ISSN: 2359-1048
Novembro 2022

Fostering ecopreneurial behavior in a pandemic context: The role of environmental engagement and moral obligation

NÁGELA BIANCA DO PRADO

GUSTAVO HERMÍNIO SALATI MARCONDES DE MORAES

KAREN ESTEVES

VODA ANA IOLANDA
ALEXANDRU IOAN CUZA UNIVERSITY

Introdução
At the height of the pandemic caused by Covid-19, that had a magnitude never seen before, consumers experienced significant changes in their purchasing behaviors (Sharma et al., 2022). Covid-19, together with the increase in consumers' environmental awareness, has brought to the entrepreneurship business field opportunities aiming at improving the environment. Specifically, the ecopreneurship has emerged as a new front for entrepreneurship, which unites environmentalism with the entrepreneurial spirit, with the potential to advance towards an ecological society (Bawakyillenuo & Agbelie, 2021).
Problema de Pesquisa e Objetivo
Amid such contextualization, we intend to answer the following research question: What is the influence of moral obligation and environmental engagement on empathy, self-efficacy, and the creation of ecological value in eco-enterprises? More specifically, the present study aims to explore the ecopreneurial behavior in the context of Covid-19 by analyzing the influence of moral obligation and environmental engagement – which are behavioral antecedents driven by this disruptive context – on the perception of empathy, ecopreneurial self-efficacy, and creation of ecological value.
Fundamentação Teórica
The theoretical framework included an overview about the ecopreneurship and the ecopreneurs. Ecopreneurship is an emerging field of interest in an era of struggle to achieve economic growth, conscious natural resources use and pollution control. Ecopreneurs play a crucial role in conducting business activities without adversely affecting people and the environment (Rodríguez-García et al., 2019). Additionally, two ecopreneurship characteristics were approached: moral obligation and environmental engagement and its relationship with empathy, self-efficacy and environmental value creation.
Metodologia
The study is characterized by an exploratory purpose and applied nature. Based on a quantitative approach, primary data collection was conducted in the field through a questionnaire, in which the investigation target was ecopreneurs participating in the Atlantic Forest Connection Project. A conceptual model was adapted from Hockerts (2017) to achieve the research objective. Data analysis and treatment were supported by multivariate data analysis, more specifically through the use of Confirmatory Factor Analysis and Partial Least Squares Structural Equation Modeling.
Análise dos Resultados
Our study confirmed that empathy and self-efficacy perception is influenced by higher moral obligation levels. Results also indicate that more environmentally engaged ecopreneurs have higher self-efficacy and ecological value creation levels. On the other hand, the premise that a feeling of morality could positively impact the ecological value creation arising from the business was contradicted. Similarly, the hypothesis that environmental engagement positively influences ecopreneurial empathy has not been confirmed. Results are in line at the same time that contradict previous studies.
Conclusão
Our research question was answered and the research findings validation is relevant, suggesting that contributions are feasible and focus on three main points: First, the study validates a robust theoretical model with high explanatory power for the dependent variables, which helps in understanding ecopreneurial behavior. Second, it demonstrates the complexity of the relationships between variables that measure ecopreneurial behavior and the need to explore these key characteristics determinants. Third, it offers practical insights for policymakers and educators involved with ecopreneurship.
Referências Bibliográficas
Bawakyillenuo, S. & Agbelie, I. (2021). Environmental consciousness of entrepreneurs in ghana: How do entrepreneur types, demographic characteristics and product competitiveness count? Sustainability. Hockerts, K. (2017). Determinants of social entrepreneurial intentions. Entrepreneurship Theory and Practice. Rodríguez-García, M. et al. (2019). An overview of ecopreneurship, eco-innovation, and the ecological sector. Sustainability. Sharma, G. et al. (2022). Entrepreneurial challenges of COVID-19: Re-thinking entrepreneurship after the crisis. Journal of Small Business Management.

Palavras Chave
Ecopreneurship, Sustainability, Developing Country

Agradecimento a orgão de fomento
This work was supported by the São Paulo Research Foundation - FAPESP [grant number 2021/08267-2]; and the Coordination for the Improvement of Higher Education Personnel - CAPES [grant number 303924/2021-7].

FOSTERING ECOPRENEURIAL BEHAVIOR IN A PANDEMIC CONTEXT: The role of moral obligation and environmental engagement

1. INTRODUCTION

The pandemic caused by Covid-19 had a magnitude never seen before, bringing unexpected transformations in society (Sharma et al., 2022). The global health concern caused by the virus has imposed a substantial economic crisis due to the lockdown imposed by most countries (AbdelAziz et al., 2021), which has brought to the fore several needs, such as adaptation to a new digital reality, reorganization of the supply chain and new ways of retaining customers (Tampakoudis et al., 2021).

At the height of the pandemic, consumers experienced significant changes in their purchasing behaviors. A new approach to health was characterized by the interdependence of human and environmental health (Tanveer et al., 2020). People have become more selective concerning what they buy or consume while becoming more attentive to the consumption of certain products that are either harmful to health or the environment (Bawakyillenuo & Agbelie, 2021). Coincidentally, environmental awareness has recently increased in society at all levels (Alwakid et al., 2021), causing an increase in demand for environmentally friendly products and, consequently, the strengthening of a green market (Gupta & Dharwal, 2022; Potluri & Phani, 2020).

Nevertheless, the concept of sustainable development has grown in several contemporary areas (Soomro et al., 2020) and has been the main concern when one considers the transformation of the economy today, becoming the center of political discourse in several countries (Sun et al., 2020). Since their ratification by the United Nations in 2015, the Sustainable Development Goals (SDGs) have become the predominant global framework for addressing societal progress towards sustainable prosperity. In the meantime, entrepreneurial activities are potential environmental and social problem solvers (Dhahri et al., 2021).

The Covid-19 pandemic, together with the increase in consumers' environmental awareness, has brought to the field of entrepreneurship business opportunities aiming at improving the environment (Bawakyillenuo & Agbelie, 2021; M.-Á. Galindo-Martín et al., 2021). In this context, ecopreneurship has emerged as a new front for entrepreneurship, which unites environmentalism with the entrepreneurial spirit, with the potential to advance towards an ecological society (Bawakyillenuo & Agbelie, 2021).

Ecopreneurship has the same basic characteristics of entrepreneurial activity combined with the prioritization of skills and the entrepreneurs' initiative aiming at success through social and environmental innovations for sustainability (Alwakid et al., 2021; Dhahri et al., 2021; Gupta & Dharwal, 2022). It is more closely related to the sustainable development perspective and extends business gains to non-financial desires (Soomro et al., 2020) associated with the needs of the environment and society (Bawakyillenuo & Agbelie, 2021).

The basic characteristics of an entrepreneur usually include self-efficacy, risk propensity, planning, recognition of opportunities, and persistence (Markman & Baron, 2003; Rocha et al., 2022; Schmidt & Bohnenberger, 2009); in the case of sustainability-oriented entrepreneurial subtypes, much is said about empathy, moral obligation, and environmental engagement (Hockerts, 2017; Kaida & Kaida, 2019; Prado et al., 2022). Concerning ecopreneurs, research has already shown that these are problem solvers who can apply innovation and critical thinking to face challenges (Bawakyillenuo & Agbelie, 2021) but who, simultaneously, depends on a motivation to put their ideas into practice (Dhahri et al., 2021).

Amid such contextualization, we intend to answer the following research question: *What is the influence of moral obligation and environmental engagement on empathy, self-efficacy, and the creation of ecological value in eco-enterprises*? More specifically, the present

study aims to explore the ecopreneurial behavior in the context of Covid-19 by analyzing the influence of moral obligation and environmental engagement – which are behavioral antecedents driven by this disruptive context – on the perception of empathy, ecopreneurial self-efficacy, and creation of ecological value.

To meet this objective, we considered a target audience of 359 ecopreneurs participating in the Atlantic Forest Connection Project, which is a project for environmental preservation and recovery, increasing biodiversity, increasing carbon stocks, promoting sustainable production practices, and fostering local sustainable processes in Brazil (IBS, 2018). The data collection was carried out in person in 2021 by agricultural technicians guided by the researchers; a total of 130 answers were considered valid.

This study is based on three main assumptions. *First*, sustainability-focused entrepreneurship has become critical to achieving sustainable development and the SDG agenda (Dhahri et al., 2021; Gurău & Dana, 2018; Rodríguez-García et al., 2019). More specifically, ecopreneurship is a new field of research that has demanded further exploitation concerning the role of entrepreneurial activity as something capable of promoting economic and non-economic gains for investors and society in general (Alwakid et al., 2021). *Second*, there is a gap in understanding how entrepreneurship and entrepreneurs have supported social change driven by the pandemic (Ratten, da Silva Braga, et al., 2021; Sharma et al., 2022). *Third*, in emerging markets such as Brazil, there is a certain sensitivity to environmental issues and an effort to combine them with green entrepreneurship (Alwakid et al., 2021), as this entrepreneurial subtype is proven to bring economic growth and environmental improvement (Gupta & Dharwal, 2022). The results contribute to a better understanding of the factors that drive ecopreneurial values and behaviors, which can support public and private programs and investments to strengthen sustainable development in the Brazilian context.

In addition to this introductory chapter, the article is structured as follows. Chapter 2 presents the theoretical framework, providing the conceptual basis for creating the research model. Chapter 3 presents the methodological procedures. Chapter 4 shows the results, followed by the discussion presented in Chapter 5. The final chapter presents the conclusions.

2. THEORETICAL FRAMEWORK

2.1.Ecopreneurship and Ecopreneurs

Entrepreneurship is usually defined as discovering market gaps in which entrepreneurs can identify and explore new business opportunities (Alwakid et al., 2021; Rodríguez-García et al., 2019). Currently, entrepreneurs, according to Gupta and Dharwal (2022), are becoming more cautious and moving towards more socially responsible businesses and, therefore, extending their activities in search of a better future.

As a subset of sustainable entrepreneurship, ecopreneurship deals with sustainable development in a way that places environmental degradation solutions at the heart of business activities (Gupta & Dharwal, 2022; Soomro et al., 2020; Sun et al., 2020). The term ecopreneurship is formed from the combination of "eco", which alludes to ecology, and "entrepreneurship" (Rodríguez-García et al., 2019). Over time, researchers have introduced different terms, such as environmental entrepreneurship, green entrepreneurship, and ecological entrepreneurship, to describe entrepreneurial activities oriented toward environmental protection (Bawakyillenuo & Agbelie, 2021; Ge et al., 2018; Santini, 2017). The different denominations of ecopreneurship may even come from ecopreneurial activity, which can not only be associated with environmental but also socioeconomic purposes (Alwakid et al., 2021).

The emergence of ecopreneurship, nevertheless, is relatively new. Scholars claim that ecopreneurship spread in the late 1990s and increased in popularity in recent years (Gupta &

Dharwal, 2022; Santini, 2017; Sun et al., 2020), playing an increasing role in environmental protection (Alwakid et al., 2021). For Ge et al. (2018), eco-entrepreneurship is manifested by identifying opportunities related to the environment, with the main objective of sustainable development.

In this context, ecopreneurship is an emerging field of interest in an era of struggle to achieve economic growth, conscious use of natural resources, and pollution control and prevention (Potluri & Phani, 2020; Rodríguez-García et al., 2019). In other words, ecopreneurship has shifted from a purely commercial enterprise to a community effort that preserves and sustains the environment (Gupta & Dharwal, 2022). Also, according to Potluri and Phani (2020), ecopreneurship combines environmental orientation with current economic demand to create jobs.

Therefore, ecopreneurs play a crucial role in conducting business activities without adversely affecting people and the environment. Literature defines that some of the characteristics of ecopreneurs derive from personal and historical experiences, including temporal orientation, jointly with a future perspective based on time, choice of deadlines, taking advantage of evolving opportunities, perception, and anticipation of problems, as well as goals and ambitions for the future (Alwakid et al., 2021; Gurău & Dana, 2018).

Regarding the subtypes of sustainability-oriented entrepreneurs, research defends several characteristics inherent to entrepreneurs who conduct business activities in favor of sustainable development, such as empathy, moral obligation, self-efficacy, perception of social support (Hockerts, 2017), environmental engagement (Kaida & Kaida, 2019), attitudes (Nowiński et al., 2020), among others. In the present study, we will focus on empathy, ecopreneurial self-efficacy, the ability to create environmental value in eco-enterprises, and how such perspectives are affected by ecopreneurs' moral obligation and environmental engagement.

Synthetically, empathy can be defined as the ability of an individual to understand the mental state, feelings, thoughts, and desires of another and to respond to the same emotionally and compassionately (Ghatak et al., 2020; Kim, 2022; Younis et al., 2021). In a summarized manner, empathy can be defined as the ability of an individual to understand the mental state, feelings, thoughts, and desires of another and to respond to the same emotionally and compassionately (Ghatak et al., 2020; Kim, 2022; Younis et al., 2021). Empathy is a willingness to put yourself in someone else's shoes but is also associated with a real-life propensity to help them. According to the authors, empathy is an essential quality in any healing relationship, whether physical, spiritual, or social (Younis et al., 2021).

When relating entrepreneurial activities, empathetic individuals – in contrast to those who feel less compassion for others – may experience a high degree of visceral arousal that results in not only a willingness to take care of others' sorrows but also a propensity to help (Kim, 2022; Younis et al., 2021). Therefore, empathy is a key characteristic that distinguishes sustainable entrepreneurs from traditional commercial entrepreneurs (Kim, 2022).

This characteristic is very present in social entrepreneurs (Kim, 2022; Tan et al., 2021) and is widely used to predict social entrepreneurial intentions (Hockerts, 2017; Kim, 2022). When considering the ecopreneurial aspect, empathy combines entrepreneurship with environmental concern (Gupta & Dharwal, 2022). In this way, empathy associates the identification of opportunity with the implications of environmental problems (Duncan-Horner et al., 2022).

Entrepreneurial behavior is usually seen as a coming together of ideas, capital, and resources, along with elements of creativity and empowerment (Yi, 2021). In the meantime, the concept of entrepreneurial effectiveness, or self-confidence, highlights the individual's self-perception concerning their skills and competencies (Soomro et al., 2020).

Several academic research proposes self-efficacy as an important perspective for entrepreneurial effectiveness, including sustainability orientation (Hockerts, 2017; Kim, 2022). These studies, in general, defend that such a concept reflects a person's belief in their ability to achieve a specific goal, learn or perform a certain task (AbdelAziz et al., 2021; Kim, 2022; Lauren et al., 2016), while coping with challenges (Čapienė et al., 2021).

Entrepreneurial self-efficacy refers to how much the individual believes he can perform entrepreneurial tasks (Kim, 2022; Moraes et al., 2021). On the other hand, the self-efficacy of the sustainability-oriented entrepreneur concerns the individual's belief in their ability to achieve entrepreneurial tasks related to socio-environmental innovation, such as identifying socio-environmental problems and creating new products to solve them (Lauren et al., 2016).

For Lauren et al. (2016) and Kornilaki et al. (2019), self-efficacy has been shown to encourage pro-environmental behaviors. Lauren et al. (2016) identified that a heightened sense of self-efficacy can lead people to feel capable of engaging in new or more challenging pro-environmental behaviors. The study by Kornilaki et al. (2019) found that self-efficacy influences the capabilities and motivation of tourism ecopreneurs to behave sustainably.

Finally, when it comes to ecopreneurship, one cannot ignore green technologies, which are products, services, or processes that deliver value with fewer resources or pollution than traditional production patterns (Ge et al., 2018). Field scholars emphasize that, from ecopreneurial activities, there are opportunities and value creation that help to reduce environmental pollution and increase sustainable economic growth (Sun et al., 2020).

Generically, value creation results from multiple interactions between different actors, for example, customers, technology, employees, processes, and companies (AbdelAziz et al., 2021). For years, profit maximization was the main objective of a venture, but recently both consumer demand and academic research advocate a broader corporate objective than shareholder value in a strict sense (Nadeem et al., 2020; Prado et al., 2022; Rodríguez-García et al., 2019).

Consequently, the concept of ecological value creation emerges, which has made it imperative to create value for a wider range of stakeholders (Nadeem et al., 2020). Therefore, the creation of ecological value is a form of value creation that innovates by adopting environmental management practices with clean production mechanisms for environmental businesses (Prado et al., 2022; Yi, 2021).

2.2.Ecopreneurship and Moral Obligation

Especially due to the recurrent rise of debates that deal with socio-environmental issues, companies have felt pressured to rearrange their business activities to provide value in three different dimensions: economic, social, and environmental (Rodríguez-García et al., 2019). In this context, moral obligation refers to the idea that the individual feels pressured to take some action in the face of a problem (Hockerts, 2017).

For Tan et al. (2021), moral obligations are characterized by the perception that social norms imply the responsibility to help marginalized people or even contribute with solutions that at least do not accentuate the scenario of recurrent environmental degradation (Kaiser & Byrka, 2011; Prado et al., 2022). Therefore, like empathy, moral obligation directs individuals toward social rather than profitable behaviors. Thus, social norms make individuals feel more confident in choosing to become sustainability-oriented entrepreneurs rather than purely profit-seeking entrepreneurs (Tan et al., 2021).

Previous research has already used moral obligation as an antecedent to the intention to undertake socially (Hockerts, 2017), create ecological value (Prado et al., 2022), and as one of the factors that interfere in actions to mitigate climate change (Leviston & Walker, 2021).

Ecopreneurs are morally obligated to think about the future and play an active role in environmental change (Gregori et al., 2021; Jayashankar et al., 2018).

In the context of Covid-19, in which the health approach has been characterized by the interdependence of human, animal, and environmental health (Tanveer et al., 2020), together with the impacts on business revenues arising from the pandemic (Tampakoudis et al., 2021), it is estimated that moral obligation has impacted ecopreneurial perspectives, as, according to Leviston and Walker (2021), people are deeply aware of the social stigma that accompanies the questioning of their morality; therefore, they are being motivated to maintain at least the appearance of being moral.

Tan et al. (2021) affirm that moral obligation is necessary to raise awareness of the desire to establish sustainability-oriented companies. In the context of the Covid-19 pandemic, the present study intends to answer the following research question: When the ecopreneur feels a greater moral obligation toward the environmental problem, does his/her empathy increase? What about self-efficacy? What about the potential for creating ecological value? As a result, the following research hypotheses were created.

H1: Moral obligation positively influences empathy.
H2: Moral obligation positively influences ecopreneurial self-efficacy.
H3: Moral obligation positively influences environmental value creation.

2.3.Ecopreneurship and Environmental Engagement

In addition to the personal feeling of moral obligation, another predictor of ecopreneurial behavior is environmental engagement (Kaiser & Byrka, 2011). In general, environmental engagement concerns the individual's adherence to ecological practices of consumption of goods and natural resources (Prado et al., 2022), or even knowledge about environmental problems, as well as possible ways to solve them (Piyapong, 2020).

Engagement, thus, is a distinctive factor composed of components related to cognition, emotion, and behavior that are linked to the individual's role performance (Saleh & Al-Swidi, 2019). According to Piyapong (2020), engaging in environmental behaviors contributes to mitigating the environmental damage caused by society.

Estrada et al. (2017) use a simplified example to illustrate an individual's environmental engagement and the consequent impact on achieving sustainability. According to the authors, when people know more about climate change, they can strengthen their shared values with a community concerned about the impacts of climate change and, theoretically, be more likely to engage in the behaviors promoted by this community.

Amid this context, many studies have detected environmental engagement as an impacting factor in sustainable development (Bawakyillenuo & Agbelie, 2021; Čapienė et al., 2021; Kaiser & Byrka, 2011; Piyapong, 2020), as well as the fact that high levels of environmental engagement can improve organizational and individual performance (Saleh & Al-Swidi, 2019). Part of the studies also associates environmental engagement with issues related to intellectual education (Bawakyillenuo & Agbelie, 2021). Concerning ecopreneurship, the study by Gu and Wang (2022) found that environmentally conscious entrepreneurs will pay more attention to ecological issues in their production and management decisions.

With the emergence of Covid-19, people had to significantly alter their daily life and buying behavior, being socially isolated for long periods (AbdelAziz et al., 2021), which increased the level of reflection of consumers about their products (Saleh & Al-Swidi, 2019). According to Bawakyillenuo and Agbelie (2021), the new determinants of the buying behavior of green consumers automatically determined the awareness and engagement of the entrepreneurs.

Considering the Covid-19 pandemic as a booster in this process, a second research question emerges: When more environmentally engaged, does the entrepreneur's empathy increase? What about self-efficacy? What about the potential for creating ecological value? Finally, we present the other hypotheses of our research.

H4: Environmental engagement positively influences empathy.
H5: Environmental engagement positively influences ecopreneurial self-efficacy.
H6: Environmental engagement positively influences environmental value creation.

3. MATERIALS AND METHODS

The present study is characterized by its exploratory purpose and applied nature. Based on a quantitative approach, primary data collection was conducted in the field through a questionnaire utilizing a five-point Likert scale, which was submitted to force-testing and validation with experts. Data analysis and treatment were supported by multivariate data analysis, more specifically through the use of Confirmatory Factor Analysis (CFA) and Partial Least Squares Structural Equation Modeling (PLS-SEM), both carried out with the SmartPLS 3.3.3 software (Ringle et al., 2015).

CFA concerns the measurement quality of each construct (Hair et al., 2019). PLS-SEM, in turn, allows the simultaneous analysis of multiple measurements in objects, the quality of the measurement, as well as testing relationships between latent variables, that is, phenomena not directly observable (Hair et al., 2019). The combination of both techniques is commonly used by researchers in the field of entrepreneurship (e.g., Prado et al., 2022) and, therefore, suitable for analyzing the influence of moral obligation and environmental engagement on the perception of empathy, ecopreneurial self-efficacy, and ecological value creation in Brazilian ecopreneurs in the context of the Covid-19 pandemic.

The conceptual model was adapted from Hockerts (2017), as shown in Figure 1. In this research, we propose a new configuration to assess the influence of moral obligation and environmental engagement on the perception of empathy, ecopreneurial self-efficacy, and ecological value creation. Furthermore, the Environmental Engagement construct was added and adapted from Kaida and Kaida (2019).

The study object adopted as the investigation target was ecopreneurs participating in the Atlantic Forest Connection Project. This Project was carried out in the state of São Paulo, Rio de Janeiro, and Minas Gerais and aims to promote the conservation of biodiversity and water and combat climate change (Infraestrutura e Meio Ambiente, 2020). The Atlantic Forest biome is globally recognized and highly important for harboring a great diversity of flora and fauna (dos Santos et al., 2020). As a result, programs to restore the original Atlantic Forest biodiversity have been created.

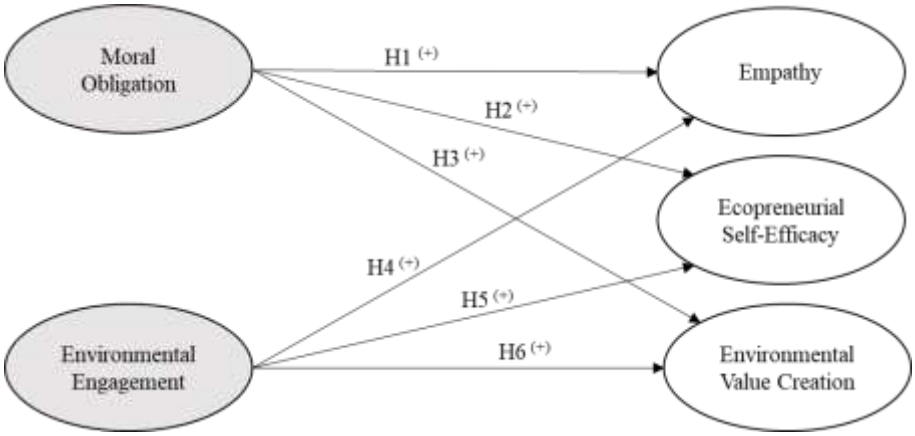

Figure 1: Empirical model

The participants of the Atlantic Forest Connection Project are examples of ecopreneurs, as, according to Sun et al. (2020), such individuals help to curb global warming, reduce deforestation and environmental degradation, maintain biodiversity, and improve water supply, as well as agricultural practices. As they belong to the agribusiness sector, these ecopreneurs have gained prominence for improving the general sustainable orientation within their businesses through the development of new technologies for food production (Santini, 2017).

The questionnaire used in our study was, therefore, conducted and administered by the BioSistêmico Institute (IBS) agricultural technicians between January and April 2021, whose participants were randomly selected in the cities of Miracaty, Itariri, Pedro de Toledo, and Peruíbe to participate in the survey. A total of 359 rural producers participated in the project. According to the GPower 3.1 software, the minimum sample size required to conduct the survey was 92 observations. However, a sample composed of 130 responses was obtained, which makes up approximately 40% of the project's participants, a number adequate for PLS-SEM (Hair et al., 2019).

4. RESULTS

The data analysis was performed in four stages. First, descriptive statistics were used to understand the profile of the object of study. Regarding gender, 78% of respondents were male and 22% were female, with an average age of 56 years, 80% of whom were married. The monthly family income was between BRL ,134.41 and BRL 6,601.06. Of the total sample, 33% had completed high school.

After the descriptive analysis, the empirical stage of the study was carried out, which began with the evaluation of the measures included in the conceptual model. Considering that part of the indicators was adapted and others originally developed, it was necessary to resort to the CFA to verify if the selected indicators (questions) provided an adequate measurement for the constructs that make up the model.

The CFA was performed to assess whether the indicators really represented the indicated constructs (Brady & Cronin, 2001). All indicators with factor loading equal to or above 0.7 were maintained in the model, and indicators with factor loading between 0.4 and 0.7 were evaluated (Hair et al., 2019). Table 1 presents CFA results and the descriptive analyses.

Table 1. Confirmatory factor analysis

Questions	Standardized path loading	Mean	Standard Deviation	T-value	P-value
Ecopreneurial Self-Efficacy					
ESE1. I am convinced that I can contribute to facing social and environmental challenges (problems) if I dedicate myself to it.	0.812	0.811	0.036	22.634	0.000
ESE2. I can find a way to help solve society's social and environmental problems.	0.871	0.870	0.025	35.438	0.000
ESE3. Solving social and environmental problems is something I can contribute to.	0.837	0.836	0.029	28.958	0.000
ESE4. I feel prepared to work in an eco-company.	0.899	0.897	0.022	41.381	0.000
ESE5. I feel able to work in a company to contribute to environmental value creation.	0.903	0.901	0.021	42.564	0.000
Environmental Value Creation					
EVC1. In my eco-company, we create new products, processes, services, or business models that did not exist.	0.791	0.789	0.058	13.601	0.000
EVC2. In my eco-company, we use discarded, disused or unwanted resources for new purposes.	0.861	0.860	0.043	20.006	0.000
EVC3. In my eco-company, we use untapped resources that other organizations fail to recognize, value or use.	0.878	0.877	0.036	24.165	0.000
EVC4. In my eco-company, we adapt, rearrange and improvise materials as necessary.	0.928	0.927	0.027	34.346	0.000
EVC5. We are confident in our ability to find viable solutions to new challenges using our existing resources.	0.916	0.914	0.026	34.785	0.000
EVC6. We use any existing resource that seems useful to respond to a new problem or opportunity.	0.900	0.900	0.031	29.152	0.000
EVC7. We address new challenges by combining existing resources and other resources available to us cost-effectively.	0.958	0.957	0.011	86.863	0.000
EVC8. When dealing with new problems or opportunities, we act in an environmentally sound manner, assuming that we will find a viable solution.	0.928	0.927	0.019	48.654	0.000
EVC9. When combining our existing capabilities, we meet a surprising variety of new challenges.	0.935	0.934	0.020	46.408	0.000
EVC10. When facing new challenges, we create viable solutions from our existing resources	0.921	0.921	0.027	33.994	0.000
Environmental Engagement					
ENG1. When shopping I take my own bag and avoid using plastic bags provided by stores.	0.701	0.697	0.056	12.510	0.000
ENG2. I often turn off the faucet to conserve water (excluded).	0.452	-	-	-	-
ENG3. I turn off the lights that are not in use (excluded).	0.512	-	-	-	-
ENG4. Whenever possible, I prefer to buy refills over new products.	0.805	0.804	0.036	22.205	0.000
ENG5. When possible, I prefer to use public transport over a private car (excluded).	0.272	-	-	-	-
ENG6. I avoid wasting food (excluded)	0.330	-	-	-	-
ENG7. I choose to buy environmentally-friendly (sustainable) products.	0.817	0.814	0.044	18.457	0.000
ENG8. I recycle waste at home.	0.596	0.592	0.077	7.710	0.000
ENG9. I dispose of waste properly in public places.	0.747	0.745	0.043	17.531	0.000
Empathy					
EMP1. I try to put myself in the shoes of socially disadvantaged people.	0.828	0.822	0.052	15.811	0.000
EMP2. Seeing socially disadvantaged people triggers an emotional response in me.	0.888	0.880	0.044	20.198	0.000
EMP3. I feel compassion for socially disadvantaged people.	0.901	0.896	0.039	23.262	0.000
EMP4. I am willing to fight to further social equality.	0.909	0.909	0.038	24.215	0.000
Moral Obligation					
MOB1. It is an ethical responsibility to help people less fortunate than us.	0.806	0.807	0.040	19.933	0.000
MOB2. We are morally obliged to help socially disadvantaged people.	0.903	0.900	0.027	33.529	0.000
MOB3. Social justice requires us to help those who are less fortunate than us.	0.936	0.936	0.013	71.409	0.000
MOB4. It is one of the principles of our society to help socially disadvantaged people.	0.865	0.864	0.034	25.237	0.000

Note: ESE: Ecopreneurial Self-Efficacy; EVC: Environmental Value Creation; ENG: Environmental Engagement; EMP: Empathy; MOB: Moral Obligation.

After performing the CFA, the third step was carried out, which corresponds to the analysis of the empirical model. This analysis allows comparing the measures provided between

indicators and constructs (measurement model) and between constructs (structural model) to determine how well the theory fits the collected data (Hair et al., 2019). The analysis of the measurement model must also be divided between formative and reflexive indicators according to the recommendations of Hair et al. (2019). In this study, all indicators are reflexive; to analyze this type of indicator, Hair et al. (2019) recommend convergent validity, discriminant validity, and reliability.

For convergent validity, the factor loadings of the indicators were evaluated (the internal loads must be greater than the external ones), and the Average Variance Extracted (AVE), which must have a value above 0.5 (Hair et al., 2019). For discriminant validity, the cross-loadings were analyzed using the Fornell-Larcker criterion, verifying whether the square root of the AVE values is greater than the correlations of latent variables of other constructs (Fornell & Larcker, 1981).

Finally, reliability is a necessary condition for validity. In reflective measurement models, the first criterion to be evaluated is the internal consistency reliability, whose traditional criterion is Cronbach's alpha, and the observation of composite reliability. Cronbach's alpha analyzes the correlation between the answers obtained from the survey questionnaire, presenting an average correlation between the questions whose indicators' loads are set to be equal (Hair et al., 2019). Given the limitations of this indicator, composite reliability is used, which tolerates variations in factor loadings, contrary to what happens in the alpha coefficient. For both Cronbach's alpha and composite reliability, values must be equal to or greater than 0.7 (Hair et al., 2019). Therefore, Table 2 presents the results of these analyses, whose values are within those indicated by Hair et al. (2019).

Table 2. Constructs' reliability and validity

Construct	ESE	EVC	EMP	ENG	MOB
Ecopreneurial Self-Efficacy	0.865				
Environmental Value Creation	0.628	0.903			
Empathy	0.557	0.328	0.884		
Environmental Value Creation	0.515	0.572	0.301	0.738	
Moral Obligation	0.593	0.356	0.731	0.443	0.880
Cronbach's Alpha	0.916	0.974	0.907	0.787	0.901
Composite Reliability	0.937	0.978	0.935	0.855	0.932
Average Variance Extracted (AVE)	0.748	0.815	0.782	0.544	0.774

The fourth and last step of the empirical analysis validates the measurement model and comprises the validation of the structural model. At this stage, Hair et al. (2019) recommend the analysis of collinearity, structural and determination coefficients, and predictive relevance. Collinearity analysis aims to observe the existence of a strong correlation between two or more independent variables (Hair et al., 2019). One way of analyzing collinearity concerns the Variance Inflation Factor (VIF), whose parameter designated by Hair et al. (2019) varies between 0.2 and 5. In this study, VIF values are within the range designated by the literature.

The path coefficient analysis, in turn, estimates the magnitude and significance of causal connections between dependent and independent variables (Hair et al., 2019). A significant coefficient depends on its standard error obtained through bootstrapping, which allows calculating T and P values for all coefficients of the structural path. The bootstrapping procedure is a resampling technique (Efron & Tibshiranit, 1998) based on multiple estimates of parameters and confidence intervals (Hair et al., 2019). Table 3 presents the values of the coefficients between the constructs and their respective Student's T-tests and P-values.

Table 3. Assessment of the structural model

Hypothesis	Mean	Standard deviation	Path coefficient	T-value	P-value	Effect size (f^2)	Significant at 5%?
MOB → EMP	0.749	0.052	0.743	14.282	0.000	0.952	Yes
MOB → ESE	0.451	0.065	0.454	6.951	0.000	0.291	Yes
MOB → EVC	0.122	0.074	0.127	1.708	0.088	0.020	No
ENG → EMP	-0.025	0.061	-0.030	0.496	0.620	0.002	No
ENG → ESE	0.322	0.065	0.314	4.866	0.000	0.140	Yes
ENG → EVC	0.520	0.100	0.516	5.148	0.000	0.325	Yes

The results in Table 3 summarize the results of the research hypotheses. In other words, they indicate that moral obligation influences empathy and ecopreneurial self-efficacy, just as environmental engagement influences ecopreneurial self-efficacy and ecological value creation, thus supporting hypotheses H1, H2, H5, and H6. However, the same results indicate that moral obligation does not influence the creation of ecological value and environmental engagement does not influence empathy, thus rejecting hypotheses H3 and H4.

After examining the significance of the relationships, the next step concerns the assessment of the model's accuracy (Hair et al., 2019). Although the structural coefficients are significant, their explanatory effect size (f^2) may be small. Thus, the analysis of the coefficient of determination (R^2) in the present study will be supported by the studies of Cohen (1988) and Faul et al. (2009), which determine that R^2 values equal to 0.02, 0.13, and 0.25 are considered respectively as small, medium, and large effects.

In addition to evaluating the coefficient of determination, predictive relevance (Q^2) is used to accurately predict data not used in the model estimation (Hair et al., 2019). Thus, when the Q^2 measure is greater than zero, it accurately predicts the data points of the indicators of the reflective models. The Q^2 value was obtained using the blindfolding procedure. Table 4 presents the R^2, the adjusted R^2, a modified version of the R^2 for the model predictors, and the Q^2 values.

Table 4. Explanatory power

Construct	R^2	R^2 Adjusted	Q^2
Ecopreneurial Self-Efficacy	0.431	0.422	0.315
Environmental Value Creation	0.341	0.330	0.274
Empathy	0.533	0.526	0.409

Table 4 shows that all R^2 values are large and are explained by moral obligation and environmental engagement. Q^2 values are also within the recommendations of Hair et al. (2019). Figure 2 presents the final model.

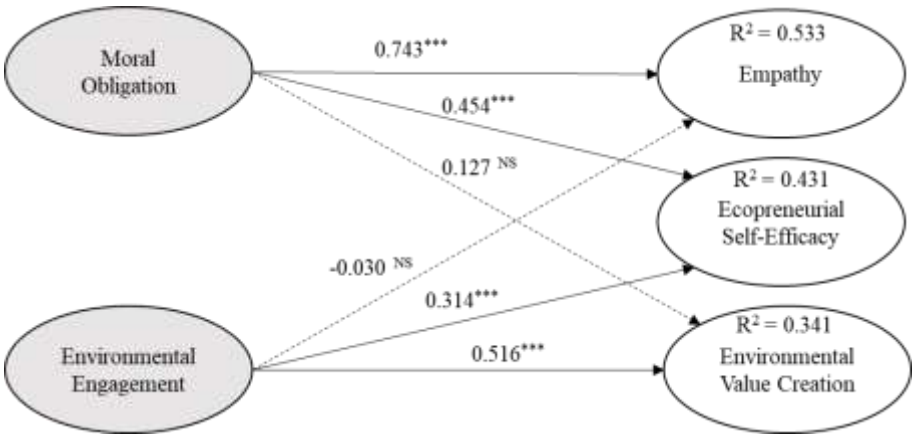

Figure 2: Complete empirical model

Note: * = significant at 5%; ** = significant at 1%; *** = significant at 0.1%; NS = Not Significant.

5. DISCUSSION

To achieve sustainable development, businesses that harm the environment must be gradually adjusted. With the coronavirus outbreak, there was an opportunity and incentive to improve sustainable production and consumption issues (Galindo-Martín et al., 2021). In this context, the present study aimed to analyze the influence of moral obligation and environmental engagement on the perception of empathy, ecopreneurial self-efficacy, and the creation of ecological value in Brazilian ecopreneurs in the context of the Covid-19 pandemic. The empirical perspective of this study enabled us to identify how the new coronavirus impacted the behavior of this entrepreneurial subtype and, consequently, offered subsidies for public and private managers in formulating strategies that strengthen the socio-environmental aspects of the entrepreneurial sphere.

More specifically, this study confirmed that the perception of empathy and self-efficacy is influenced by higher levels of moral obligation. This demonstrates that ecopreneurs are feeling more responsible for helping socially disadvantaged people and contribute to the maintenance of the environment (Kaiser & Byrka, 2011; Prado et al., 2022). This result corroborates the theses of Tanveer et al. (2020) and Leviston and Walker (2021), who argue that Covid-19 changed the social stigma of humanity in general, inducing people to show morality in a disruptive scenario.

On the other hand, the premise that a feeling of morality could positively impact the creation of ecological value arising from the business was contradicted. Possibly, the Covid-19 pandemic alerted entrepreneurs to the need to deliver to society products that go beyond economic limits and yet create socio-environmental impacts (Prado et al., 2022). However, the effects of this value creation may not yet be perceived as a moral obligation, given that the creation of ecological value demands innovation and cleaner production processes (Yi, 2021); therefore, the pandemic conjuncture has not yet awakened such ecopreneurial responsibility.

Additionally, results indicate that more environmentally engaged ecopreneurs have higher levels of self-efficacy and ecological value creation. This evidence implies that the individual whose behavior is aligned with environmental activism feels equipped to implement environmental policies and strategies in their work environment (Piyapong, 2020). In other words, when people are more aware of socioenvironmental problems, they are more likely to respond to such demands. This outcome is, therefore, in agreement with the studies by Alwakid et al. (2021), Estrada et al. (2017), and Gu and Wang (2022).

However, the hypothesis that environmental engagement positively influences ecopreneurial empathy has not been confirmed. Most likely, the rejection of this hypothesis is justified by the fact that empathy is a predictor usually attributed to social entrepreneurs (Ghatak et al., 2020; Hockerts, 2017; Kim, 2022; Younis et al., 2021), which is still little studied in the ecopreneurial sphere. Thus, our results challenge the theses of Gupta and Dharwal (2022) and Duncan-Horner et al. (2022), who admit that empathy can instigate the identification of root causes and implications of environmental problems.

The validation of the findings of this research is relevant, as the sample is composed of effective ecopreneurs who were investigated during Covid-19, which suggests that the contributions are feasible and focus on three main points. *First*, this study validates a robust theoretical model with high explanatory power for the dependent variables (namely, empathy, ecopreneurial self-efficacy, and environmental value creation), which helps in understanding ecopreneurial behavior. Thus, we bring about relevant insights into ecopreneurial behavior at a time when the world is trending towards a sustainable economy (Dhahri et al., 2021; Gurău & Dana, 2018; Rodríguez-García et al., 2019). *Second*, this study demonstrates the complexity of the relationships between variables that measure ecopreneurial behavior and the need to explore

the determinants of these key characteristics. The results indicate that empathy and self-efficacy, predictors of entrepreneurial intention established in the literature (Kim, 2022), can be leveraged when the entrepreneur has high levels of moral obligation. Likewise, entrepreneurs who are environmentally engaged enhance self-efficacy and value creation. Thus, it is possible to reorder and test new interactions and effects of entrepreneurial characteristics and perspectives. Leviston and Walker (2021) have tested the indirect effect of individual effectiveness on pro-environmental behavior through moral engagement, but their study did not take place in a disruptive scenario such as that of Covid-19.

Third, this study offers practical insights for policymakers and educators involved with ecopreneurship. Policymakers must develop an environment that promotes empathy, self-efficacy, and ecological value creation. Additionally, reinforcing the importance of moral obligation and encouraging pro-environmental behavior can boost perceptions of empathy, self-efficacy, and ecological value creation. In addition, programs to raise awareness will help potential ecopreneurs by increasing their aspirations for success and providing significant support. It is worth noting that, by showing the economic benefits of being more ecological and ecologically correct, ecopreneurs work as an attraction encouraging other companies to be ecologically proactive (Galindo-Martín et al., 2021; Rodríguez-García et al., 2019). Furthermore, this research confirms that ecopreneurs have entrepreneurial characteristics similar to those of business entrepreneurs, as in the case of self-efficacy, and of social entrepreneurs, especially regarding empathy and moral obligation. Thus, evaluating and developing behavior aimed at the sustainability of potential entrepreneurs can be an appropriate development strategy to increase the number of ecopreneurs (Tan et al., 2021).

Finally, this research presents contributions that can be directly related to the SDGs agenda. Especially in the environmental dimension, the present results corroborate SDG 13 (action against global climate change) regarding the adoption of urgent measures to combat climate change and its impacts; SDG 14 (life on water), regarding the conservation and sustainable use of oceans, seas, and marine resources for sustainable development; and SDG 15 (terrestrial life), referring to the protection, restoration, and promotion of the sustainable use of terrestrial ecosystems, sustainable generation of forests, combating desertification, halting and reversing soil degradation, and halting the loss of biodiversity. On the economic front, it is possible to contribute to SDG 8, which advocates decent work and economic growth through the promotion of inclusive and sustainable economic growth, full and productive employment, and decent work for all; and SDG 12, responsible consumption and production through sustainable consumption and production patterns.

6. CONCLUSIONS

The pandemic caused by the new Covid-19 virus has significantly altered the ways of life in society. On the one hand, individuals already encouraged to consume ecologically correct products due to the rise of sustainability challenges in recent years were even more driven to a greater concern with health and well-being and began to demand goods and services with a socio-environmental appeal. On the other, entrepreneurs have found a market gap to be explored to meet both the needs for more sustainable consumption and the current socio-environmental demands highlighted in the pandemic context (Galindo-Martín et al., 2021; Ratten et al., 2021).

In the meantime, this research presented an unprecedented model of Brazilian ecopreneurs' behavior, whose data were collected amid Covid-19. Through a symmetric analysis conducted by the Structural Equation Modeling technique, we identified that the disruptive scenario caused by the new coronavirus boosted ecopreneurs to feel more morally obliged to respond to the consumer market with greater empathy and self-efficacy as they

became more environmentally engaged and, consequently, with a greater perception of ecopreneurial self-efficacy and creation of ecological value in their businesses.

The result achieved herein demonstrates that Covid-19 has significantly altered some ecopreneurial perspectives. This shows that in emerging economies, although some issues challenge sustainability-oriented entrepreneurial practice, for reasons such as the precariousness of basic sanitation in some regions (Alwakid et al., 2021; Tanveer et al., 2020), consumers and entrepreneurs are more inclined to behave towards sustainable development.

In other words, understanding that empathy, ecopreneurial self-efficacy, and the creation of ecological value can be even more expressive when the individual feels morally obliged to respond to the current socio-environmental challenges, as well as to refrain from more environmentally engaged behaviors, implies managers and policymakers to work towards strengthening the significant role that ecological entrepreneurs play in society, especially in countries whose regulations do not favor entrepreneurial performance.

Despite the methodological rigor, this study is not without limitations. First, the study proposes and validates a model that does not yet have a theoretical basis, which makes it difficult to analyze the results precisely because the literature that supports ecopreneurship is still limited. Second, the model is composed of the interaction of only five constructs, and the sample is limited to a Brazilian public project. In this sense, future studies are encouraged to add other factors that strengthen empathy, self-efficacy, and the creation of ecological value, including other subtypes of sustainability-oriented entrepreneurship, considering new samples and other periods.

REFERENCES

AbdelAziz, K., Md Saad, N. H., & Thurasamy, R. (2021). Analysing the factors influencing customer engagement and value co-creation during COVID-19 pandemic: the case of online modest fashion SMEs in Egypt. *Journal of Islamic Marketing*. https://doi.org/10.1108/JIMA-09-2020-0294

Alwakid, W., Aparicio, S., & Urbano, D. (2021). The Influence of Green Entrepreneurship on Sustainable Development in Saudi Arabia: The Role of Formal Institutions. *International Journal of Environmental Research and Public Health*, *18*(10), 5433. https://doi.org/10.3390/ijerph18105433

Bawakyillenuo, S., & Agbelie, I. S. K. (2021). Environmental Consciousness of Entrepreneurs in Ghana: How Do Entrepreneur Types, Demographic Characteristics and Product Competitiveness Count? *Sustainability*, *13*(16), 9139. https://doi.org/10.3390/su13169139

Brady, M. K., & Cronin, J. J. (2001). Some New Thoughts on Conceptualizing Perceived Service Quality: A Hierarchical Approach. *Journal of Marketing*, *65*(3), 34–49. https://doi.org/10.1509/jmkg.65.3.34.18334

Čapienė, A., Rūtelionė, A., & Tvaronavičienė, M. (2021). Pro-Environmental and Pro-Social Engagement in Sustainable Consumption: Exploratory Study. *Sustainability*, *13*(4), 1601. https://doi.org/10.3390/su13041601

Cohen, J. (1988). *Statistical power analysis for the social sciences* (2ª). Lawrence Erlbaum Associates.

Dhahri, S., Slimani, S., & Omri, A. (2021). Behavioral entrepreneurship for achieving the sustainable development goals. *Technological Forecasting and Social Change*, *165*, 120561. https://doi.org/10.1016/j.techfore.2020.120561

dos Santos, A. R. et al. (2020). Fuzzy concept applied in determining potential forest fragments for deployment of a network of ecological corridors in the Brazilian Atlantic Forest. *Ecological Indicators*, *115*, 106423. https://doi.org/10.1016/j.ecolind.2020.106423

Duncan-Horner, E. M., Farrelly, M. A., & Rogers, B. C. (2022). Understanding the social entrepreneur: a new intentions model for advancing equity, social justice and sustainability. *Journal of Entrepr. in Emerging Economies*, *14*(3), 361–391. https://doi.org/10.1108/JEEE-10-2020-0359

Efron, B., & Tibshiranit, R. J. (1998). *An introduction to the bootstrap* (1ª). Chapman & Hall/CRC.

Estrada, M., Schultz, P. W., Silva-Send, N., & Boudrias, M. A. (2017). The Role of Social Influences on Pro-Environment Behaviors in the San Diego Region. *Journal of Urban Health*, *94*(2), 170–179. https://doi.org/10.1007/s11524-017-0139-0

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, *18*(1), 39. https://doi.org/10.2307/3151312

Galindo-Martín, M.-Á., Castaño-Martínez, M.-S., & Méndez-Picazo, M.-T. (2021). Effects of the pandemic crisis on entrepreneurship and sustainable development. *Journal of Business Research*, *137*, 345–353. https://doi.org/10.1016/j.jbusres.2021.08.053

Ge, B., Sheng, F., Gao, Y., Tsai, S.-B., & Du, X. (2018). "Green Ocean Treasure Hunting" Guided by Policy Support in a Transitional Economy. *Sustainability*, *10*(2), 445. https://doi.org/10.3390/su10020445

Ghatak, A., Chatterjee, S., & Bhowmick, B. (2020). Intention Towards Digital Social Entrepreneurship: An Integrated Model. *Journal of Social Entrepreneurship*, 1–21. https://doi.org/10.1080/19420676.2020.1826563

Gregori, P., Holzmann, P., & Wdowiak, M. A. (2021). For the sake of nature: Identity work and meaningful experiences in environmental entrepreneurship. *Journal of Business Research*, *122*, 488–501. https://doi.org/10.1016/j.jbusres.2020.09.032

Gu, W., & Wang, J. (2022). Research on index construction of sustainable entrepreneurship and its impact on economic growth. *Journal of Business Research*, *142*, 266–276. https://doi.org/10.1016/j.jbusres.2021.12.060

Gupta, M., & Dharwal, M. (2022). Green entrepreneurship and sustainable development: A conceptual framework. *Materials Today: Proceedings*, *49*, 3603–3606. https://doi.org/10.1016/j.matpr.2021.08.148

Gurău, C., & Dana, L.-P. (2018). Environmentally-driven community entrepreneurship: Mapping the link between natural environment, local community and entrepreneurship. *Technological Forecasting and Social Change*, *129*, 221–231. https://doi.org/10.1016/j.techfore.2017.11.023

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 2-24. https://doi.org/10.1108/EBR-11-2018-0203

Hockerts, K. (2017). Determinants of Social Entrepreneurial Intentions. *Entrepreneurship Theory and Practice*, *41*(1), 105–130. https://doi.org/10.1111/etap.12171

IBS. (2018). *Projeto Conexão Mata Atlântica*. https://www.biosistemico.org.br/projeto/cma/

Infraestrutura e Meio Ambiente. (2020). *Projeto Conexão Mata Atlântica*. https://www.infraestruturameioambiente.sp.gov.br/conexao/

Jayashankar, P., van Auken, H., & Ashta, A. (2018). What motivates ecopreneurs in the United States to create value? *Strategic Change*, *27*(6), 509–521. https://doi.org/10.1002/jsc.2235

Kaida, N., & Kaida, K. (2019). Positive associations of optimism–pessimism orientation with pro-environmental behavior and subjective well-being: a longitudinal study on quality of

life and everyday behavior. *Quality of Life Research*, *28*(12), 3323–3332. https://doi.org/10.1007/s11136-019-02273-y

Kaiser, F. G., & Byrka, K. (2011). Environmentalism as a trait: Gauging people's prosocial personality in terms of environmental engagement. *International Journal of Psychology*, *46*(1), 71–79. https://doi.org/10.1080/00207594.2010.516830

Kim, J.-R. (2022). People-Centered Entrepreneurship: The Impact of Empathy and Social Entrepreneurial Self-efficacy for Social Entrepreneurial Intention. *Global Business Finance Review*, *27*(1), 108–118. https://doi.org/10.17549/gbfr.2022.27.1.108

Kornilaki, M., Thomas, R., & Font, X. (2019). The sustainability behaviour of small firms in tourism: the role of self-efficacy and contextual constraints. *Journal of Sustainable Tourism*, *27*(1), 97–117. https://doi.org/10.1080/09669582.2018.1561706

Lauren, N., Fielding, K. S., Smith, L., & Louis, W. R. (2016). You did, so you can and you will: Self-efficacy as a mediator of spillover from easy to more difficult pro-environmental behaviour. *Journal of Environmental Psychology*, *48*, 191–199. https://doi.org/10.1016/j.jenvp.2016.10.004

Leviston, Z., & Walker, I. (2021). The influence of moral disengagement on responses to climate change. *Asian Journal of Social Psychology*, *24*(2), 144–155. https://doi.org/10.1111/ajsp.12423

Markman, G. D., & Baron, R. A. (2003). Person–entrepreneurship fit: why some people are more successful as entrepreneurs than others. *Human Resource Management Review*, *13*(2), 281–301. https://doi.org/10.1016/S1053-4822(03)00018-4

Moraes, G. H. S. M., Fischer, B. B., Guerrero, M., Rocha, A. K. L. R., & Schaeffer, P. R. (2021). An inquiry into the linkages between university ecosystem and students' entrepreneurial intention and self-efficacy. *Innovations in Education and Teaching International*, ahead-of-print. https://doi.org/10.1080/14703297.2021.1969262

Nadeem, M., Gyapong, E., & Ahmed, A. (2020). Board gender diversity and environmental, social, and economic value creation: Does family ownership matter? *Business Strategy and the Environment*, *29*(3), 1268–1284. https://doi.org/10.1002/bse.2432

Nowiński, W., Haddoud, M. Y., Wach, K., & Schaefer, R. (2020). Perceived public support and entrepreneurship attitudes: A little reciprocity can go a long way! *Journal of Vocational Behavior*, *121*, 103474. https://doi.org/10.1016/j.jvb.2020.103474

Piyapong, J. (2020). Factors Affecting Environmental Activism, Nonactivist Behaviors, and the Private Sphere Green Behaviors of Thai University Students. *Education and Urban Society*, *52*(4), 619–648. https://doi.org/10.1177/0013124519877149

Potluri, S., & Phani, B. V. (2020). Incentivizing green entrepreneurship: A proposed policy prescription (a study of entrepreneurial insights from an emerging economy perspective). *Journal of Cleaner Production*, *259*, 120843. https://doi.org/10.1016/j.jclepro.2020.120843

Prado, N. B. do, Moraes, G., Fischer, B. B., Anholon, R., & Rampasso, I. S. (2022). Antecedents of environmental value creation: an analysis with ecopreneurs in a developing country. *International Journal of Sustainable Development & World Ecology*, 1–16. https://doi.org/10.1080/13504509.2022.2080296

Ratten, V., da Silva Braga, V. L., & da Encarnação Marques, C. S. (2021). Sport entrepreneurship and value co-creation in times of crisis: The covid-19 pandemic. *Journal of Business Research*, *133*, 265–274. https://doi.org/10.1016/j.jbusres.2021.05.001

Ringle, C. M., Wende, S., & Becker, J. M. (2015). *SmartPLS 3*. Boenningstedt: SmartPLS GmbH. http://www.smartpls.com

Rocha, A. K. L., Moraes, G.H.S.M., & Fischer, B.B. (2022). The role of university environment in promoting entrepreneurial behavior: evidence from heterogeneous regions in Brazil. *Innovation & Manag. Review*, 19(1),39-61 https://doi.org/10.1108/INMR-08-2020-0112

Rodríguez-García, M., Guijarro-García, M., & Carrilero-Castillo, A. (2019). An Overview of Ecopreneurship, Eco-Innovation, and the Ecological Sector. *Sustainability*, *11*(10), 2909. https://doi.org/10.3390/su11102909

Saleh, R. M., & Al-Swidi, A. (2019). The adoption of green building practices in construction projects in Qatar: a preliminary study. *Management of Environmental Quality: An International Journal*, *30*(6), 1238–1255. https://doi.org/10.1108/MEQ-12-2018-0208

Santini, C. (2017). Ecopreneurship and Ecopreneurs: Limits, Trends and Characteristics. *Sustainability*, *9*(4), 492. https://doi.org/10.3390/su9040492

Schmidt, S., & Bohnenberger, M. C. (2009). Perfil empreendedor e desempenho organizacional. *Revista de Administração Contemporânea*, *13*(3), 450–467. https://doi.org/10.1590/S1415-65552009000300007

Sharma, G. D., Kraus, S., Liguori, E., Bamel, U. K., & Chopra, R. (2022). Entrepreneurial challenges of COVID-19: Re-thinking entrepreneurship after the crisis. *Journal of Small Business Management*, 1–23. https://doi.org/10.1080/00472778.2022.2089676

Soomro, B. A., Ghumro, I. A., & Shah, N. (2020). Green entrepreneurship inclination among the younger generation: An avenue towards a green economy. *Sustainable Development*, *28*(4), 585–594. https://doi.org/10.1002/sd.2010

Sun, H., Pofoura, A. K., Adjei Mensah, I., Li, L., & Mohsin, M. (2020). The role of environmental entrepreneurship for sustainable development: Evidence from 35 countries in Sub-Saharan Africa. *Science of The Total Environment*, *741*, 140132. https://doi.org/10.1016/j.scitotenv.2020.140132

Tampakoudis, I., Noulas, A., Kiosses, N., & Drogalas, G. (2021). The effect of ESG on value creation from mergers and acquisitions. What changed during the COVID-19 pandemic? *Corporate Governance: The International Journal of Business in Society*, *21*(6), 1117–1141. https://doi.org/10.1108/CG-10-2020-0448

Tan, L. P., Pham, L. X., & Bui, T. T. (2021). Personality Traits and Social Entrepreneurial Intention: The Mediating Effect of Perceived Desirability and Perceived Feasibility. *The Journal of Entrepreneurship*, *30*(1), 56–80. https://doi.org/10.1177/0971355720974811

Tanveer, F., Khalil, A. T., Ali, M., & Shinwari, Z. K. (2020). Ethics, pandemic and environment; looking at the future of low middle income countries. *International Journal for Equity in Health*, *19*(1), 182. https://doi.org/10.1186/s12939-020-01296-z

Yi, G. (2021). From green entrepreneurial intentions to green entrepreneurial behaviors: the role of university entrepreneurial and external institutional support. *International Entrepreneurship and Management Journal*, *17*(2), 963–979. https://doi.org/10.1007/s11365-020-00649-y

Younis, A., Xiaobao, P., Nadeem, M. A., Kanwal, S., Pitafi, A. H., Qiong, G., & Yuzhen, D. (2021). Impact of positivity and empathy on social entrepreneurial intention: The moderating role of perceived social support. *Journal of Public Affairs*, *21*(1). https://doi.org/10.1002/pa.2124