

Hinderer, Sebastian; Kuckertz, Andreas

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## RESEARCH ARTICLE

# Degrowth attitudes among entrepreneurs hinder fast venture scaling

Sebastian Hinderer  | Andreas Kuckertz 

Entrepreneurship Research Group, University of Hohenheim, Stuttgart, Germany

**Correspondence**

Andreas Kuckertz, Entrepreneurship Research Group, University of Hohenheim, Wollgrasweg 49, 70599 Stuttgart, Germany.

Email: [andreas.kuckertz@uni-hohenheim.de](mailto:andreas.kuckertz@uni-hohenheim.de)**Abstract**

The degrowth paradigm has gained popularity in the sustainability discourse in recent years. Questioning the absolute decoupling of economic growth from environmental degradation, degrowth proponents suggest downscaling production and consumption to reduce resource extraction and energy consumption. However, this seems to be at odds with conventional wisdom about entrepreneurship. Thus, our research aims to shed light on the implications of the degrowth discourse on entrepreneurship. We answer how degrowth attitudes among (sustainable) entrepreneurs are associated with decision-making on scaling strategies for their ventures. Differentiating between scaling fast and scaling slow strategies, we show that a degrowth attitude is negatively associated with scaling fast strategies, whether entrepreneurs consider themselves sustainable or not. However, sustainable entrepreneurship is positively associated with scaling slow strategies. Furthermore, we show that the development level of the economy an entrepreneur is active in is an essential factor in the decision-making on scaling strategies.

**KEYWORDS**

degrowth, green growth, scaling, social impact, sustainable entrepreneurship

## 1 | INTRODUCTION

Within the last decade, sustainable entrepreneurship has emerged as a prominent subfield of entrepreneurship research (Anand et al., 2021). It has been promoted as a promising factor in fostering economic activity without undermining the ecological and social environment, contributing to a transition toward sustainable development (Hinderer & Kuckertz, 2022; Shepherd & Patzelt, 2011). Recently, researchers have introduced the concept

of scaling social impact into the debate (Islam, 2020; Shepherd & Patzelt, 2022). It promises to accelerate the growth of sustainable startups and, thus, solutions to pressing social and ecological problems they address.

In contrast, whether unlimited economic growth is possible and desirable on a planet with limited resources has been central to the sustainability discourse since the Club of Rome published “The Limits to Growth” (Meadows et al., 1972). Undeniably, human activity has pushed the Earth system beyond planetary boundaries, bearing the risk of exiting a “safe operating space” for humanity (Steffen et al., 2015). And indeed, economic growth and consumption of affluent households in high-income countries have the most substantial environmental and social impact (Fanning et al., 2021; Wiedmann et al., 2020). Hence, especially in these countries, a debate evolved on

**Abbreviations:** aBIC, adjusted Bayesian information criterion; BIC, Bayesian information criterion; cAIC, consistent Akaike information criterion; CFA, confirmatory factor analysis; EFA, exploratory factor analysis; GEM, global entrepreneurship monitor; GDP, gross domestic product; HDI, human development index; IC, information criterion; IHDI, inequality-adjusted human development index; LCA, latent class analysis.

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whether economic growth, ecological degradation reduction, and a transition to sustainable development are combinable.

Moreover, research often conceptualizes business sustainability as balancing short- and long-term goals on firm and system levels (Bansal & DesJardine, 2014). It seems evident that fast growth strategies risk favoring short-term over long-term outcomes. However, sustainable entrepreneurs who are skeptical about growth cannot unfold the full potential of their venture, as they can only have a significant impact when scaling their startups (Hörisch, 2015). Thus, it remains unclear how sustainable entrepreneurs deal with the tensions and ambiguities of the growth debate and how it affects their decisions. So far, we know little about whether the discussion and confusion about different growth paradigms on a macroeconomic level influence their behavior as decision-makers within their firm on the micro level.

Hence, this study addresses the research question of how sustainable entrepreneurs' attitude toward economic growth on a macro level relates to their attitude toward firm growth and its operationalization on the micro level. In doing so, we aim to shed light on the interface of the academic discourses on the relationship between economic growth and environmental degradation on the one hand and sustainable entrepreneurship on the other hand. We provide two potential contributions to these academic discourses: First, we move forward our understanding of scaling sustainable ventures by investigating factors influencing entrepreneurs' decision-making on scaling. Second, we link the sustainable entrepreneurship field closer to the theory on sustainability transitions, especially the inherent growth paradigms.

In the remainder of this paper, we first explain the underlying theoretical framework, focusing mainly on the dominant positions of the "growth vs. environment" debate and the phenomenon of scaling social impact. Subsequently, we describe the data collection and analysis process before illustrating our findings in detail in the results section. Finally, we discuss our work's contribution and potential implications for theory and practice before we close with a brief conclusion.

## 2 | THEORETICAL FRAMEWORK

### 2.1 | Scaling of sustainable new ventures

Next to innovative behavior and profit-seeking, growth orientation has been one of the critical characteristics of an entrepreneurial firm, differentiating it from small businesses (Carland et al., 1984). While gaining access to the resources needed for firm growth has been described as the "first" entrepreneurial problem, keeping the typical and advantageous flexibility of an entrepreneurial firm after the accumulation of these resources is the "second" entrepreneurial dilemma (Jarillo, 1989). More recently, the challenge of internal organization in phases of rapid firm growth has been debated under the term "scaling" (Desantola & Gulati, 2017), defined as "spreading excellence within an organization as it grows" (Shepherd & Patzelt, 2022, p. 255).

Recent conceptualizations of sustainable entrepreneurship include social and environmental goals beyond the classical ideal of

profitability (Battilana & Dorado, 2010; Shepherd & Patzelt, 2011). Doing so leads to the question of how to scale not only the entrepreneurial firm, that is, the organization, but also its intended social and environmental impact—in the extant literature, often termed simply as social impact but meant to include social and environmental dimensions of sustainable development. While scaling the organization can complement scaling its social impact, it does not necessarily have to (Shepherd & Patzelt, 2022).

Thus, a separate literature stream emerged addressing the question of social impact scaling strategies (Gupta et al., 2020; Islam, 2022). In accordance with the definition of organizational scaling, scaling social impact can be defined as "spreading the solution to address a social problem" (Shepherd & Patzelt, 2022, p. 256). However, scaling social impact strategies can vary regarding the intended increased positive changes to society—either qualitative or quantitative—and can be reached through one or more scaling paths (Islam, 2020).

Two overarching strategies characterize these different scaling paths (Islam, 2022): On the one hand, an ecosystem growth strategy aims to create a supportive environment for sustainability-oriented ventures. On the other hand, an organizational growth strategy seeks to scale impact by introducing new products and services and expanding the venture's geographical outreach. While both strategies are not mutually exclusive, the first does not necessarily require organizational scaling, whereas the latter is complementary to scaling the organization.

Focusing only on organizational growth strategies, Kim and Kim (2022) recently proposed a new concept for the growth of sustainability-oriented ventures. They conceptualized venture growth as a spatiotemporal phenomenon that unfolds at a particular spatiotemporal scale; that is, it can have a different pace and cover different geographical areas (Kim & Kim, 2022). They follow up on the recent discourse to view scale in the context of organizations from an ecological perspective defined as "the spatial and temporal attributes of a process" (Bansal et al., 2018, p. 220). In doing so, they further develop the concept of scaling from being equated with rapid growth in size to a process of growth that can unfold at different paces and geographical outreach (Kim & Kim, 2022). Applied to the concept of scaling new ventures, this means that entrepreneurs face the option to either scale up (fast geographical expansion) or to scale deep (slow strengthening of local embeddedness) (Kim & Kim, 2022). Both modes of venture growth can be potentially beneficial for sustainable development. However, they differ in either an explosive and widespread contribution (scaling up) or a locally focused and enduring contribution (scaling deep) (Kim & Kim, 2022).

Still, what remains unclear are the factors affecting the decision for a particular scaling strategy. Research has shown that strategic decision-making on achieving social impact is complex, not just simply a dichotomy between social and economic missions (Liu et al., 2021; Muñoz & Kimmitt, 2019). Moreover, not only organizational characteristics but also factors on the individual level affect scaling decisions (Smith et al., 2016). Thus, in the following, we briefly describe the three dominant positions in the "growth versus environment" debate and outline their implications on entrepreneurship and firm growth.

## 2.2 | Growth paradigms

The Club of Rome's famous report "The Limits to Growth" raised the question of whether unlimited economic growth is feasible and desirable on a planet with finite resources (Meadows et al., 1972). It sparked an ongoing and polarized "growth versus environment" debate (van den Bergh, 2011). To avoid confusion right from the beginning, growth or economic growth always means growth of gross domestic product (GDP) or GDP per capita in the context of this debate. It resulted in three growth-related paradigms and respective underlying visions of a transition toward sustainable development. These paradigms are the agrowth, green growth, and degrowth paradigms, where agrowth emerged as an option to depolarize the debate between proponents of the green growth and the opposing degrowth paradigm (van den Bergh, 2017). In the following, we outline the basic idea of each growth paradigm before we describe in more detail the implications of each paradigm on entrepreneurship and firm growth, revealing the degrowth paradigm as the one most at odds with the conventional principles of entrepreneurial action.

### 2.2.1 | Agrowth, green growth, and degrowth

The agrowth paradigm emerged as a "third option" (van den Bergh, 2017) in the polarized debate of progrowth (i.e., green growth) proponents versus antigrowth (i.e., degrowth) proponents. The agrowth paradigm is agnostic to growth, putting the increase of social welfare within planetary boundaries as the central target, regardless of whether this results in an increase or decrease in growth (van den Bergh, 2011, 2017). In this sense, "economic growth then becomes desirable or undesirable only to the extent that it increases or decreases welfare" (Jakob & Edenhofer, 2014, p. 453).

In contrast, the green growth paradigm is explicitly progrowth. It gained attention in the "growth versus environment" debate as several influential international institutions, such as the OECD (2011), UNEP (2011), and the World Bank (2012), promote it in several of their reports (Hickel & Kallis, 2020; Jakob & Edenhofer, 2014). Thus, it is the currently dominating paradigm in most climate policies. The paradigm assumes decoupling economic growth from environmental impact is possible (Hickel & Kallis, 2020). However, such a decoupling would mean that increased resource efficiency would be insufficient; instead, greenhouse gas emissions or the extraction of nonrenewable resources must decline as fast as economic output rises (Jackson & Victor, 2019). Thus, absolute decoupling requires technological advancements in cleaner production (Jackson & Victor, 2019), brought about by investments in education, infrastructure, and entrepreneurship (Bowen et al., 2012).

However, proponents of the degrowth paradigm question whether absolute decoupling is possible since there is no evidence for such absolute decoupling in historical data on increases in resource efficiency (Hickel & Kallis, 2020). Thus, they propose sustainable degrowth (Kallis, 2011), defined as "equitable downscaling of

production and consumption that increases human well-being and enhances ecological conditions at the local and global level, in the short and long term" (Schneider et al., 2010, p. 511). On the other hand, critics state that the degrowth paradigm is neither efficient nor effective in reducing ecological damage (Jakob & Edenhofer, 2014; van den Bergh, 2011). It is ineffective since it will hardly receive much social and democratic-political support due to its implied reduction of income and the risk of a period of economic instability characterized by high unemployment (van den Bergh, 2011, 2017). Moreover, it is also inefficient since, for example, in the case of greenhouse gas emissions, the most expensive technological mitigation options are considered less costly than simply reducing income (Jakob & Edenhofer, 2014).

Furthermore, since a period of degrowth can hardly be controlled or planned, there is no guarantee that production will not become less resource-efficient and, thus, even more polluting (van den Bergh, 2017). Additionally, the degrowth debate mainly occurs in high-income countries (Weiss & Cattaneo, 2017) and neglects implications for developing economies (Cosme et al., 2017). Thus, it is less relevant to these economies and considered a call to developed economies "where reduced consumption can save 'ecological space' enabling people in poor countries to enjoy the benefits of economic growth" (Xue et al., 2012, p. 85).

### 2.2.2 | Implications for entrepreneurship and firm growth

As mentioned above, agrowth is agnostic about economic growth and puts an increase in social welfare at the center of economic policy. Hence, deriving implications on entrepreneurship and firm growth is complex. But eventually, from an agrowth perspective, entrepreneurship and firm growth must also be evaluated based on their contribution to increasing social welfare.

In contrast, the green growth paradigm contains obvious implications for entrepreneurship and firm growth. Efforts to stimulate entrepreneurship are central to the green growth paradigm to generate the innovations needed for a transformation toward sustainable development (Bowen et al., 2012) and promoted by the OECD (2011) and the World Bank (2012) in their respective policy papers. Green growth includes a Schumpeterian perspective where "greening" the economy can be seen as an industrial revolution offering enormous opportunities for innovations by creative entrepreneurs who challenge incumbents of the fossil economy (Bowen & Fankhauser, 2011). Exploiting these opportunities may trigger "a Schumpeterian burst of growth" (Stern, 2008, p. 11), while sustainable technology transfer and sustainable innovations, in turn, further promote green growth (Fernandes et al., 2021).

The degrowth literature, however, remains vague regarding implications for entrepreneurship, innovation, and firm growth (Cyron & Zoellick, 2018). While the degrowth debate is well established within ecological economics (Martínez-Alier et al., 2010) and also gained popularity in the popular scientific literature (Jackson, 2016), business

has been so far mostly left out in the debate (Khmara & Kronenberg, 2018). Degrowth in a business context seems to be an “oxymoron” (Khmara & Kronenberg, 2018) or a “paradox” (Edwards, 2021) and potentially discourages entrepreneurs to grow and scale their businesses (Chistov et al., 2023). However, two recent special issues show the increasing interest of scholars in the implications of degrowth for business, innovation, and technology (Banerjee et al., 2021; Kerschner et al., 2018), though implications specifically for entrepreneurship are rare.

The degrowth paradigm requires a fundamentally different understanding of business (Khmara & Kronenberg, 2018), including organizations contributing to wealth distribution instead of accumulation, resource restoration instead of extraction, cooperation instead of competition, and sufficiency instead of consumerism (Banerjee et al., 2021). Thus, business model innovation within the degrowth paradigm requires small-scale businesses operating in spatially bounded markets and a shift from products to less capital- and resource-intensive services, for example, in the case of car-sharing business models (Wells, 2018).

However, degrowth does not necessarily imply abandoning firm growth altogether. Instead, a degrowth perspective requires firm growth embedded in the firm's social-ecological environment (Edwards, 2021) and minimizing its social-ecological impact (Khmara & Kronenberg, 2018). Muñoz and Cohen (2017) proposed a similar understanding of sustainable entrepreneurship as new venture creation in synchronicity with the social-ecological systems surrounding the new venture, though not relating this to degrowth. And indeed, sustainable entrepreneurs sometimes tend to oppose consumerism and growth because they worry they have to abandon their ideals (Hockerts & Wüstenhagen, 2010). Moreover, empirical data show that a significant fraction of small and medium-sized enterprises grow only slowly or have no intention to grow (Gebauer, 2018). However, it is unclear whether this results from a degrowth attitude or simply provides a more realistic picture of entrepreneurship, where fast-growing unicorns, that is, startups achieving a valuation of more than one billion USD in a very short time, are rather the exception than the rule (Aldrich & Ruef, 2018). However, “if sustainable entrepreneurs follow a de-growth logic in the sense that they limit the market effect of their own venture and the respective positive externalities to small niches, the paradigm is picked up by those very businesses whose growth will support a more sustainable development” (Hörisch, 2015, p. 296).

### 3 | HYPOTHESES DEVELOPMENT

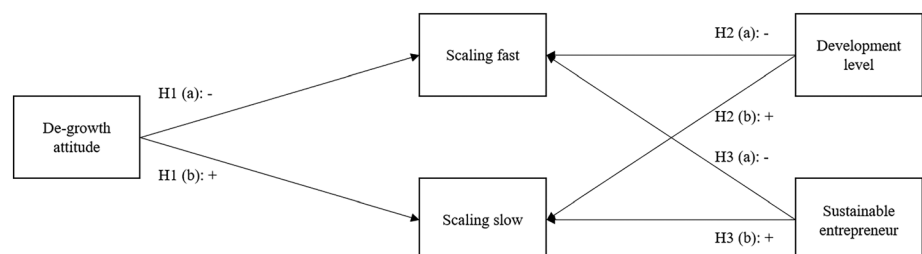
In the following, we argue for the linkage between scaling strategies and a degrowth attitude, the development level of the entrepreneurs' countries of origin, and the self-perception as a sustainable entrepreneur. Figure 1 visualizes the resulting hypothesized model.

As outlined above, sustainable entrepreneurs can achieve social impact scaling by scaling their venture, a spatiotemporal phenomenon (Islam, 2022; Kim & Kim, 2022). Focusing only on the concept's temporal axis allows one to differentiate between *scaling fast* and *scaling slow* strategies, as has been done in previous research (Stallkamp et al., 2022). While *scaling fast* strategies aim for fast speed and exponential growth, *scaling slow* strategies aim for an enduring contribution unfolding with lower speed over a longer time horizon (Kim & Kim, 2022).

#### 3.1 | Hypothesis 1—degrowth attitude and scaling strategies

Interestingly, personal values influence the choice of a scaling strategy (Smith et al., 2016). Entrepreneurs' opinions on the “growth versus environment” debate are personal values. Research has summarized these values in mutually exclusive opinion clusters, each showing agreement with one of the dominant paradigms in the discussion, that is, green growth, degrowth, and agrowth (Drews et al., 2019). As mentioned above, the green growth paradigm is not only progrowth but also sees innovation and entrepreneurship in a Schumpeterian sense of “creative destruction” as a key toward sustainable development (Bowen & Fankhauser, 2011). In contrast, the degrowth paradigm is generally antigrowth and seems contradictory to the conventional principles of entrepreneurial action. It promotes firm growth embedded in the social-ecological environment (Edwards, 2021), showing longer time cycles typically as those compressed time cycles of socio-material constructs like firms and markets (Bansal & Knox-Hayes, 2013). Moreover, degrowth proponents tend to be skeptical about the sustainability impact of increased resource efficiency—as outlined above (Hickel & Kallis, 2020), which could otherwise be cited as an argument for rapid scaling. Hence, we argue the following:

**H1a.** A *degrowth attitude* of entrepreneurs is negatively associated with a preference for *scaling fast* strategies.



**FIGURE 1** Visualization of the hypothesized model.

**H1b.** A *degrowth attitude* of entrepreneurs is positively associated with a preference for *scaling slow* strategies.

### 3.2 | Hypothesis 2—development level of the economy and scaling strategies

The “growth versus environment” debate has shown that GDP is a flawed measure of welfare (van den Bergh, 2011) and has, indeed, weaknesses in measuring the multiple dimensions of well-being (Kubiszewski et al., 2013). Nevertheless, growth in GDP per capita shows correlations with individuals' well-being, though at the cost of ecological sustainability (Fritz & Koch, 2016), and is positively correlated with human development (Suri et al., 2011). Furthermore, and maybe more importantly, whether appropriate or not, GDP has evolved over the last decades in politics and the broader public as a standard indicator for development and prosperity (van den Bergh, 2010). However, the degrowth discourse mainly takes place in high-income economies (Weiss & Cattaneo, 2017), and implications for developing economies have been largely neglected (Cosme et al., 2017). However, in contrast, in these economies, degrowth is seen as a call to developed economies to reduce consumption and production to allow for growth within planetary boundaries in developing economies (Xue et al., 2012). Moreover, prior research has shown that entrepreneurship is essential in promoting economic growth and contributing to employment and innovation (Acs et al., 2011; Galindo & Méndez, 2014; Van Praag & Versloot, 2007). Thus, in developing economies, a possible *degrowth attitude* may not sufficiently explain the decision for a particular scaling strategy. On the contrary, entrepreneurs in developing economies may want to contribute to economic growth and increase development by scaling their enterprises rapidly to generate sufficient income and create employment. Hence,

**H2a.** The *development level* of the economy an entrepreneur is active in is negatively associated with a preference for *scaling fast* strategies.

**H2b.** The *development level* of the economy an entrepreneur is active in is positively associated with a preference for *scaling slow* strategies.

### 3.3 | Hypothesis 3—sustainable entrepreneurs and scaling strategies

Through the lens of temporality, research defines business sustainability as “the ability of firms to respond to their short-term financial needs without compromising their (or others') ability to meet their future needs” (Bansal & DesJardine, 2014, p. 71). Hence, short-termism potentially compromises sustainable development (Bansal & Knox-Hayes, 2013), as recent empirical research shows (DesJardine & Durand, 2020). Furthermore, through the lens of temporality, research

defines venture scaling as organizational growth that unfolds at a particular temporal scale (Kim & Kim, 2022). However, while the time needed to scale a new venture can be compressed, the biophysical cycles of the natural environment (e.g., carbon absorption by plants for growth through photosynthesis) cannot be compressed in time (Bansal & Knox-Hayes, 2013). Moreover, quickly scaling up new ventures requires external financing, for example, venture capital, to gather the resources needed for rapid firm growth (Kim & Kim, 2022). This dilemma bears the risk of running into a “speed trap” (Perlow et al., 2002, p. 937), where new ventures are forced to act ever faster to generate growth and returns so that they eventually achieve a new favorable round of fundraising (Kim & Kim, 2022; Perlow et al., 2002). However, not only does acting fast often necessitate compromising sustainability as outlined above (Bansal & DesJardine, 2014) but also the need to prioritize shareholders' interests over other stakeholders' concerns may cause mission drift (Ebrahim et al., 2014). Thus, sustainable entrepreneurs sometimes seem critical of fast growth since they worry they must abandon their ideals (Hockerts & Wüstenhagen, 2010). Hence, applying the logic of scaling,

**H3a.** Considering oneself as a *sustainable entrepreneur* is negatively associated with a preference for *scaling fast* strategies.

**H3b.** Considering oneself as a *sustainable entrepreneur* is positively associated with a preference for *scaling slow* strategies.

## 4 | METHODS

### 4.1 | Sample and data collection

Our research design and data collection received approval from our university's ethics committee. In a pretest, we investigated the connection between entrepreneurs' attitudes toward economic growth and their preferred scaling strategies. Therefore, we surveyed 98 entrepreneurs from the “Sustainability” category from Crunchbase. Over the years, the Crunchbase database established itself as a reliable and premier source for startup-related research (Dalle et al., 2017). An OLS regression analysis revealed a significant negative association between a *degrowth attitude* and *scaling fast* for the pretest sample ( $b = -1.8118$ ,  $p < .001$ , adjusted  $R^2 = .234$ ). These findings gave us the confidence to commission an online panel provider to survey a more comprehensive global sample and test the complete hypotheses.

Consequently, we surveyed entrepreneurs via the online research platform Prolific. They received financial compensation for their participation. Compared to other research platforms, participants from Prolific are less dishonest and fail fewer attention checks while producing data of higher quality (Peer et al., 2017). Furthermore, the Prolific master data allow prescreening for entrepreneurs as the only possible survey participants. Thus, it has already been used for

rigorous entrepreneurship research (Brändle et al., 2023; Engel et al., 2020; Gunia et al., 2021). In total, 501 entrepreneurs finished the survey. After deleting those who failed our own screening for business owners and those entrepreneurs with a business older than 10 years, we ended up with a sample of  $n = 393$  entrepreneurs. The final sample was, on average, 32.25 years old. While 40% identified as male, 59% identified as female, and 1% as diverse. The entrepreneurs' firms were, on average, 3.80 years old. Furthermore, most firms came from the service sector (45.04%), followed by the retail trade sector (24.94%). Comparable smaller shares came from the finance, insurance, and real estate sector (7.63%), the manufacturing sector

(5.58%), and the transportation, communications, electric, gas, and sanitary services sector (4.83%), while the remaining 11.71% came from other sectors. Table 1 summarizes the industries of the participants' ventures.

## 4.2 | Measures

For the dependent variables, we created new scales based on the conceptualization of venture scaling as a spatiotemporal phenomenon by Kim and Kim (2022). We developed a six-item scale to measure participants' preference for *scaling fast* strategies and a three-item scale to measure a preference for *scaling slow* strategies (items in Table 2). Participants could answer on 7-point Likert scales from 1 (*strongly disagree*) to 7 (*strongly agree*).

For the independent variable *degrowth attitude*, we applied a 16-item survey module from (Drews et al., 2019) to assess participants' opinions on "growth versus environment" (see Table A1 in Appendix A). Participants could assess different statements on economic growth on 7-point Likert scales. Following (Drews et al., 2019), we used the "poLCA" package in R (Linzer & Lewis, 2011) to perform a latent class analysis (LCA). The LCA allows distinguishing between three opinion clusters: Green growth, degrowth, and agrowth. We coded the variable *degrowth attitude* as "1" if participants were in the

**TABLE 1** Industries<sup>a</sup> of the participants' ventures.

Industries	Percentage
Services	45.04
Retail trade	24.94
Finance, insurance, and real estate	7.63
Manufacturing	5.85
Transportation, communications, electric, gas, and sanitary services	4.83
Other	11.71

<sup>a</sup>Standard Industrial Classification (SIC) codes.

**TABLE 2** Results of the EFA and CFA for *scaling fast* and *scaling slow* measurement scales.

Items	Loadings in EFA (factor scaling fast)	Loadings in EFA (factor scaling slow)	Loadings in CFA
<i>Scaling fast</i> ( $\alpha = .89$ ; AVE = .58; sample mean = 4.56; SD = 1.29)			
We aim for the greatest possible impact within the shortest possible time. <sup>a</sup>	.68	.11	.67
To address our mission, we have speeded up our growth. <sup>a</sup>	.78	.10	.75
We aim for the exponential growth of our venture. <sup>a</sup>	.72	.13	.72
Fast growth has a high priority for us. <sup>a</sup>	.91	-.08	.92
We have grown quickly. <sup>a</sup>	.60	.22	.59
Fast growth is essential to us. <sup>a</sup>	.86	-.05	.88
<i>Scaling slow</i> ( $\alpha = .76$ ; AVE = .62; sample mean = 4.97; SD = 1.17)			
We have created new longstanding jobs. <sup>a</sup>	.39	.50	.50
We aim for duration instead of speed when expanding our business activity.	-.11	.49	
We have made an enduring contribution to our customers' lives and society. <sup>a</sup>	.19	.80	.92
Our organization's approach allows us to create an enduring contribution to our customers' lives and society. <sup>a</sup>	.17	.82	.87
We take the time we need to expand our business activities.	.02	.47	
Sum of squares (eigenvalue)	4.40	2.31	
Cumulative variance explained (%)	34.02	53.29	

Note: Measured on a seven-point Likert scale. CFA:  $\chi^2 = 177.11$ ; GFI = .91; CFI = .92; TLI = .89; RMSEA = .12.

<sup>a</sup>Item included in the final scale.

degrowth cluster and “0” if not. We had already employed this approach successfully in our pretest with a reduced 5-item question module validated by Savin et al. (2021).

Furthermore, we used the Inequality-adjusted Human Development Index (IHDI) from the United Nations Development Programme (UNDP, 2022b) to indicate the development level since GDP growth has been proven to be an insufficient measure of human well-being (Kubiszewski et al., 2013). The IHDI is based on the Human Development Index (HDI) but accounts for inequalities, that is, “the IHDI value equals the HDI value when there is no inequality across people but falls below the HDI value as inequality rises” (UNDP, 2022a). The HDI was created with the conviction that the well-being of people cannot be captured alone by measuring economic growth. Thus, the HDI covers the critical dimensions of a long and healthy life, knowledge, and a decent standard of living measured by gross national income per capita (UNDP, 2022a). The latter includes, in comparison to GDP, income generated from the domestic production of goods and services and income earned abroad; thus, both are highly correlated (Our World in Data, 2021). The IHDI ranges from 0 to 1.

We relied on operationalizations borrowed from the Global Entrepreneurship Monitor (GEM) to measure whether participants consider themselves sustainable entrepreneurs. Following the GEM (2022, p. 40), we asked participants to answer, “When making decisions about the future of my business, I always consider social implications” and “When making decisions about the future of my business, I always consider environmental implications” on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). We coded participants as sustainable entrepreneurs when they answered both questions with 4 or 5.

Finally, we included *age*, *gender*, and *firm age* as control variables. Moreover, we control for potential resource or knowledge constraints to ensure that there are no necessities resulting from the current economic situation of the entrepreneurs' enterprises biasing their preference for a scaling strategy. Thus, we included two established scales to measure the entrepreneurs' enterprises' possible financial and knowledge constraints (Keupp & Gassmann, 2013). Table 3 summarizes the descriptive statistics and correlations of all considered variables.

### 4.3 | Reliability and validity

As the measurement scales for *scaling fast* and *scaling slow* had to be newly developed, we first created a sizeable initial item pool of candidates for inclusion in the scales (DeVellis & Thorpe, 2021). To ensure content validity, we stayed close to the wording of Kim and Kim (2022) when generating 15 item candidates for each scale (DeVellis & Thorpe, 2021). We then used these item candidates in our pretest.

To reduce the number of items to those performing best in revealing the latent variables and ensuring internal consistency and unidimensionality of the scales (DeVellis & Thorpe, 2021), we applied exploratory factor analysis (EFA) using the FactorAnalyzer package in Python (Persson & Khojasteh, 2021). To validate the two scales

further, we subsequently applied confirmatory factor analysis (CFA) using the *semopy* package in Python (Ilgolkina & Meshcheryakov, 2020).

To measure *scaling fast* and *scaling slow* in our final sample, we used the six best-performing items from the pretest for each variable. We repeated EFA and CFA for the final sample to validate the two scales further. Table 2 summarizes the outcomes. Following our theoretical reasoning for the EFA, we extracted two factors by applying a varimax rotation. The results showed significant factor loadings for all items (Hair et al., 2019). However, the EFA revealed critical cross-loading of one item, so we deleted it before repeating the EFA. The resulting factors of the final EFA have eigenvalues greater than one and explain 53.3% of the variance, which can be considered satisfactory in social sciences studies (Hair et al., 2019; Peterson, 2000).

The subsequent CFA revealed factor loadings below the critical threshold of .5 (Hair et al., 2019) for two items, which also led to their deletion before we also repeated the CFA, resulting in a good model fit ( $\chi^2 = 177.11$ ; GFI = .91; CFI = .92; TLI = .89; RMSEA = .12). The AVE for the remaining items of each scale is above .5 (*scaling fast* AVE = .58, *scaling slow* AVE = .62), indicating convergent validity (Hair et al., 2019). The AVEs of both constructs are greater than the square of the correlation estimate of the two constructs ( $.23^2 = .05$ ), indicating discriminant validity between the two constructs. Cronbach's alphas for both scales are higher than .7 (*scaling fast*  $\alpha = .89$ , *scaling slow*  $\alpha = .77$ ).

To determine the appropriate number of opinion clusters to code the variable *degrowth attitude*, we followed (Drews et al., 2019; Savin et al., 2021) considering three information criteria (ICs): consistent Akaike information criterion (cAIC), Bayesian information criterion (BIC), and adjusted BIC (aBIC). We decided to use three clusters as suggested by the BIC, though the cAIC suggests two clusters and the aBIC suggests four clusters but with only a marginal difference to three clusters (see Figure 2). However, the BIC is considered the superior IC (Nylund et al., 2007), and three clusters allow for a meaningful interpretation following Drews et al. (2019). For the control variables, *financial constraints* and *knowledge constraints*, we calculated Cronbach's alpha values (*financial constraints*  $\alpha = .83$ , *knowledge constraints*  $\alpha = .76$ ).

## 5 | RESULTS

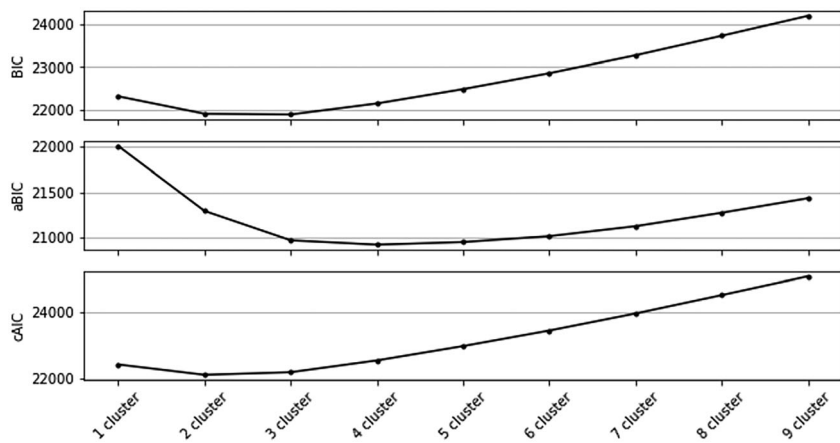
As Figure 3 shows, 61.07% of the survey participants consider themselves sustainable entrepreneurs, while 38.93% do not. This finding aligns with the numbers of the latest GEM, showing that in most economies, more than half of the business owners consider the social and environmental implications of their decisions (GEM, 2022). The mean IHDI of the participants' countries of origin is .655. The median is .761, which is in the HDI range of countries considered to have high human development (e.g., Mexico, China, and Albania) but below the threshold for countries with very high human development (.800 and above, e.g., United States, Norway, and South Korea) and above the



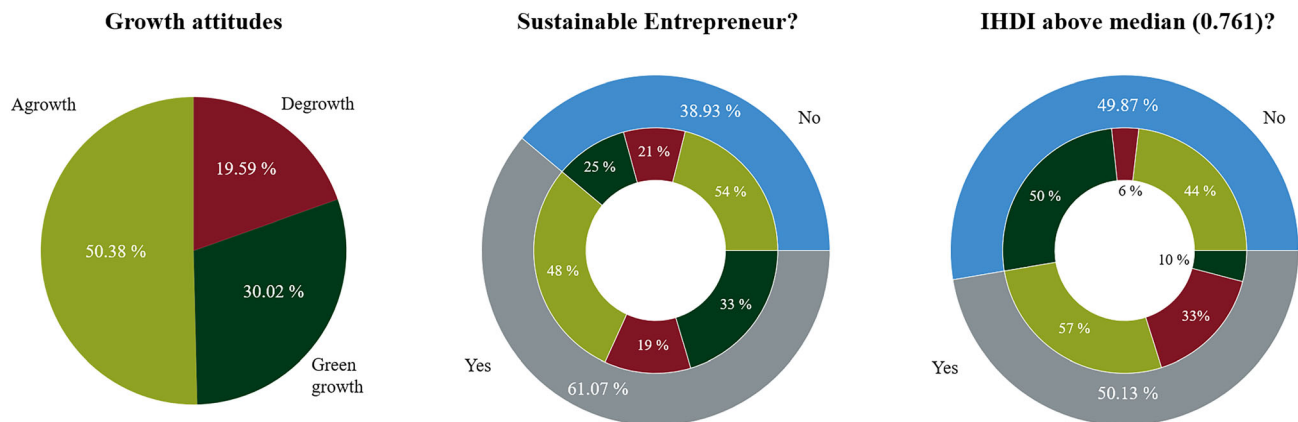
**TABLE 3** Descriptives and correlations of the considered variables.

Variable	Mean	SD	$\alpha$	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Scaling fast	4.56	1.29	.891	-/-													
2. Scaling slow	4.97	1.17	.765	.37***	-/-												
3. Firm age	3.80	2.26	-/-	-.09*	.1*	-/-											
4. Age	32.25	9.13	-/-	-.34***	-.18***	.28***	-/-										
5. Gender male (0 = no/1 = yes)	0.40	0.49	-/-	-.04	-.1**	.09*	-.02	-/-									
6. Female gender (0 = no/1 = yes)	0.59	0.49	-/-	.04	.12***	-.09*	.02	-.98***	-/-								
7. Diverse gender (0 = no/1 = yes)	0.01	0.09	-/-	-.02	-.08	.03	.02	-.07	-.11**	-/-							
8. Financial constraints	4.16	1.67	.836	.12**	-.03	-.12**	-.15***	-.04	.04	.02	-/-						
9. Knowledge constraints	3.45	1.36	.762	.09	-.06	-.06	-.12**	-.02	.0	.09	.44***	-/-					
10. Degrowth (0 = no/1 = yes)	0.20	0.40	-/-	-.34***	-.17***	.01	.25***	.0	-.02	.1**	-.15***	-.1*	-/-				
11. Green growth (0 = no/1 = yes)	0.30	0.46	-/-	.38***	.24***	-.06	-.25***	.02	-.01	-.06	.12**	.1*	-.32***	-/-			
12. Agrowth (0 = no/1 = yes)	0.50	0.50	-/-	-.08**	-.09*	.05	.04	-.02	.03	-.03	.0	-.01	-.5***	-.66***	-/-		
13. Sust. Entrepreneur (0 = no/1 = yes)	0.61	0.49	-/-	.11**	.32***	-.04	-.05	-.19***	.19***	.01	.07	.0	-.03	.09*	-.06	-/-	
14. Development level	0.65	0.18	-/-	-.48***	-.32***	.14**	.38***	.11	-.12	.03	-.31***	-.22***	.36***	-.45***	.13***	-.24***	-/-

\*\*\* $p < .001$ . \*\* $p < .01$ . \* $p < .05$ .



**FIGURE 2** Plot of information criteria for 1- to 9-cluster solutions for opinions on “growth versus environment.”



**FIGURE 3** Share of growth attitudes, sustainable entrepreneurs, and entrepreneurs from countries above and below the IHD median.

threshold for medium human development (from .699 to .550, e.g., Venezuela, India, and Ghana).

The LCA revealed that 50.38% of the surveyed entrepreneurs have an agrowth attitude, 30.02% have a green growth attitude, and 19.59% have a *degrowth attitude*. Figure 4 shows the distribution of the three opinion clusters for the 16 questions that assess the participants' opinions. It reveals a similar picture than comparable studies among academics and the general public (Drews et al., 2019; Drews & van den Bergh, 2016, 2017), especially for the five most robust items for opinion segmentation, that is, *life satisfaction*, *public services*, *stability*, *environmental protection*, and *development space* (Savin et al., 2021). In line with Savin et al.'s (2021) findings, we observe that the three opinion clusters do not significantly differ from each other in the *development space* variable. However, for the items *life satisfaction*, *public services*, *stability*, and *environmental protection*, we identify opposing positions between the green growth and degrowth clusters, demonstrated by the nonoverlapping interquartile ranges in their respective boxplots. In contrast, the agrowth cluster occupies an intermediate stance on these issues.

Interestingly, the shares of the different opinion clusters become slightly different when differentiating between sustainable and non-sustainable entrepreneurs and between entrepreneurs from countries above and below the IHD sample median (see Figure 3). Among

sustainable entrepreneurs, 33% share a green growth attitude, while only 25% among nonsustainable entrepreneurs do so. More drastically are the differences for entrepreneurs from countries above or below the IHD sample mean: While for those above the median, only 10% share a green growth attitude, 33% share a *degrowth attitude*. For entrepreneurs from countries below the median, it is the other way around: Only 6% have a *degrowth attitude*, and 50% have a green growth attitude. These findings confirm the low relevance of the degrowth discourse in developing economies. There, degrowth is perceived as a call to the industrialized nations primarily responsible for climate change and environmental degradation. In contrast, it is now developing economies' turn to benefit from the hoped-for advances coming with (green) growth.

We adopted a hierarchical OLS regression approach to assess the association between the proposed independent variables and entrepreneurs' preferred scaling strategy. Thus, for each dependent variable, we set up two models, where we included the control variables first, and subsequently, the second model included the independent variables. Consequently, in Table 4, Model 2 presents the complete set of regression coefficients for scaling fast, while Model 4 is for *scaling slow*. Based on the reported adjusted  $R^2$  values in Table 4, Model 2 explains 26.8% of the observed variance in the dependent variable (an increase of 15.8% compared to Model 1). Model 4 explains 21.7%

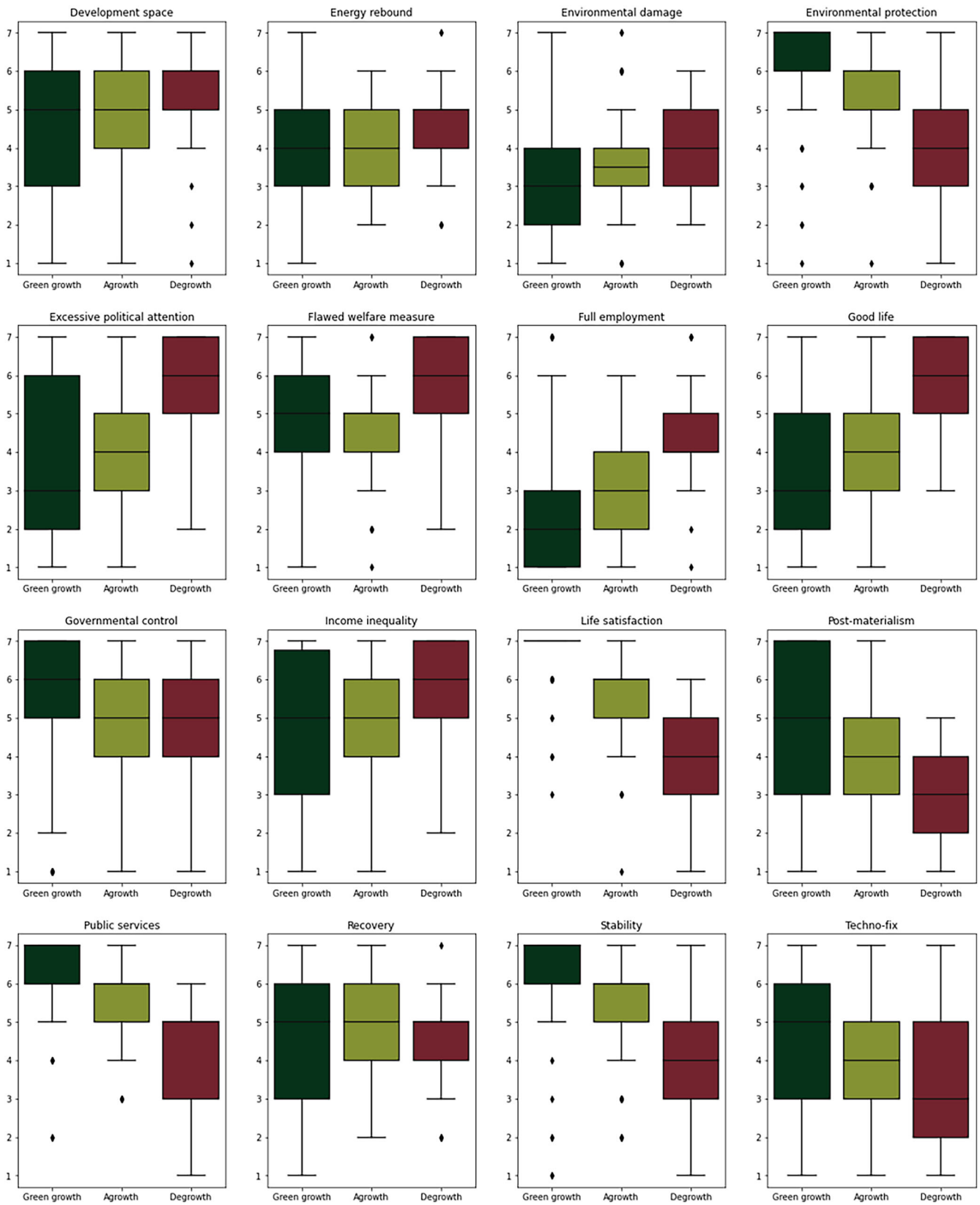


FIGURE 4 Response distribution among the three opinion clusters on “growth versus environment” for the 16 items.

Dependent variables Variables	Scaling fast		Scaling slow	
	Model 1	Model 2	Model 3	Model 4
Constant	5.6725***	7.2123***	5.7125***	6.3699***
<i>Control variables</i>				
Firm age	.0113	-.0032	.0927***	.0914***
Age	-.0470***	-.0233**	-.0315***	-.0170**
Female gender	.1288	.0078	.3121**	.1281
Diverse gender	-.2471	.1661	-.8415	-.7785
Financial constraints	.0438	-.0328	-.0162	-.0732*
Knowledge constraints	.0295	-.0045	-.0554	-.0665
<i>Main effects</i>				
Sustainable entrepreneur		-.0303		.6042***
Development level		-2.5645***		-1.6355***
Degrowth attitude		-.5599***		-.1703
<i>Model fit</i>				
Adj. R <sup>2</sup>	.110	.268	.075	.217
Adj. R <sup>2</sup> change		.158		.142

Note:  $N = 393$ .

\*\*\* $p < .001$ . \*\* $p < .01$ . \* $p < .05$ .

of the observed variance in the dependent variable (an increase of 14.2% compared to Model 3).

Model 1 in Table 4 shows that the control variable *age* is significantly but weakly associated with *scaling fast* strategies ( $b = -.0470$ ,  $p < .001$ ). Moreover, Model 1 shows that none of the remaining control variables is significantly associated with the dependent variable. Model 2 shows, in line with our theoretical reasoning, that a *degrowth attitude* has a significant negative association with *scaling fast* ( $b = -.5599$ ,  $p < .001$ ). Thus, we can accept H1(a). Furthermore, model 2 shows that the *development level* is significantly and negatively associated with *scaling fast* ( $b = -2.5645$ ,  $p < .001$ ). Thus, we can also accept H2(a). However, considering oneself a *sustainable entrepreneur* is not significantly associated with *scaling fast*. Hence, we need to reject H3(a).

We observe a mixed picture when looking at the control variables for the dependent variable *scaling slow*. Model 3 in Table 4 illustrates a weak significant and positive association ( $b = .0927$ ,  $p < .001$ ) for *firm age* and a weak significant and negative association ( $b = -.0315$ ,  $p < .001$ ) for *age* with a preference for *scaling slow* strategies. Moreover, model 3 shows a significant and positive association between *female gender* and *scaling slow* ( $b = .3121$ ,  $p < .01$ ), though this effect does not hold in model 4. Furthermore, model 4 shows that *financial constraints* are significantly negatively associated with *scaling slow* ( $b = -.0732$ ,  $p < .05$ ). However, we follow Hünermund and Louw (in press) and refrain from interpreting the regression coefficients of control variables due to possible endogeneity problems.

Looking at the main effects, model 4 illustrates that no significant association exists between a *degrowth attitude* and *scaling slow*. Thus, we must reject hypothesis H1(b). Furthermore, contrary to our reasoning, model 4 shows that the *development level* is significantly negatively associated with *scaling slow* ( $b = -2.5645$ ,  $p < .001$ ). Thus, we

**TABLE 4** Regression analysis for associations with *scaling fast* and *scaling slow*.

need to reject H2(b). However, considering oneself a sustainable entrepreneur is significantly and positively associated with *scaling slow* ( $b = .6042$ ,  $p < .001$ ). Thus, we can accept H3(b).

## 6 | DISCUSSION

### 6.1 | Contribution

Our research answers how sustainable entrepreneurs' attitude toward economic growth influences their decisions on scaling strategies. We show that a *degrowth attitude* is significantly and negatively associated with *scaling fast* strategies, whether the participants are sustainable entrepreneurs or not. However, we also show that the variable *sustainable entrepreneur* is significantly and positively associated with *scaling slow* strategies, strongly indicating the preferences of sustainable entrepreneurs for such strategies. Moreover, we show that the *development level* of entrepreneurs' economies is essential in scaling decisions. Our research contributes at least twofold to the academic discourse, as we will point out in the following.

First, we contribute by moving forward our understanding of scaling new ventures. We build on the conceptualization of venture scaling as a spatiotemporal phenomenon (Kim & Kim, 2022) and, more generally, on the importance of scale for organizational theory, that is, the temporal and spatial dimensions of organizations' actions (Bansal et al., 2018), especially in the context of business sustainability (Bansal & DesJardine, 2014; Bansal & Knox-Hayes, 2013). By showing that entrepreneurs differentiate between *scaling fast* and *scaling slow* strategies, we provide empirical evidence for the temporal dimension of scaling as a spatiotemporal construct. With this differentiation, we follow up on recent research

(Stallkamp et al., 2022) and open new avenues for further research by proposing two new scales to measure this differentiation.

Moreover, it seems true that “business sustainability [...] is about time” (Bansal & DesJardine, 2014, p. 70). Therefore, accepting H3(b) indicates that considering oneself as a sustainable entrepreneur makes *scaling slow* strategies more attractive, although the opposite is not true since we had to reject H3(a). This result hints at an underlying assumption among sustainable entrepreneurs, saying that a longer time horizon for the growth strategy of their venture makes it easier to reconcile with their sustainability mission. The result also aligns with Bansal and Knox-Hayes (2013, p. 61), arguing that “the compression of time and space in and by organizations is disrupting the cycles of the natural environment.”

Additionally, we could show a negative association between a *degrowth attitude* and *scaling fast* strategies (as indicated by the pretest and eventually successfully replicated), indicating that entrepreneurs' attitude toward economic growth influences their decision-making about firm growth and scaling strategies. Eventually, we show that the development level of the economies where entrepreneurs are active plays an essential role in the decision for scaling strategies. Some propose entrepreneurship as a solution to poverty (Bruton et al., 2013) and an economic development engine (Acs et al., 2011). Accepting H2 (a) indicates that entrepreneurs from developing economies perceive *scaling fast* strategies as the most effective way to achieve both. Though we had to reject H2(b), the negative coefficient for *development level* in model 4 was smaller than in model 2. This relationship indicates that at least the logic behind our reasoning was correct: A high level of development makes *scaling fast* less attractive than *scaling slow*.

Furthermore, we contribute by linking the field of sustainable entrepreneurship closer to the theory on sustainability transitions and especially the inherent growth paradigms (Schaltegger et al., 2023). As we have outlined in Section 2, the degrowth literature is largely silent about the role of innovation and entrepreneurship in a degrowth economy and society. However, our research has shown that sympathies for the degrowth paradigm can be observed among entrepreneurs similarly to other populations (Drews et al., 2019). But while we could show that entrepreneurs with a *degrowth attitude* tend to decline *scaling fast* strategies, it remains unclear what scaling strategies these entrepreneurs actually follow to establish their businesses. Building on the few publications about degrowth in business (Khmara & Kronenberg, 2018) and, more specifically, business model innovation (Wells, 2018), the degrowth literature could benefit from making implications of the paradigm for entrepreneurship and innovation more explicit. Doing so could help to remove views on degrowth attitudes among entrepreneurs as a self-constraining factor (Hörisch, 2015) and establish a vision of entrepreneurs with degrowth attitudes as agents contributing actively to an envisioned degrowth economy and society.

## 6.2 | Limitations and future research

Although this study is rigorous, it unavoidably contains some limitations, pointing to exciting directions for future research. Our research design

limited us to a dichotomous differentiation between *scaling fast* and *scaling slow* strategies. However, our results indicate that this dichotomous differentiation does not fully capture the complexity of entrepreneurs' decisions for a specific scaling strategy. While we could find support for H1(a), stating a negative association between a *degrowth attitude* and *scaling fast*, we had to reject H1(b), stating a positive association between a *degrowth attitude* and *scaling slow*. Similarly, we had to reject H3(a), stating a negative association between *sustainable entrepreneur* and *scaling fast*; still, we found support for H3(b), stating a positive association between *sustainable entrepreneur* and *scaling slow*. Thus, it seems like entrepreneurs with a degrowth attitude and sustainable entrepreneurs choose multiple or even hybrid spatial and temporal configurations of the spatiotemporal conceptualization of scaling that our research design does not allow to capture.

Moreover, scaling decisions are complex and depend on many factors, internal and external to the firm, and on time. We focused on a possible *degrowth attitude*, being a *sustainable entrepreneur*, and the *development level*. Furthermore, we controlled for firm internal factors such as *financial* and *knowledge constraints* but could not cover all the factors potentially affecting entrepreneurs' scaling decisions. This is especially noteworthy considering that the degrowth discourse focuses on and is influenced by macro-economic development and the global transgression of planetary boundaries, while scaling decisions are made on the individual and firm levels. Thus, what remains are the typical limitations of cross-sectional survey data and diverse samples with entrepreneurs from multiple countries and industries, who thus operate under different conditions. Nevertheless, replicating the main effect between a *degrowth attitude* and *scaling fast* in our pretest and our actual study indicates the robustness of our findings.

Future—possibly qualitative—research is needed to investigate further growth and scaling strategies of entrepreneurs with degrowth attitudes and sustainable entrepreneurs. Qualitative research could uncover different spatial and temporal configurations of scaling strategies beyond the dichotomous differentiation between fast and slow scaling. Moreover, it could reveal further critical factors affecting entrepreneurs' scaling strategies and extend our understanding of sustainable and conventional entrepreneurship (Klapper et al., 2021). Thus, such research could inform quantitative research designs like ours to account for a more comprehensive picture of entrepreneurs' decision-making processes.

Additionally, the findings of such qualitative studies and the results of our study could inform experimental research designs. Experimental studies could strengthen the internal validity of our theorizing, while our findings support external validity. Many macro, meso, and micro factors influence the decision for a scaling strategy. An experimental research design could help isolate the effect size of a potential degrowth attitude on entrepreneurs' scaling decisions.

## 7 | CONCLUSION

In conclusion, by illustrating the negative association between a *degrowth attitude* and *scaling fast* in two samples, we show that

entrepreneurs' attitude toward economic growth on the societal level influences their decision-making on scaling strategies on the firm level. Moreover, we underline the importance of time in business sustainability by showing that sustainable entrepreneurs perceive *scaling slow* strategies more attractive than nonsustainable entrepreneurs. Finally, we introduce the development level of the entrepreneurs' surrounding economy to the scaling debate, as our research indicates that a lower level of development makes scaling fast strategies more attractive than scaling slow strategies.

These findings come with practical and theoretical implications. Our findings' theoretical implications reveal the lack of knowledge about sustainable entrepreneurship's role in the degrowth discourse. Entrepreneurship and degrowth scholars may need to reflect on the potential contribution of entrepreneurs to a degrowth economy and how this contribution can be operationalized. On the side of practitioners, our findings should encourage entrepreneurs to make entrepreneurial decisions in unity with their values and beliefs. However, our findings can also be understood as an invitation for entrepreneurs to reflect on whether ideology—either degrowth or green growth—steers their decisions despite better knowledge and endangering their business and mission. There is often a fine line between acting out of conviction and being blinded by ideology. For supporting actors in entrepreneurial ecosystems—for example, investors, incubators, accelerators, or universities—this implies not to unquestioningly steer especially nascent entrepreneurs toward stereotypical—and often unrealistic—pictures of fast-growing unicorn startups (Aldrich & Ruef, 2018; Kuckertz et al., 2023). Instead, they may encourage nascent entrepreneurs to understand growth and venture scaling as a process where different pace and geographical outreach configurations can lead to the desired outcome.

## AUTHOR CONTRIBUTIONS

**Sebastian Hinderer:** Conceptualization; formal analysis; investigation; data curation; writing—original draft; visualization. **Andreas Kuckertz:** Conceptualization; resources; writing—review and editing.

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## ORCID

Sebastian Hinderer  <https://orcid.org/0000-0003-4485-3286>

Andreas Kuckertz  <https://orcid.org/0000-0002-1733-0706>

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## APPENDIX A

**TABLE A1** Items to assess participants' opinion on "growth versus environment" from Drews et al. (2019, p. 143).

Item label	Item wording
Development space	In view of limited natural resources, rich countries may have to give up their economic growth to assure that all poor people in the world can reach a fair standard of living.
Energy rebound	Energy savings due to technological advances are partly undone by further economic growth.
Environmental damage	Economic growth always harms the environment.
Environmental protection	Economic growth is necessary to finance environmental protection.
Excessive political attention	Politicians are too concerned about economic growth.
Flawed welfare measure	The GDP is a flawed measure of social welfare.
Full employment	Full employment can be achieved without economic growth.
Good life	A "good life" without economic growth is possible.
Governmental control	Economic growth can be controlled by the government.
Income inequality	Making the income distribution more equal should get a higher priority than economic growth.
Life satisfaction	Continued economic growth is essential for improving people's life satisfaction.
Post-materialism	Economic growth raises incomes that in turn make people care more about the environment.
Public services	Economic growth is necessary to finance public health and pension systems.
Recovery	Future economic growth will recover and again be as high as in the past.
Stability	Without economic growth the economy will become less stable.
Techno-fix	Technology can solve all environmental problems associated with economic growth.