indicates a greater presence of symptoms associated with burnout. The mean of the total survey is 3.67 while the Cronbach alpha is .92.

3.2.2. Daily recovery experiences

Daily recovery experiences were assessed via an instrument developed by Sonnentag and Fritz (2007) and validated for the French language by Le Moal et al. (2024). This instrument distinguishes between four dimensions (detachment, relaxation, mastery and control), each of which is measured via four items (questions). The items follow a headline stating, *"Please indicate your level of agreement with doing or not doing each of the following after your workday:"* A sample item for Detachment is *"I forget about work"*. A sample item for Relaxation is *"I decompress and relax"*. A sample item for Mastery is *"I learn new things"*. A sample item for Control is *"I feel like I can decide what to do for myself"*.

The response scores assigned are as follows: Strongly Disagree = 1; Somewhat Disagree = 2; Neither Agree nor Disagree = 3; Somewhat Agree = 4; Strongly Agree = 5. The scores per dimension are obtained by averaging the responses to the four questions, which range from 1 to 5. The overall DRE score is obtained by averaging the four scores per dimension. A high score indicates a better quality of recovery in daily life. The mean of the total survey is 2.87 while the Cronbach alpha is .92.

3.2.3. Control variables

With respect to **gender**, **age** and **life partner**, 49% are women, the average age is 49.4 years, and 61.7% live with a life partner. With respect to **education level**, 30.9% of the respondents had a master's degree or higher. The average **executive experience** is 10.9 years. In terms of **business size**, 81.9% of our sample consists of very small businesses (with 10 or fewer employees), On the other hand, businesses without employees account for 33.8% of our sample. Concerning **capital ownership**, 59.2% of the respondents own 100% of their company's capital. In terms of the **type of entrepreneur (ToE)**, 61.2% of the respondents are **business founders**, while 11.2% represent a **family takeover**. See Table A.1 of Supplementary material 1 for more details of the above numbers for the separate four surveys.

3.3. Daily recovery experiences for employees and small business owners

Table 2 provides an overview of the DRE scores for employees in some recent studies. The overall score for employees ranges from 3.26 to 3.74. With respect to the score for small business owners as calculated via the samples of the present study, the overall score ranges from 2.63 to 3.15. We may conclude that overall DRE is lower for small business owners than for employees. Based on the four dimensions, we arrive at the following conclusions: The detachment of small business owners (ranging between 2.14 and 2.47) is lower than that of employees (ranging between 2.54 and 3.39). The relaxation of small business owners (ranging between 2.60 and 3.24) is lower than that of employees (ranging between 3.29 and 3.93). The mastery of small business owners (ranging between 2.76 and 3.31) is lower than that of employees (ranging between 3.04 and 3.63), except for one study that overlaps with two studies of small business owners (3.04 reported by Sonnentag & Fritz, 2007, with 3.31 and 3.18 for the Amarok and AIPALS samples, respectively). The control of small business owners (ranging between 3.00 and 3.58) is lower than that of employees (ranging between 3.47 and 4.07), except for one study that overlaps with one study of small business owners (3.47 reported by Donahue et al., 2012, with 3.58 for the Amarok sample) Means, standard deviations, and the scale are provided on Table A.4 in the Supplementary material 1. Overall, we note that small business owners are, on average, worse off than employees in terms of all dimensions of DRE and that this effect is most prominent for detachment and mastery. A possible explanation for this difference is that entrepreneurs often work more hours than employees (Block et al., 2022; Wellschmied & Yurdagul, 2021), reducing the time available for engaging in recovery activities (Wach et al., 2021). This workload and the limited flexibility in managing their schedule may explain why entrepreneurs score lower in recovery.

---Table 2 about here---

4. The link between daily recovery experiences and well-being and burnout

In this section, we present the results of linear regressions and SEM.

4.1. Linear regressions

Linear regression analyses were conducted to explore the links between well-being and burnout and overall DRE while controlling for various factors (gender, age, life partner, education level, executive experience, business size, capital ownership, and type of entrepreneur). These control variables were selected based on theoretical and empirical evidence showing their impact on recovery experiences and well-being. **Gender** has been associated with different recovery needs and experiences (Bennett et al., 2016), while **age** can influence both the physical and psychological capacity for recovery (Sonnentag & Fritz, 2007). Having a **life partner** may provide emotional support, which can facilitate

recovery (Ten Brummelhuis & Bakker, 2012). **Education level** has been linked to job demands and cognitive workload, which are factors that influence the need for recovery (Unger et al., 2011). **Executive experience** is particularly relevant for entrepreneurs, as it often determines the level of autonomy and decision-making stress they experience, affecting their ability to recover (Blanchflower & Oswald, 1998). **Business size** and **capital ownership** are key organizational factors that distinguish entrepreneurs' workload and stressors from those of employees. Finally, **type of entrepreneur** (e.g., family business successor vs. business creator) was included to account for differing motivations and psychological pressures, which could influence both burnout and recovery (Kellermanns et al., 2008). For each database (Supplementary material 3, Tables C.1 through C.4), the R^2 values for well-being range from 0.25 to 0.50, and those for burnout range from 0.21 to 0.57. For the combined database from all sources (Supplementary material 3, Table C.5), the R^2 for well-being is 0.29, and that for burnout is 0.33. Most importantly, the regression analyses consistently show that overall DRE has a positive effect on well-being ($p < .001$) and a negative effect on burnout ($p < .001$).

We also ran linear regressions in which we replaced overall DRE with the four separate DRE dimensions. The tables are not part of the present text and are available from the authors. For all the databases combined, our results indicated a positive correlation between the four DRE dimensions and well-being. Relaxation and control were the dimensions with the highest coefficients. The detachment dimension, however, did not show a significant link. When the four databases were separated, the results were consistent with this pattern, with one exception: the AIPALS database showed detachment as having the highest link, with relaxation and control dimensions being nonsignificant. This exception may be due to the relatively small sample size.

For burnout, the DRE dimensions showed a negative association, with the control dimension showing the largest coefficient. The mastery dimension did not have a significant effect. When the databases were separated, the results were consistent with this pattern.

We ran several more heterogeneity tests in addition to those based on the four separate databases. The two most important factors are gender and business size. The effects of overall DRE on burnout and well-being do not seem to depend upon gender, nor do those of the controls with four exceptions: for males, having a life partner has a positive effect on burnout (i.e., burnout increases), whereas this effect is absent for females. For males, education level has a negative effect on burnout (i.e., burnout decreases), whereas this effect is absent for females. For females, the type of entrepreneur has a positive effect on well-being (i.e., well-being increases), whereas this effect is absent for males. Finally, the effect of overall DRE on well-being is greater for males than for females. This seems to be due mainly to the relaxation and mastery dimensions. The effects of overall DRE on burnout and well-being do not seem to depend upon business size, nor do those of the controls, with one exception: having a life partner for owners of small firms has a positive effect on burnout (i.e., burnout increases) and no effect on well-being, whereas having a life partner for owners of small firms has no effect upon burnout and a positive effect on well-being.

4.2. SEM

We used covariance-based structural equation modelling (CB-SEM) to analyze our data. CB-SEM is particularly suitable for research questions that specify a set of systemic relationships among multiple latent variables that can be tested empirically (Sarstedt et al., 2014). We employed the maximum likelihood with robust standard errors (MLR) estimator to accommodate potential nonnormality and missing data in our dataset. The MLR estimator provides robust standard errors and a Satorra–Bentler scaled chi-square test statistic, which ensures that model estimations remain valid when complex, real-world data are used (Brown, 2015). We used a partial-latent model approach, as our analyses include

eleven variables, two of which are latent ones (Well-Being and Burnout, measured using five and ten items, respectively), three of which are one-item variables (gender, age, life partner, education level, executive experience, business size, capital ownership and type of entrepreneur), and one of which is a second-order latent variable (overall DRE) composed of four first-order factors (Detachment, Relaxation, Mastery, and Control, measured using 20 items in total). The maximum number of model parameters was 93. With 1043 observations, we are within the parameters and observations ratio suggested by (Kline, 2016).

4.2.1. Preliminary Analyses

Prior to testing the structural model, we tested the measurement model without control variables, including the two latent variables and the second-order factor. This initial step allowed us to establish the validity and reliability of the constructs independently, ensuring that the latent variables and the second-order factor adequately represent the underlying dimensions before introducing additional complexity through control variables. The three-factor measurement model provided a satisfactory fit to the data (χ^2 [df = 427, N = 1043] = 2637.182, $p < .001$, robust CFI = .913, robust RMSEA = .069[.066, .072], SRMR = .067).

We also tested two alternative models. In the first alternative model, we grouped well-being and burnout together into a single composite measure of mental health. This alternative two-factor model provided inadequate fit to the data and a higher chi-square (χ^2 [df = 429, N = 993] = 4313.586, $p < .001$, robust CFI = .844, robust RMSEA = .092[.090, .095], SRMR = .075). In the second alternative model, we grouped the four subdimensions of DRE into a single first-order factor and deleted the second-order factor. This alternative model provided inadequate fit to the data and a higher chi-square (χ^2 [df = 465, N = 1043] = 7531.387, $p < .001$, robust CFI = .713, robust RMSEA = .125[.122, .128], SRMR = .087). In comparing these alternative models to our original measurement model, we did not find a significant advantage in using an alternative model. In addition, using a second-order latent construct to measure DRE is in line with the current conceptualization (Bakker et al., 2015; Sonnentag & Fritz, 2007; Le Moal et al., 2024); therefore, we decided to proceed with our original measurement model.

4.2.2. Hypothesis Testing

The means, standard deviations, and bivariate correlations for all the variables are given in Tables 1 and 2. With the inclusion of the control variables, the structural model provides a satisfactory fit to the data: (χ^2 [df = 688, N = 993] = 3101.577, $p < .001$, robust CFI = .899, robust RMSEA = .059[.056, .061], SRMR = .063).

Hypothesis 1 predicts that DRE is positively related to small business owners' well-being. Our results (Figure 1) show that DRE has a significant positive relationship with well-being ($\beta = .597$, $p < .001$), where β denotes the standardized regression coefficient. Thus, Hypothesis 1 is supported.

Hypothesis 2 predicts that DRE is negatively related to small business owners' burnout. Our results (Figure 1) show that DRE has a significant negative relationship with burnout ($\beta = -.598$, $p < .001$). Thus, Hypothesis 2 is supported.

4.2.3. Post hoc analyses

We conducted post hoc analyses to explore the extent to which the four components of DRE have similar effects on the well-being of small business owners. We ran a model without the second-order construct, adding instead a direct path from detachment, relaxation, mastery and control to well-being and burnout. The model (Figure 2) provides a satisfactory fit to the data (χ^2 [df = 680, N = 993] = 3037.439, $p < .001$, robust CFI = .902, robust RMSEA = .058[.056, .060], SRMR = .060).

The components of DRE show positive links with well-being and burnout, with two exceptions. We found that psychological detachment was not significantly related to well-being ($p > .05$), while mastery was not significantly related to burnout ($p > .05$). We find similar effect in our analysis using linear regressions (Table C.6 of the Supplementary material 3).

In terms of effect sizes, when controlling for age, gender, education, and type of entrepreneurship, we found that control has the strongest positive effect on well-being and the strongest negative effect on burnout.

---Figure 1 about here---

---Figure 2 about here---

4.3. Comparing the linear regression and SEM results

Comparing our findings from multiple regression analyses and SEM clearly reveals that for the model evaluating the relationships between overall DRE, well-being, and burnout, both methods effectively support our hypotheses. With respect to the models that examine the links between the four DRE dimensions and well-being and burnout, our results consistently indicate that control is the recovery experience with the strongest positive association with well-being and the strongest negative association with burnout. Conversely, psychological detachment shows no significant relationship with well-being, and mastery is not significantly related to burnout. A key distinction between the regression analyses and SEM lies in the differing impacts of relaxation; in regression analyses, relaxation appears to be as influential as control, whereas in SEM, its effect is less pronounced than that of control.

5. Discussion

Employees typically enjoy more structured work schedules and clearer expectations, facilitating better separation between work and personal life. In contrast, small business owners contend with irregular hours and a higher workload, which impairs their ability to detach from work—a factor that more regular schedules have been shown to improve (Park et al., 2011). Additionally, the greater responsibilities borne by small business owners, including financial, health and responsibility risks (Torrès et al., 2022a), limit their relaxation opportunities, heighten stress levels and reduce recovery options (Cardon & Patel, 2015). Unlike small business owners, employees often have access to greater social support from colleagues and intermediate organizations, which is crucial for recovery and overall well-being, with workplace social support positively linked to recovery through enhanced psychological detachment and increased relaxation activities (Uy et al., 2010). This situation aligns with the concept of the recovery paradox, which posits that those who most need recovery—due to high demands and stress—often struggle the most to engage in it (Sonnentag, 2018). Entrepreneurs, faced with heavy workloads and blurred boundaries between work and personal life, may find it especially difficult to detach and relax, even though they are at greater risk of burnout. The recovery paradox could help explain why entrepreneurs, despite recognizing the need for recovery, engage less in recovery activities compared to employees. Furthermore, while small business owners usually have extensive control over their work decisions, the generally unpredictable nature of entrepreneurship can reduce their perceived control, which is essential for effective recovery and stress mitigation (Manzoni & Barsoux, 2002). This reduced perceived control aligns with Karasek's concept of 'decision latitude', which emphasizes the importance of an individual's control over their work environment in relation to stress and health outcomes (Karasek, 1979).

In our study, we explored the effects of the four dimensions of DRE—psychological detachment, relaxation, mastery, and control—on the well-being and burnout of small business owners.

Comparing the levels of the four dimensions of DRE between employees and small business owners (Table 2) reveals that small business owners generally exhibit lower DRE levels than employees do. These lower levels may be attributed to several factors. Small business owners often manage multiple aspects of their businesses, which results in greater autonomy and responsibility (Krieger et al., 2018). This involvement may impede their ability to detach psychologically from work, which is critical for recovery. Additionally, the boundaries between work and personal life are often blurred for small business owners (Bennett et al., 2017), with irregular and intrusive work schedules compromising their ability to relax and manage personal time, thus reducing recovery opportunities. The uncertainties and demands of their roles can lead to elevated stress levels for small business owners (Wach et al., 2021; Williamson et al., 2021). Furthermore, recovery is crucial for various aspects of well-being. It plays a significant role in improving sleep quality (Kollmann et al., 2019) and has a significant impact on creativity (Weinberger et al., 2018). Moreover, their personal investment and passion for their businesses make it challenging for small business owners to mentally and emotionally distance themselves from their work (Williamson et al., 2021), adversely affecting their ability to detach and relax. Unlike employees, who often benefit from organizational support structures, small business owners typically rely on limited resources (Stephan, 2018), which restricts their access to activities that promote mastery and control.

Our findings indicate positive relationships between all four recovery dimensions and well-being and negative relationships with burnout. These associations were consistent across multiple regression analyses and SEM. Control not only showed the highest average level but also presented the strongest correlations with both well-being enhancement and burnout reduction. However, not all relationships were statistically significant in both the regression analyses and the SEM. Specifically, psychological detachment did not have a significant positive effect on well-being, and mastery did not significantly reduce burnout. These results differ from what has been found for employees (Kinnunen & Mäkikangas, 2023; Siltaloppi et al., 2009, 2012). The findings presented here warrant special attention given the distinct roles and challenges that come with entrepreneurship compared with salaried employment. Below, we discuss the specific dimensions of psychological detachment, mastery experiences and control experiences: why the link between psychological detachment and well-being may be weak, why the link between mastery experiences and burnout may be weak and why control can be expected to have the greatest influence.

According to Etzion et al. (1998, p. 579), psychological detachment is defined as an "individual's sense of being away from the work situation." Sonnentag and Fritz (2007) broaden this notion by describing it as a psychological disengagement from work-related concerns, essentially severing all ties with work and not thinking about it. In the entrepreneurial context, the strong commitment of owners to their enterprises makes them particularly prone to experiencing burnout, particularly since entrepreneurs are said to possess an existentialist outlook, viewing their business undertakings as a personal mission that reflects their core values and life purpose (Torrès et al., 2022b). This existentialist stance can make detachment especially challenging, as their work is not just a job but a vital component of their identity. Elias (1956) highlighted the dialectical relationship between engagement and detachment, suggesting that these two states can coexist. The substantial workload of small business owners heightens the risk of burnout (Bué et al., 2008). Thus, detachment provides a necessary break for mental and physical recovery (Etzion et al., 1998; Sonnentag & Bayer, 2005). However, in regard to well-being, the relationship is less straightforward. Fritz and Sonnentag (2005, 2006) demonstrated that positive

thoughts toward work during rest periods can enhance well-being. Given that many small business owners derive high satisfaction from their work, these moments can indeed be beneficial. Studies such as those by Benz and Frey (2008), Larsson and Thulin (2019), Millán et al. (2013) and Van der Zwan et al. (2018) confirm that small business owners are generally more satisfied with their work than employees are. Moreover, Wach et al. (2021) suggest that small business owners find it challenging to detach from their businesses cognitively and emotionally. This closeness may mean that even when these individuals do detach, the positive effects on their well-being are limited. Fritz et al. (2010) also highlighted that moderate levels of detachment may be more beneficial for work performance. Complete detachment might prove counterproductive for a small business owner. Additionally, small business ownership is often perceived as a vocation rather than merely a job (Clinton et al., 2017). The well-being of the small business owner is therefore closely tied to their commitment to their business. In this framework, complete detachment could reduce the risk of burnout without necessarily improving well-being. In conclusion, psychological detachment is essential for reducing burnout among small business owners. However, it does not guarantee an increase in well-being. Future research could provide valuable insights into the ambivalent effects observed, confirming or challenging the distinctions made here between small business owners and employees. However, the relationship between detachment and well-being is nuanced. While psychological detachment is crucial for mitigating burnout, it does not invariably enhance well-being, particularly for small business owners, who often find solace and satisfaction in their work. This complex interplay suggests that other recovery dimensions should also be considered.

According to Sonnentag and Fritz (2007), mastery experiences refer to the act of expanding one's skills beyond professional activities, developing new resources (e.g., diversity of knowledge, improved self-awareness) and promoting innovation. However, for small business owners, the efficacy of mastery experiences in mitigating burnout seems to be limited as a result of several specific factors. While small business owners are naturally inclined toward innovation, a characteristic supported by various studies (Koellinger, 2008; Li et al., 2018), this tendency also implies that leisure activities designed to foster innovation may not offer them the mental respite required to combat burnout. A further complicating effect is the multitude of challenges facing small business owners, such as financial constraints and intense competition (Anitha & Veena, 2022; Sinha, 2023). Given that their work life is replete with such hurdles, mastery experiences, which often entail facing new challenges, may not offer the mental respite needed to reduce burnout. Additionally, small business owners place high value on continuous learning and skill development in their professional spheres (Hessels et al., 2020; Van Praag et al., 2013). This propensity makes mastery experiences less effective for recovery, as they may not provide the 'switch-off' mechanism essential for genuine recovery. Furthermore, small business owners typically work longer hours than salaried employees do, thereby reducing their options for activities outside of work (Block et al., 2022; Wellschmied & Yurdagul, 2021). Given small business owners' heavy workload, engaging in time-consuming leisure activities may not be conducive to reducing burnout. Finally, according to Karasek (1979), decision latitude is a worker's ability to participate in decisions that concern them and to fully utilize their skills in their work environment. Given that small business owners have high decision latitude, they already develop numerous skills within the scope of their work (Niedhammer et al., 2007). Hence, off-the-job mastery experiences may not add much value in the effort to reduce burnout. In summary, although mastery experiences generally have a positive effect on well-being, their efficacy in reducing burnout among small business owners seems compromised. This limitation points toward a need for tailored approaches that consider the unique aspects and challenges of entrepreneurship. However, the effectiveness of mastery experiences in mitigating burnout is limited by the intrinsic challenges of entrepreneurship, such as financial pressures and continuous competition.

These experiences, while enriching, may not provide the complete 'switch-off' needed for genuine recovery.

Control refers to the autonomy that small business owners have in deciding what to do, how to do it, and with whom during nonworking hours (Sonnentag & Fritz, 2007). Small business owners typically enjoy considerable autonomy in their professional roles, which may extend to their preferences for DRE (Deci & Ryan, 2000; Wrzesniewski & Dutton, 2001). The ability to control recovery time could reinforce their inherent need for autonomy, thus directly enhancing their psychological well-being and indirectly mitigating burnout symptoms (Ryan & Deci, 2017). Additionally, the entrepreneurial role involves constant decision-making and flexibility. When small business owners apply similar control to their recovery activities, it likely creates a sense of continuity that eases the transition between work and rest, enhancing the effectiveness of recovery (Sonnentag & Fritz, 2007). Moreover, by actively choosing their downtime activities, small business owners can better detach themselves from work-related stressors, which is crucial in preventing burnout. This active disengagement allows for psychological resources to be replenished more effectively (Sonnentag, 2001). Importantly, our tests for multicollinearity, including variance inflation factor (VIF), confirmed that there were no significant concerns that could undermine these findings. Our results align with Battisti et al. (2024), who found that control is the only recovery experience that significantly enhances entrepreneurs' resilience.

6. Conclusion

We conclude with three paragraphs discussing clinical implications (intervention strategies), limitations and steps forward.

Several intervention strategies have already been suggested to enhance DRE among small business owners. Williamson et al. (2021) proposed effective interventions that activate various DRE, including respite—taking breaks from work for tangible relief through activities such as spending time in nature, socializing, and listening to music—along with mental relief through mindfulness and positive reflections. Reappraisal involves changing perceptions via cognitive-behavioral therapy, stress optimization, positive thinking, and experimental disclosure. The regime includes adding structure through sleep hygiene, exercise routines, and structured breaks. These interventions are clear and appear well structured; however, given our findings and the focus on the experience of control, it is crucial to tailor interventions to meet the specific needs of each small business owner. Allowing individuals to choose what they enjoy most, how and with whom they engage in these activities, and when they undertake them is essential. Entrepreneurial training programs could incorporate modules on effective recovery strategies, emphasizing the importance of control over leisure time. Additionally, support networks for small business owners should advocate for structured recovery times, where individuals plan and control their activities to maximize recovery quality. Expanding these approaches to include so-called *primary*, *secondary*, and *tertiary* interventions can further increase their effectiveness. Primary interventions focus on establishing practices and environments that prevent stress, such as promoting work-life balance and proactive stress management education. For instance, addressing workplace 'telepressure' - the urge to respond immediately to work-related communications - can enhance recovery experiences like psychological detachment and control over leisure time, which can be critical for maintaining work-life balance (Barber et al., 2019). Secondary interventions aim at the early detection and management of stress symptoms by regularly assessing stress levels and providing immediate coping strategies tailored to individual preferences and control needs. For example, secondary interventions could involve personalized stress management workshops that teach small business owners how to recognize their unique stress triggers and to effectively manage their responses, choosing

specific stress-reduction techniques that suit their personal and professional lifestyles, and scheduling these practices at their convenience. Tertiary interventions involve strategies for managing the long-term effects of chronic stress or recovery from burnout, which might include professional counselling and support groups. By layering these interventions, entrepreneurial training and support networks can offer a comprehensive framework that not only addresses immediate recovery needs but also builds resilience against future stress and burnout. Integrating these strategies ensures that small business owners not only recover from current stressors but also enhance their mental health and prepare them to handle future challenges more effectively. This holistic approach fosters a sustainable work environment where mental health is prioritized, reducing the likelihood of burnout and improving perceived well-being. Future research should also consider incorporating objective physiological measures of recovery, such as cortisol levels, as these provide a more robust understanding of recovery from work stress. For instance, Elfering et al. (2018) used cortisol measurements on rest days to assess recovery from work stress. Their findings indicate that physiological recovery on non-work days could predict well-being and stress levels, offering an additional perspective beyond self-reported measures. Incorporating such methods could complement current subjective recovery data, providing a more comprehensive understanding of recovery in small business owners.

The present study has several limitations. First, the study was conducted solely in France, and although it utilized four databases from slightly different entrepreneurial subpopulations, the findings may not be straightforwardly generalizable to other cultural or geographic contexts. Second, the research design was cross-sectional, which does not enable deeper insights into the temporal dynamics and causal relationships between DRE and its impacts on well-being and burnout. While we recognize the limitations of cross-sectional data in inferring causality, cross-sectional surveys are widely used to identify associations in emerging areas of research, such as the recovery experiences of entrepreneurs. Despite the lack of longitudinal data, cross-sectional methods allow to capture a broad range of relationships and provide a foundation for future longitudinal studies. Previous literature supports the appropriateness of this approach in understanding how recovery influences well-being and burnout in the entrepreneurial context (Wach et al., 2021). In other words, our interpretation takes the effect of DRE on well-being and burnout as a starting point and does not explore the reverse relationships—how varying levels of well-being and burnout might influence DRE. For example, entrepreneurs experiencing higher levels of burnout may work longer hours and consequently have less time and energy to engage in recovery activities. This is consistent with findings in employee studies, where burnout reduces the likelihood of engaging in recovery (Sonnentag & Fritz, 2015). Although we do not have longitudinal data to test these reverse relationships, evidence from related studies suggests that recovery is more likely to mitigate burnout than to be a consequence of it (Kühnel et al., 2012). Finally, the observed effects on well-being were smaller than those on burnout (as indicated by lower R-squared values), which may be attributed to the use of a general well-being scale rather than one specifically tailored to assess work-related well-being, whereas burnout was directly related to the work context. These limitations underscore the need for further research incorporating broader demographic samples, longitudinal designs, dynamic approaches, and more precise measurement tools tailored to the work environment.

Taken together, our study highlights that DRE, especially relaxation and control, are closely linked to well-being among French small business owners, while control is strongly associated with burnout reduction. Moreover, future studies should examine whether the longitudinal links between job characteristics and recovery experiences observed by Kinnunen and Feldt (2013) in employees extend to entrepreneurs. Such research could clarify whether the absence of significant well-being outcomes holds also true for entrepreneurial populations or if unique entrepreneurial stressors create different recovery

dynamics. These findings underscore the critical importance of tailored recovery strategies that address the unique needs of small business owners, which are distinct from those of traditional employees. Moving forward, we aim to expand the scope of this research internationally by including small business owner populations from Hungary, the Netherlands, and Japan. This cross-cultural expansion will allow comparisons of how DRE influence well-being and burnout across different cultural contexts and work environments. By incorporating these diverse settings, we can enhance the generalizability of our findings, explore cultural variations in recovery processes, and better understand the general applicability of intervention strategies aimed at improving small business owners' well-being and reducing burnout. These efforts are essential for developing targeted interventions that can be customized on the basis of cultural specifics and the unique challenges faced by small business owners worldwide.

7. References

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Table 1: Means, Cronbach alphas and correlations of the total survey

Variables	Mean	Cronbach's α	(1)	(2)	(3)	(4)	(5)	(6)
(1) Overall DRE	2.87	.92						
(2) Detachment	2.28	.88						
(3) Relaxation	2.80	.91		.60**				
(4) Mastery	2.93	.90		.27**	.43**			
(5) Control	3.26	.91		.43**	.56**	.48**		
(6) Well-being	46.9	.91	.52**	.32**	.46**	.37**	.46**	
(7) Burnout	3.67	.92	-.56**	-.39**	-.46**	-.35**	-.51**	-.66**

Note: $n=1043$, * $p < .05$. ** $p < .01$.

Table 2: Average recovery scores for small business owners versus employees

Study	Respondents	N	Detachment	Relaxation	Mastery	Control	Overall DRE
Sonnentag & Fritz (2007)	Employees	271	3.00	3.29	3.04	3.70	3.26
Donahue et al. (2012)	Employees	118	3.10	3.62	3.63	3.47	3.46
Feldt et al. (2013)	Employees	298	3.16	3.61	3.44	3.70	3.48
Kinnunen & Feldt (2013) T1	Employees	274	2.96	3.64	3.43	3.66	3.42
Kinnunen & Feldt (2013) T2	Employees	178	3.00	3.64	3.32	3.68	3.41
Bennett et al. (2016) T1	Employees	575	3.39	3.93	3.56	4.07	3.74
Bennett et al. (2016) T2	Employees	469	2.88	3.42	3.54	3.63	3.37
de Bloom et al. (2018)	Employees	831	2.97	3.78	3.35	3.90	3.50
Gnacinski et al. (2020)	Employees	144	2.54	3.45	3.51	3.72	3.31
Unweighted mean	Employees	3158	3.00	3.60	3.42	3.73	3.44
This study (2021) - CMA30	SB owners	360	2.28	2.65	2.78	3.25	2.74
This study (2021) - Amarok	SB owners	251	2.47	3.24	3.31	3.58	3.15
This study (2022) - AG2R	SB owners	345	2.14	2.60	2.76	3.00	2.63
This study (2022) - AIPALS	SB owners	87	2.26	2.98	3.18	3.45	2.97
Unweighted mean	SB owners	1043	2.29	2.87	3.01	3.32	2.87

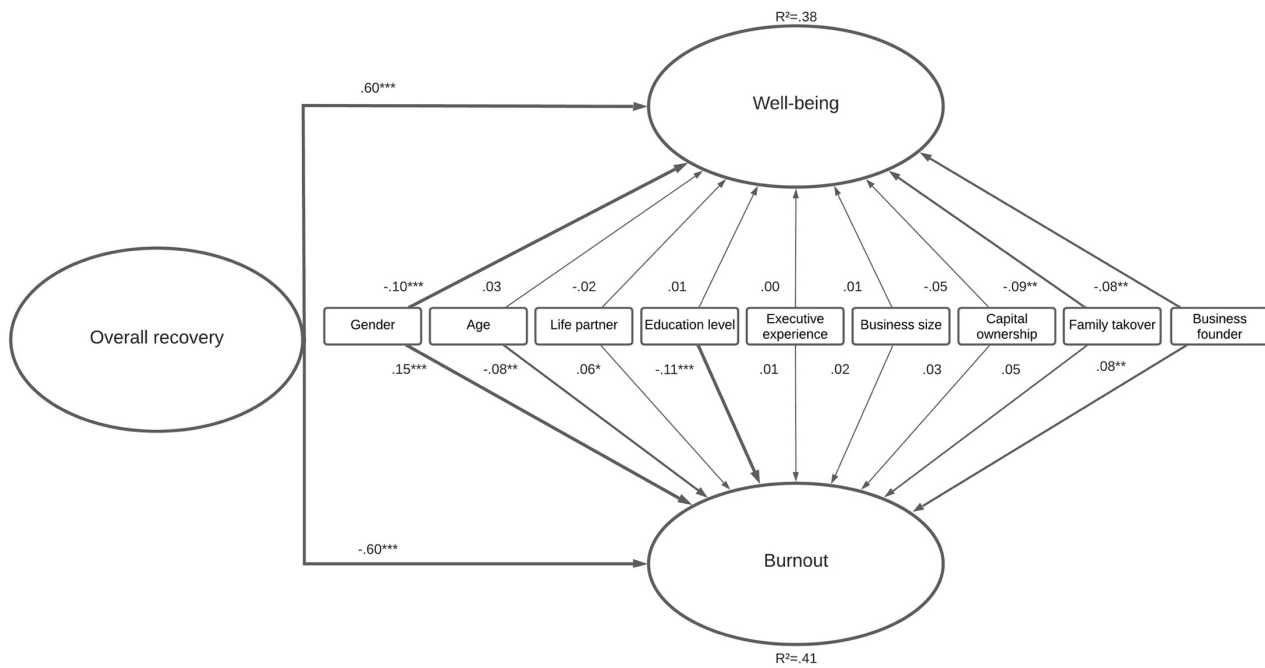


Figure 1: Structural equation model (MLR method) to test the hypotheses. * $p < .05$, ** $p < .01$, * $p < .001$**

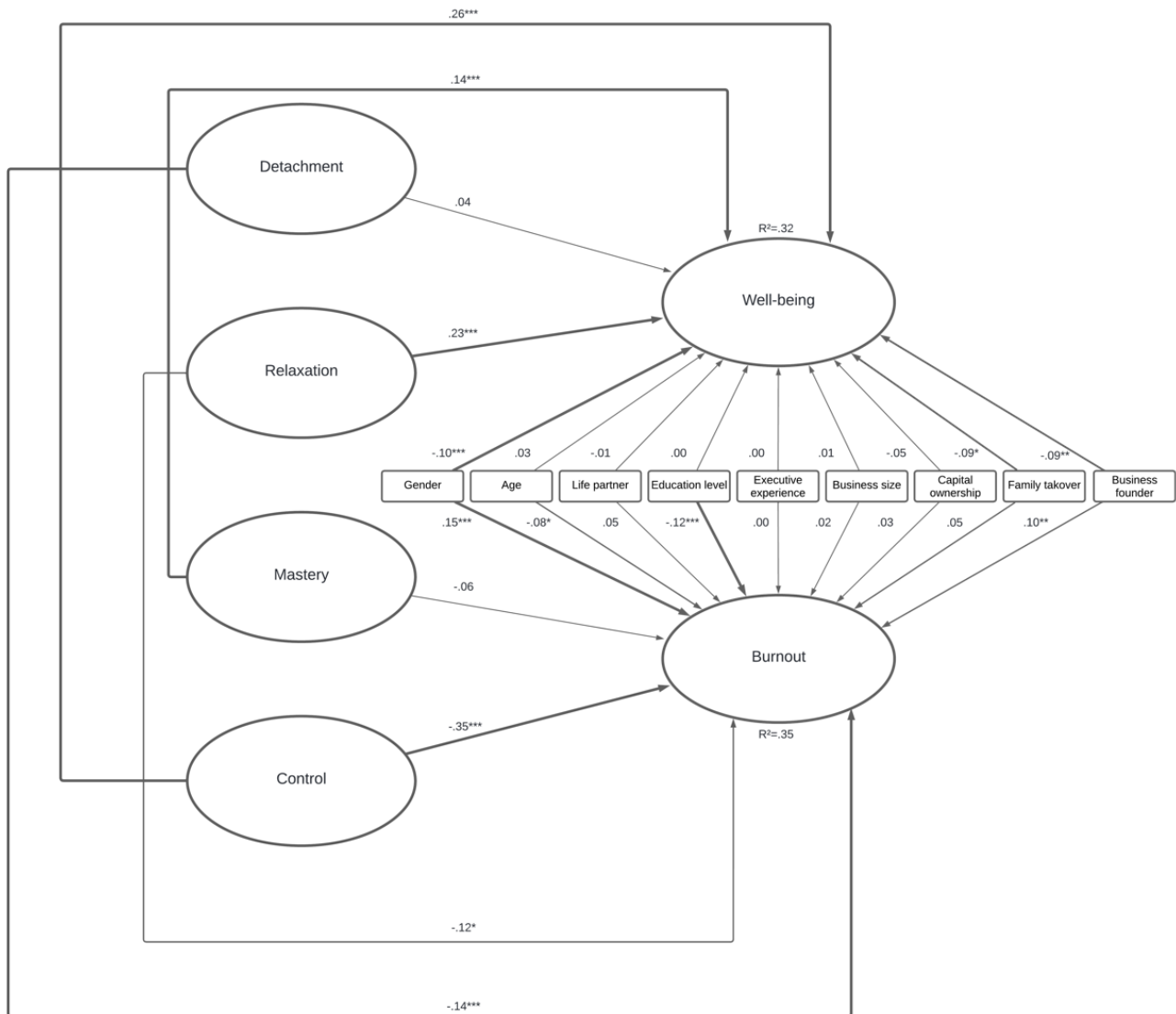


Figure 2: Structural equation model (MLR method) to test the post-hoc ideas. * $p < .05$, ** $p < .01$, * $p < .001$**

Supplementary material 1: Data and measurement

In this supplementary material, we start with a presentation of the four surveys, followed by a description of the dependent variables, DRE and control variables. Throughout the text of this supplementary material, we emphasize the differences between our four datasets. These differences may extend the scope of our findings, provided that, of course, they show similar links between recovery experiences, well-being and burnout.

7.1. Four surveys

We conducted our study via surveys of four groups: affiliates of the CMA30 chamber of trades and crafts, affiliates of the Amarok network, clients of the AG2R La Mondiale insurance company, and affiliates of AIPALS occupational health service. The “Chambre de Métiers et de l'Artisanat du Gard” (CMA30) was created to help craftspeople in their business management. These small business owners depend on the social security system for the self-employed. CMA30 had 26,837 active craft businesses in 2021. The Amarok Observatory is an independent association involved in study of the physical and mental health of entrepreneurs and self-employed workers: owner/managers of small and medium-sized businesses, independent traders, liberal professions, craftspeople, farmers, etc. AG2R La Mondiale is a French not-for-profit social protection and asset management organization. Its governance is based on parity and mutualism. AG2R La Mondiale insures 15 million individual clients and 500,000 businesses. AIPALS is an occupational health service. It advises and supports company managers and employees in Montpellier, France, to improve their working conditions and preserve their health throughout their working lives.

The respondents were interviewed via an online questionnaire sent in April 2021 for CMA30, in November 2021 for Amarok, in January 2022 for AG2R La Mondiale, and in January 2022 for AIPALS. Only responses from complete questionnaires were retained. In addition, the responses of individuals who systematically replied with the same value to a large number of questions were eliminated. In total, we retained 360 responses from the CMA30 sample, 345 responses from the AG2R La Mondiale sample, 251 responses from the Amarok sample, and 87 responses from the AIPALS sample. Thus, we retained of a total of 1043 responses.

7.2. Measures

Table A.1 summarizes some descriptive statistics from the four surveys. There are differences between the four databases concerning the four dimensions of recovery, well-being, burnout and the eight controls. These differences are highlighted in the subsections below.

Tables B.1 to B.4 of Supplementary material 2 show the correlations between the four DRE dimensions, well-being and burnout for the four surveys. These correlations show significant links between well-being and recovery experiences (positive), between burnout and recovery experiences (negative) and between well-being and burnout (negative) in all four databases. Table A.2 shows these correlations of all variables used in the four databases combined.

Given that our data collection relied on self-reported measures, we conducted Harman’s one-factor test to assess the presence of common method bias (Podsakoff et al., 2003). The analysis revealed that the first factor explained 37.8% of the total variance, which is well below the recommended threshold of 50%. This result indicates that common method bias is not a significant concern.

Table A.1: Descriptive statistics for each database and the four databases combined

CMA30 (n=360)					AG2R La Mondiale (n=345)				Amarok (n=251)				AIPALS (n=87)				The four databases (n=1043)			
Variables	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD
Detachment	1	5	2.28	1.02	1	5	2.14	1.05	1	5	2.47	0.99	1	4.5	2.26	0.84	1	5	2.28	1.02
Relaxation	1	5	2.65	1.09	1	5	2.60	1.13	1	5	3.24	1.01	1	5	2.98	1.01	1	5	2.80	1.11
Mastery	1	5	2.78	1.12	1	5	2.76	1.09	1	5	3.30	1.02	1	5	3.18	0.96	1	5	2.93	1.10
Control	1	5	3.25	1.15	1	5	3.00	1.15	1	5	3.58	0.99	1	5	3.45	0.94	1	5	3.26	1.12
Well-being	0	100	42.91	24.37	0	100	44.34	24.90	0	100	55.51	22.95	0	100	48.69	25.21	0	100	46.90	24.78
Burnout	1	7	3.88	1.44	1	7	3.86	1.35	1	7	3.19	1.20	1	7	3.39	1.35	1	7	3.67	1.38
Gender	0	1	0.48	0.50	0	1	0.54	0.50	0	1	0.45	0.50	0	1	0.39	0.49	0	1	0.49	0.50
Age	19	78	48.44	10.27	24	70	48.90	9.14	21	78	53.60	8.78	29	77	50.37	8.75	19	78	50.00	9.65
Life partner	0	1	0.26	0.44	0	1	0.64	0.48	0	1	0.27	0.45	0	1	0.17	0.38	0	1	0.38	0.49
Education level	1	6	3.14	1.18	1	6	3.52	1.32	1	6	4.66	1.09	1	6	3.89	1.39	1	6	3.70	1.36
Executive experience	0	45	10.89	9.03	0	38	14.83	8.74	1	39	16.36	8.87	1	45	13.27	9.63	0	45	13.69	9.20
Business size	0	1	0.03	0.17	0	1	0.20	0.40	0	1	0.31	0.46	0	1	0.38	0.49	0	1	0.18	0.39
Capital ownership	0	100	86.94	28.83	0	100	75.00	31.52	0	100	75.20	32.94	0	100	66.86	33.80	0	100	78.50	31.81
ToE: family takeover	0	1	0.06	0.24	0	1	0.09	0.29	0	1	0.19	0.39	0	1	0.17	0.38	0	1	0.11	0.32
ToE: business founders	0	1	0.82	0.39	0	1	0.41	0.49	0	1	0.61	0.49	0	1	0.56	0.50	1	3	0.61	0.49

Note: Gender: male = 0, female = 1; Life partner: yes = 0, no = 1; Education level: none = 1 to PhD = 6; Business size: less than 10 employees = 0, more than 10 employees = 1; family takeover: no = 0, yes = 1; business founders: no = 0, yes = 1.

Table A.2: Correlations of the four databases combined

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Overall DRE								
(2) Detachment								
(3) Relaxation		.60**						
(4) Mastery		.27**	.43**					
(5) Control		.43**	.56**	.48**				
(6) Well-being	.52**	.32**	.46**	.37**	.46**			
(7) Burnout	-.56**	-.39**	-.46**	-.35**	-.51**	-.66**		
(8) Gender	-.05	.00	-.02	-.08**	-.06*	-.11**	.17**	
(9) Age	.15**	.09**	.15**	.12**	.11**	.11**	-.16**	-.14**
(10) Life partner	-.05	-.05	-.01	-.03	-.06**	-.05	.08**	.14**
(11) Education level	.13**	.03	.16**	.14**	.06*	.08**	-.13**	.12**
(12) Executive experience	.06	.03	.07*	.06	.02	.04	-.06	-.08*
(13) Business size	.05	.04	.07*	.03	.00	.05	-.03	-.10**
(14) Capital ownership	-.03	-.04	-.05	.00	.01	-.07*	.07*	.05
(15) ToE: family takeover	.02	.04	.06	-.01	-.02	-.02	-.01	-.06*
(16) ToE: family founder	.09**	.01	.03	.08*	.15**	.00	-.01	.03

Note: $n=1043$, * $p < .05$. ** $p < .01$.

Variables	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) Overall DRE							
(2) Detachment							
(3) Relaxation							
(4) Mastery							
(5) Control							
(6) Well-being							
(7) Burnout							
(8) Gender							
(9) Age							
(10) Life partner	.05						
(11) Education level	.04	-.06					
(12) Executive experience	.49**	.09**	.03				
(13) Business size	.08*	-.01	.19**	.13**			
(14) Capital ownership	-.04	.01	-.06	-.02	-.28**		
(15) ToE: family takeover	.04	-.01	.06	.21*	.23**	-.07*	
(16) ToE: family founder	.04	-.05	.03	-.13**	-.24**	0.20**	-0.45**

Note: $n=1043$, * $p < .05$. ** $p < .01$.

7.2.1. Dependent variables

Well-being is a subjective measure of some positive dimensions of mental health. It was assessed via a measurement instrument (the 5-item World Health Organization Index, WHO-5), which is derived from the WHO-28 developed for the WHO European Regional Office (Johansen, 1989). The WHO-5 was first presented at a WHO meeting in Stockholm (Johansen, 1998) and

provides a score based on responses to five standardized questions. The items followed a headline stating, *"Over the past month..."*. A sample item is *"I felt good and in a good mood"*.

The response modalities and the values assigned to them are as follows: never = 0; from time to time = 1; less than half the time = 2; half the time = 3; most of the time = 4; all the time = 5. The well-being score is calculated by first summing the values obtained for the five questions (i.e., a number from 0 to 25) and then multiplying this sum by 4 to obtain a score of 0-100. A score below 50 is usually interpreted as a risk of depression. The Cronbach alpha is .91 in the CMA30 sample, .91 in the AG2R La Mondiale sample, .91 in the AIPALS sample, .90 in the Amarok sample, and .91 in the four databases combined. The means are 42.9 (SD 24.4) for CMA30, 44.3 (SD 24.9) for AG2R La Mondiale, 55.6 (SD 22.95) for Amarok and 48.7 (SD 25.2) for AIPALS. The difference is statistically significant (ANOVA, $p < .001$), which is caused mainly by the difference between Amarok respondents, on the one hand, and AG2R and CMA30 respondents on the other (Games-Howell, $p < .001$).

Burnout is a state of fatigue or inability to function normally in the workplace when demands exceed an individual's ability to meet them. The risk of burnout has been assessed by a measurement instrument (Burn-out Measure Short version, BMS) developed by A. Pines (Malach-Pines, 2005). The 10-item version (BMS-10) of the instrument translated into French by Lourel et al. (2007) was administered. This instrument produces a score based on the answers to ten standardized questions. The items followed a headline stating, *"When you think about your work, currently, how often..."*. A sample item is *"Do you feel tired?"*.

The response modalities and the values assigned to them are as follows: never = 1; almost never = 2; rarely = 3; sometimes = 4; often = 5; very often = 6; always = 7. The burnout score is obtained by averaging the answers to the 10 questions; it takes a value between 1 and 7. A higher score indicates a greater presence of symptoms associated with burnout. The Cronbach alpha is .92 in the CMA30 sample, .92 in the AG2R La Mondiale sample, .91 in the Amarok sample, .92 in the AIPALS sample, and .92 in the four databases combined. We note that the mean is greater for CMA30 respondents (3.88, SD 1.4) than for AG2R La Mondiale respondents (3.86, SD 1.3), for Amarok respondents (3.18, SD 1.2) and for AIPALS respondents (3.67, SD 1.38). The mean for Amarok respondents is lower than the mean for other respondents.

7.2.2. Daily recovery experiences

Daily recovery experiences were assessed via an instrument developed by Sonnentag and Fritz (2007) and validated for the French language by Le Moal et al. (2024). This instrument distinguishes between four dimensions (detachment, relaxation, mastery and control), each of which is measured via four items (questions). The items follow a headline stating, *"Please indicate your level of agreement with doing or not doing each of the following after your workday:"* A sample item for Detachment is *"I forget about work"*. A sample item for Relaxation is *"I decompress and relax"*. A sample item for Mastery is *"I learn new things"*. A sample item for Control is *"I feel like I can decide what to do for myself"*.

The response scores assigned are as follows: Strongly Disagree = 1; Somewhat Disagree = 2; Neither Agree nor Disagree = 3; Somewhat Agree = 4; Strongly Agree = 5. The scores per dimension are obtained by averaging the responses to the four questions, which range from 1 to 5. The overall DRE score is obtained by averaging the four scores per dimension. A high score indicates a better quality of recovery in daily life. The Cronbach alpha scores are shown in Table 3.

There are statistically significant differences in the four recovery dimensions. The detachment dimension (ANOVA, $p < .005$) is caused mainly by the difference between the AG2R La Mondiale sample and the Amarok sample (Games-Howell, $p < .001$). Moreover, there are statistically significant differences for the relaxation dimension (ANOVA, $p < .001$), the mastery dimension

(ANOVA, $p < .001$), and the control dimension (ANOVA, $p < .001$). Means, standard deviations, and the scale are provided in Table A.4.

Table A.3: Cronbach alpha scores of the four dimensions of DRE, well-being and burnout

Databases	Detachment	Relaxation	Mastery	Control	Overall DRE	Well-being	Burnout
CMA30	0.88	0.89	0.88	0.90	0.93	0.91	0.92
AG2R La Mondiale	0.91	0.91	0.91	0.91	0.91	0.91	0.92
Amarok	0.87	0.89	0.89	0.91	0.91	0.91	0.91
AIPALS	0.82	0.91	0.89	0.90	0.92	0.90	0.92
The four databases	0.88	0.91	0.90	0.91	0.92	0.91	0.92

Table A.4: Means and Standard Deviation of the Recovery Experience Questionnaire (n=1043)

Dimensions	Items	Min	Max	Mean	SD		
Psychological detachment	I forget about work (<i>J'oublie le travail</i>)	1	5	2.14	2.28	1.15	1.02
	I don't think about work at all (<i>Je ne pense pas du tout au travail</i>)	1	5	1.96		1.09	
	I distance myself from my work (<i>Je me détache de mon travail</i>)	1	5	2.30		1.20	
	I get a break from the demands of work (<i>Je prends une pause par rapport aux demandes au travail</i>)	1	5	2.70		1.26	
Relaxation	I kick back and relax (<i>Je décomprime et me détends</i>)	1	5	2.91	2.80	1.21	1.11
	I do relaxing things (<i>Je fais des choses relaxantes</i>)	1	5	2.85		1.24	
	I use the time to relax (<i>Je prends du temps pour me relaxer</i>)	1	5	2.76		1.26	
	I take time for leisure (<i>Je consacre du temps à mes loisirs</i>)	1	5	2.69		1.31	
Mastery	I learn new things (<i>J'apprends de nouvelles choses</i>)	1	5	3.02	2.93	1.25	1.10
	I seek out intellectual challenges (<i>Je recherche des défis intellectuels à relever</i>)	1	5	2.79		1.26	
	I do things that challenge me (<i>Je fais des choses qui me challengent</i>)	1	5	2.84		1.27	
	I do something to broaden my horizons (<i>Je fais quelque chose pour élargir mon horizon</i>)	1	5	3.07		1.24	
Control	I feel like I can decide for myself what to do (<i>J'ai l'impression de pouvoir décider quoi faire par moi-même</i>)	1	5	3.21	3.26	1.25	1.12
	I decide my own schedule (<i>Je décide de mon emploi du temps</i>)	1	5	3.35		1.29	
	I determine for myself how I will spend my time (<i>Je choisis moi-même comment je vais passer mon temps</i>)	1	5	3.33		1.26	
	I take care of things the way that I want them done (<i>Je fais les choses comme je le souhaite</i>)	1	5	3.17		1.24	

7.2.3. Control variables

With respect to **gender**, among CMA30 respondents, 48% are women (174 out of 360), 54% of AG2R La Mondiale respondents are women (187 out of 345), 45% of Amarok respondents are women (114 out of 251), and 39% of AIPALS respondents are women (34 out of 87). These

differences are statistically significant (ANOVA, $p < .05$). In terms of **age**, the average is 49.4 years for CMA30 respondents, 48.9 years for AG2R La Mondiale respondents, 53.6 years for Amarok respondents and 50.4 years for AIPALS respondents. These differences are statistically significant (ANOVA, $p < .001$). With respect to **life partner**, 73.6% of the CMA30 sample, 72.8% of the Amarok sample, 82.8% of the AIPALS sample and 36.2% of the AG2R La Mondiale sample are part of a couple. These differences are statistically significant (ANOVA, $p < .001$). With respect to **education level**, 12.8% of the CMA30 respondents, 24.3% of the AG2R respondents, 63.2% of the Amarok respondents, and 37.9% of the AIPALS respondents had a master's degree or higher. These differences with Amarok respondents may be due to Amarok being a research-oriented association, which may attract a population with a higher level of education. These differences are statistically significant (ANOVA, $p < .001$). The average **executive experience** is 10.9 years in the CMA30 sample, 14.8 years in the AG2R La Mondiale sample, 16.4 years in the Amarok sample and 13.3 years in the AIPALS sample. These differences are statistically significant (ANOVA, $p < .001$). In terms of **business size**, 96.9% of the CMA30 sample consists of very small businesses (with 10 or fewer employees), compared with 80% of the AG2R La Mondiale sample, 69.3% of the Amarok sample and 62.1% of the AIPALS sample. These differences are statistically significant (ANOVA, $p < .001$). On the other hand, businesses without employees account for 68.3% of the CMA30 sample, compared with 9% in the AG2R La Mondiale sample, 27.8% in the Amarok sample and 5.7% in the AIPALS samples. These differences are statistically significant (ANOVA, $p < .001$). In terms of **capital ownership**, 77.7% of the CMA30 respondents own 100% of their company's capital, compared with 51% for the AG2R La Mondiale respondents, 50.6% of the Amarok respondents and 39.1% of the AIPALS respondents. These differences are statistically significant (ANOVA, $p < .001$). In terms of the **type of entrepreneur (ToE)**, 81.9% of CMA30 respondents are business founders, 11.9% represent a nonfamily takeover and 6.1% represent a family takeover; 49.9% of AG2R La Mondiale respondents represent a nonfamily takeover, 40.9% are business founders and 9.3% represent a family takeover; 61% of Amarok respondents are business founders, 19.9% represent a nonfamily takeover and 19.1% represent a family takeover; and 56.3% of AIPALS respondents are business founders, 26.4% represent a nonfamily takeover and 17.2% represent a family takeover. These differences are statistically significant (ANOVA, $p < .001$).

Table A.2 presents correlations among key variables within the sample, based on data from four combined databases. Notably, Overall DRE is strongly and positively correlated with well-being ($r = .52$, $p < .01$), suggesting that higher levels of daily recovery experiences are associated with improved well-being. Burnout shows significant negative correlations with several recovery-related factors, including Overall DRE ($r = -.56$, $p < .01$), Detachment ($r = -.39$, $p < .01$), and Relaxation ($r = -.46$, $p < .01$), underscoring the inverse relationship between effective recovery practices and burnout levels. Gender differences appear minimally related to recovery variables, with a small but significant positive correlation with age ($r = .15$, $p < .01$) and well-being ($r = .17$, $p < .01$) whereas business size shows a weak but significant correlation with burnout ($r = -.10$, $p < .01$), potentially indicating that individuals in larger businesses may experience slightly lower burnout. Family founder status is positively correlated with executive experience ($r = .49$, $p < .01$) which may reflect the additional responsibility and experience involved in founding a family business. These results highlight the multifaceted role of recovery experiences, demographics, and organizational factors in influencing well-being and burnout among small business owners.

Supplementary material 2: Correlations between DRE, well-being and burnout for the four surveys

Table B.1: Correlations of the CMA30 database (n=360)

Variables	(1)	(2)	(3)	(4)	(5)
(1) Detachment	1.00				
(2) Relaxation	.56**				
(3) Mastery	.22**	.48**			
(4) Control	.35**	.48**	.41**		
(5) Well-being	.26**	.39**	.29**	.42**	
(6) Burnout	-.30**	-.34**	-.24**	-.42**	-.59**

Note: * $p < .05$. ** $p < .01$.

Table B.2: Correlations of the AG2R La Mondiale database (n=345)

Variables	(1)	(2)	(3)	(4)	(5)
(1) Detachment	1.00				
(2) Relaxation	.65**				
(3) Mastery	.34**	.39**			
(4) Control	.49**	.59**	.53**		
(5) Well-being	.34**	.43**	.35**	.46**	
(6) Burnout	-.44**	-.46**	-.37**	-.53**	-.66**

Note: * $p < .05$. ** $p < .01$.

Table B.3: Correlations of the Amarok database (n=251)

Variables	(1)	(2)	(3)	(4)	(5)
(1) Detachment	1.00				
(2) Relaxation	.56**				
(3) Mastery	.21**	.31**			
(4) Control	.38**	.54**	.46**		
(5) Well-being	.32**	.49**	.38**	.42**	
(6) Burnout	-.36**	-.49**	-.37**	-.53**	-.65**

Note: * $p < .05$. ** $p < .01$.

Table B.4: Correlations of the AIPALS database (n=87)

Variables	(1)	(2)	(3)	(4)	(5)
(1) Detachment	1.00				
(2) Relaxation	.54**				
(3) Mastery	.11	.23*			
(4) Control	.51**	.65**	.33**		
(5) Well-being	.43**	.48**	.39**	.52**	
(6) Burnout	-.50**	-.56**	-.27*	-.61**	-.74**

Note: * $p < .05$. ** $p < .01$.

Supplementary material 3: Linear regression results with well-being and burnout as dependents for the four surveys and the total survey

Table C.1: Regression of the Amarok database with well-being and burnout as dependent variables (n=228)

Variable	Well-being		Burnout	
	Coefficient	Std. Error	Coefficient	Std. Error
Constant	20.50	12.63	6.37**	0.62
Overall DRE	16.19**	1.73	−0.96**	0.09
Gender	−11.29**	2.55	0.65**	0.13
Age (years)	−0.18	0.18	0.00	0.01
Life partner	2.32	2.89	−0.14	0.14
Education level	0.36	1.18	−0.09	0.06
Executive experience	0.18	0.17	0.01	0.01
Business size	−5.65	2.98	0.29	0.15
Capital ownership	−0.03	0.04	−0.00	0.00
ToE: family takeover	−8.37*	4.17	0.06	0.21
ToE: business founders	−2.59	3.45	0.04	0.17
R ² /Adjusted R ² /F	0.36/0.33/12.20		0.42/0.40/16.00	

*Note: * $p < .05$, ** $p < .001$. Gender: male = 0, female = 1; Life partner: yes = 0, no = 1; Education level: none = 1 to PhD = 6; Business size: less than 10 employees = 0, more than 10 employees = 1; family takeover: no = 0, yes = 1; business founders: no = 0, yes = 1.*

Table C.2: Regression of the AG2R La Mondiale database with well-being and burnout as dependent variables (n=329)

Variable	Well-being		Burnout	
	Coefficient	Std. Error	Coefficient	Std. Error
Constant	7.86	10.23	6.64**	0.57
Overall DRE	14.57**	1.41	−0.87**	0.07
Gender	0.75	2.47	0.25*	0.13
Age (years)	0.07	0.17	−0.01	0.01
Life partner	1.31	2.60	−0.08	0.13
Education level	−0.83	0.99	−0.06	0.05
Executive experience	−0.10	0.18	0.01	0.01
Business size	3.27	3.18	0.09	0.06
Capital ownership	−0.02	0.04	0.00	0.00
ToE: family takeover	−1.19	4.64	−0.14	0.23
ToE: business founders	−1.14	2.65	0.02	0.13
R ² /Adjusted R ² /F	0.26/0.24/11.10		0.35/0.33/16.90	

*Note: * $p < .05$, ** $p < .001$. Gender: male = 0, female = 1; Life partner: yes = 0, no = 1; Education level: none = 1 to PhD = 6; Business size: less than 10 employees = 0, more than 10 employees = 1; family takeover: no = 0, yes = 1; business founders: no = 0, yes = 1.*

Table C.3: Regression of the AIPALS database with well-being and burnout as dependent variables (n=86)

Variable	Well-being		Burnout	
	Coefficient	Std. Error	Coefficient	Std. Error
Constant	-33.45	19.43	7.46**	1.00
Overall DRE	22.69**	2.97	-1.29**	0.15
Gender	2.96	4.30	0.37	0.22
Age (years)	0.64*	0.28	-0.02	0.01
Life partner	-8.69	5.61	0.32	0.29
Education level	-0.94	1.58	0.00	0.08
Executive experience	-0.81*	0.27	0.01	0.01
Business size	2.59	4.42	0.27	0.23
Capital ownership	0.03	0.07	0.00	0.00
ToE: family takeover	-8.15	7.14	0.61	0.67
ToE: business founders	-6.76	5.26	0.48	0.27
R ² /Adjusted R ² /F	0.52/0.46/8.03		0.55/0.49/9.24	

*Note: * $p < .05$, ** $p < .001$. Gender: male = 0, female = 1; Life partner: yes = 0, no = 1; Education level: none = 1 to PhD = 6; Business size: less than 10 employees = 0, more than 10 employees = 1; family takeover: no = 0, yes = 1; business founders: no = 0, yes = 1.*

Table C.4: Regression of the CMA30 database with well-being and burnout as dependent variables (n=350)

Variable	Well-being		Burnout	
	Coefficient	Std. Error	Coefficient	Std. Error
Constant	20.16*	10.16	6.06**	0.61
Overall DRE	13.86**	1.42	-0.71**	0.09
Gender	-5.81*	2.51	0.14	0.15
Age (years)	0.06	0.13	-0.01	0.01
Life partner	-4.59	2.70	0.46*	0.16
Education level	-1.02	1.01	-0.07	0.06
Executive experience	-0.04	0.14	-0.01	0.01
Business size	0.52	6.67	0.09	0.40
Capital ownership	-0.06	0.04	0.00	0.00
ToE: family takeover	-8.16	5.67	0.43	0.34
ToE: business founders	-6.69	3.71	0.37	0.22
R ² /Adjusted R ² /F	0.26/0.23/11.60		0.23/0.21/10.00	

*Note: * $p < .05$, ** $p < .001$. Gender: male = 0, female = 1; Life partner: yes = 0, no = 1; Education level: none = 1 to PhD = 6; Business size: less than 10 employees = 0, more than 10 employees = 1; family takeover: no = 0, yes = 1; business founders: no = 0, yes = 1.*

Table C.5: Regression of the four databases with well-being and burnout as dependent variables (n=993)

Variable	Well-being		Burnout	
	Coefficient	Std. Error	Coefficient	Std. Error
Constant	7.38	5.62	6.51**	0.30
Overall DRE	15.17**	0.82	−0.86**	0.04
Gender	−4.75**	1.38	0.36**	0.07
Age (years)	0.08	0.08	−0.01*	0.00
Life partner	−0.67	1.40	0.14	0.08
Education level	0.23	0.52	−0.10**	0.03
Executive experience	−0.01	0.09	0.00	0.00
Business size	0.57	1.84	0.15	0.10
Capital ownership	−0.04	0.02	0.00	0.00
ToE: family takeover	−5.90*	2.44	0.14	0.13
ToE: business founders	−3.68*	1.58	0.19*	0.08
R ² /Adjusted R ² /F	0.29/0.28/39.2		0.33/0.32/47.90	

Note: * $p < .05$, ** $p < .001$. Gender: male = 0, female = 1; Life partner: yes = 0, no = 1; Education level: none = 1 to PhD = 6; Business size: less than 10 employees = 0, more than 10 employees = 1; family takeover: no = 0, yes = 1; business founders: no = 0, yes = 1.

Table C.6: Regression of the four databases and the four dimensions of DRE with well-being and burnout as dependent variables (n=993)

Variable	Well-being		Burnout	
	Coefficient	Std. Error	Coefficient	Std. Error
Constant	8.07	4.83	6.50**	0.27
Detachment	0.53	0.82	−0.16**	0.04
Relaxation	5.48**	0.85	−0.21**	0.05
Mastery	2.97**	0.71	−0.05	0.04
Control	5.48**	0.78	−0.40**	0.04
Gender	−4.44**	1.38	0.37**	0.08
Age (years)	0.08	0.08	−0.01*	0.00
Life partner	−0.75	1.39	0.13	0.08
Education level	0.08	0.52	−0.11**	0.03
Executive experience	−0.00	0.09	0.00	0.00
Business size	0.61	1.88	0.15	0.10
Capital ownership	−0.04	0.02	0.00	0.00
ToE: family takeover	−6.25*	2.43	0.18	0.13
ToE: business founders	−4.16*	1.57	0.23*	0.08
R ² /Adjusted R ² /F	0.30/0.29/32.20		0.35/0.34/37.20	

Note: * $p < .05$, ** $p < .001$. Gender: male = 0, female = 1; Life partner: yes = 0, no = 1; Education level: none = 1 to PhD = 6; Business size: less than 10 employees = 0, more than 10 employees = 1; family takeover: no = 0, yes = 1; business founders: no = 0, yes = 1.