

Attitudes Towards Sustainable Entrepreneurship among Students: A Pilot Study in Latvia and Lithuania

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Abstract: Sustainable economic development is driven by sustainable entrepreneurial activities, generated by the personal attitudes of entrepreneurs. The present and future of sustainable entrepreneurship are shaped by the youth, including students, which is why it is important to understand their attitudes towards this type of entrepreneurship. Therefore, the key goal of the research is to evaluate the attitudes and behaviours of the youth towards sustainability issues and sustainable entrepreneurship. The current article reflects the results of the second research stage and aims at evaluating attitudes towards sustainable entrepreneurship among Latvian and Lithuanian students. The results reveal that gender/age affect personal environmental attitudes, however gender/age has no effect on personal willingness to start a sustainable business. The analysis results of the personal attitudes to sustainable entrepreneurship differ by age and gender. Gender has no effect and age strongly affects personal attitudes to sustainable development.

Keywords: *circular economy, entrepreneurship, higher education, survey, sustainable development*

1. Introduction

The concept of sustainable development emphasizes economic growth and the inclusion of all members of society in economic activities without generating risks for the development of future generations (Lapinskaitē & Vidžiūnaitē, 2020). The inclusion of the concepts of social inclusion and future generations translates into the necessity to incorporate social aspects into economic development, which, in turn, is facilitated by entrepreneurial activities. To promote the consideration of social aspects in entrepreneurship, the concept of social entrepreneurship (henceforth SE) has emerged. Overall, SE could be viewed as an economic instrument for the implementation of sustainable development due to its focus on the integration of economic activities, positive social impacts, and environmental protection. Therefore, SE has become an important matter in scientific research (Shina & Titko, 2017; Vevere, Cerkovskis & Sannikova, 2021). Although there is no one commonly accepted definition of SE, generally it could be defined as a set of economic activities conducted mostly for the purposes of social and environmental benefits, for example, by providing employment to the disadvantaged (Kročil,

Pospíšil & Kosina, 2020). Due to the economic and social resilience of SE activities to crises, social enterprises have been included in European social models, which is why the development of social enterprises has become a trend in European countries despite differences in the levels of economic development and legislation.

However, due to the social emphasis of SE, such businesses might encounter challenges sustaining financial health due to various reasons, such as revenue concentration and lack of resources (Guan, Tian & Deng, 2020). In order to overcome economic barriers, SE ideas should be able to attract more entrepreneurs and students, who represent the potentially sustainable and longitudinal future of SE. Barton, Schaefer & Canavati (2018) found that students in California were interested in SE because they saw an opportunity to combine personal fulfilment, development of the unique company's image, and contributions to a better society and environment. Research in other countries, such as Portugal, Croatia, the UAE, etc., has confirmed students' interest in SE (Kročil, Pospíšil & Kosina, 2020). Positive associations with SE, which are formed by positive evaluations of SE, co-create positive attitudes toward SE. Attitudes are known to interact with behaviour in different ways, which in the context of SE might positively affect the decision to launch a social enterprise. Therefore, the study of students' attitudes to SE is important, particularly in the context of small nations with limited resources, such as the Baltic States, and possibly lower levels of SE activities.

In this article, the authors link SE with the circular economy (henceforth CE) and consider only CE business models as the types of business that are offered students for evaluation.

The current rates of youth unemployment are relatively high, which is why students should be encouraged to engage in entrepreneurial activities (Santos-Jaén, Iglesias-Sánchez & Jambrino-Maldonado, 2022), ensuring own employment and providing employment to others. Longitudinal entrepreneurial initiatives are ensured by sustainable business practices, also known as sustainable entrepreneurship. The aim of the research is to evaluate the attitudes and behaviours of youth towards sustainability issues and sustainable entrepreneurship. Consistent with the United Nations Agenda 2030, sustainable entrepreneurship in this article includes aspects of social and environmental entrepreneurial activities. The aim of this article is to identify the effect of personal characteristics, namely age and gender, on students' attitudes towards sustainable entrepreneurship,

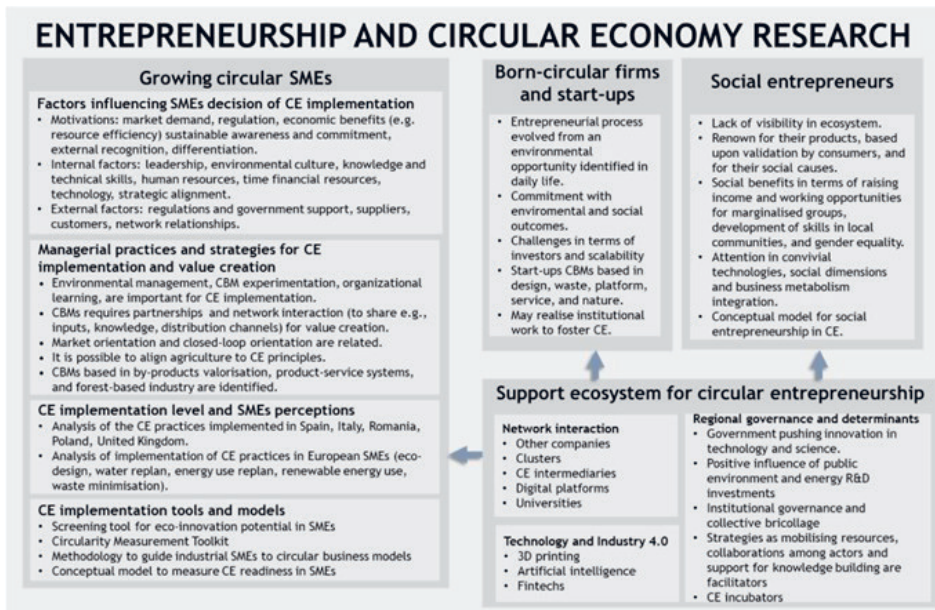
which includes social entrepreneurship, and willingness to start a social business in CE.

2. Literature review

2.1 Circular economy and social/sustainable entrepreneurship

Circular economy is “restorative and regenerative by design and aims to keep products, components and materials at their highest utility and value at all times, distinguishing between technical and biological cycles” (Ellen MacArthur Foundation, 2012, p. 2). Entrepreneurship is a key factor for development and circular business. Suchek, Ferreira and Fernandes (2022) analyzed 102 articles and identified four thematic groups: growing circular small and medium-sized enterprises (henceforth SMEs); born circular firms and start-ups; social entrepreneurship in CE; and support ecosystem for circular entrepreneurship (Fig. 1). The framework provides an overview of what, until now, has been researched about entrepreneurship in the CE.

Figure 1. The framework of entrepreneurship and CE research.



Source: Suchek, Ferreira & Fernandes, 2022, p. 2267.

Entrepreneurship in CE is included in the sustainability paradigm (Alonso, Sánchez-Rivero & Pozas, 2022). The attainment of sustainability goals outlined in the United Nations Agenda 2030 for Sustainable Development is possible only by engaging social enterprises (Diaz-Sarachaga & Ariza-Montes, 2022). Social enterprises are established by social entrepreneurship, which becomes a component of sustainable entrepreneurship. In many countries, social entrepreneurship plays a fundamental role in reducing social inequalities in society. Social enterprises could have heterogeneous status and forms and could form different associations, unions, SMEs and cooperatives. According to Macke *et al.* (2018, p. 677), “[s]ocial entrepreneurs are individuals with a social mission, capable of combining practices and knowledge as well as developing partnerships to promote sustainable social change.”

A broad range of small, medium-size and large multinational organizations, including social enterprises, are interested in adopting CE practices. The fact is, a CE can help companies make better use of materials by minimizing the input of natural resources, reducing waste, and optimizing the economic, social, technical and environmental costs and benefits of materials and products throughout their lifecycle (Velenturf *et al.*, 2019). Various authors have addressed social entrepreneurship within the CE framework, including Stratan’s (2021) Moldova case.

The shift toward a CE is initiated on different scales by a great diversity of stakeholders (policy makers, industrials, designers, citizens), approaches (eco-design, industrial and territorial ecology, cradle-to-cradle, systemic design), and new business models (sustainable product-services systems, makerspaces and repair cafés, resource-based local networks) (Real & Lizarralde, 2017).

After analyzing the main directions of the CE and the features of social entrepreneurship, Smitskikh, Titova and Shumik (2020) created a dynamic efficiency model for the development of social entrepreneurship in CE. They underline the fact that within the concept of the CE, the determining factor in its development is “the long-term effect of social entrepreneurship, which consists of a favorable environment maintenance, natural resource renewal while reproducing human capital and achieving social justice” (Smitskikh, Titova & Shumik, 2020, p. 253). Such inclusion of environmental components in social entrepreneurship goals indicates the fusion of these two types of entrepreneurship at least in some aspects. For example, most social entrepreneurs in the Romanian textile and clothing sector are mainly

oriented toward the use of CE models of value creation from waste and efficient use of resources in production, but not in the provision of services (Staicu, 2021). The fusion of social and environmental entrepreneurial activities within the CE framework is facilitated by the development of digital business models, of which 57 were described by Saiz-Alvarez (2020).

The resolution of social issues through social and environmental entrepreneurial actions within CE is facilitated through a change of social practices and attitudes, which cause at least some social problems. When new social practices and attitudes emerge as a social phenomenon, they create social innovation (henceforth SI) (Avelino *et al.*, 2019). SI can be attributed to any sector of the economy, both public and private, including social enterprises, non-profit and informal sectors. SI within the CE framework can be created by technological innovations. According to Marchesi and Tweed (2021), while the CE framework has mostly concentrated on various levels of technological innovations, social practices and behavior change have hardly been addressed. Given that communities and various interest groups play a critical role in the promotion of sustainable practices through SI initiatives, this issue also plays a significant role in the development of the CE.

Sustainable solutions can be generated differently within the CE. Some authors have discussed how alternative design strategies within the CE, built in the context of social production, can produce sustainable solutions, including the creation of a new value system and the change of the spectrum of business models. For example, Hirscher, Niinimäki and Joyner Armstrong (2018) addressed this issue for the fashion industry in Finland and the United States. Some other authors have focused on the creation of incubators for the promotion of the CE by identifying CE opportunities and creating the context for the purpose of CE goals (Millette, Hull & Williams, 2020).

Research attention to social enterprises is growing, however, there is a lack of literature on business model innovations in the context of social enterprises that would help attain the sustainability goals of Agenda 2030. Social innovations can emerge only if business models stimulate their growth. By investigating the peri-urban geographies of India, Goyal, Agrawal and Sergi (2021) found that the application of the latest digital technologies and extensive partnerships across the board can shift the focus on the necessity to yield social innovations and business models capable of creating such innovations. Having researched the Scandinavian electricity retail market, Olofsson, Hoveskog and Halila (2018) concluded that, by introducing innovative business models, social entrepreneurs have an

impact on the dominant business model of their industry. Overall, business model innovations of social enterprises tend to have roots in customer engagement but gradually move towards improving the efficiency of internal management procedures.

Business model innovations of social enterprises focus on various areas of services and production. For example, Palomares-Aguirre *et al.* (2018) examined the scaling of sustainable business models in Mexico. They stressed the importance of community involvement, government collaboration, and the need to scale up social enterprises to better serve social causes, such as assistance to the poorest. Ribeiro *et al.* (2018) explored a new business model for reducing food waste which had been developed for the social cooperation project *Fruta Feia* in Portugal. The results showed the sustainability of both the project and the methods applied to assess the sustainability of the new business model.

Overall, social entrepreneurship is not widely represented in the literature, however, it certainly has a potential to impact the creation and adoption of sustainable and innovative business models (Dentchev *et al.*, 2018).

Any type of entrepreneurial initiatives is rooted in a set of activities (Duong, 2022), including social, environmental, and sustainable entrepreneurship. Any entrepreneurial initiative results from the actions of individuals eager to search and pursue entrepreneurial opportunities (Gieure, Benavides-Espinosa & Roig-Dobón, 2020). Such actions are produced by entrepreneurial intentions, created by entrepreneurship-inducing factors (Duong, 2022; Gieure, Benavides-Espinosa & Roig-Dobón, 2020). One such factor, however, has produced controversial results. It is an entrepreneurial attitude. According to the traditional view, there is a relatively strong link between an individual attitude towards the idea of launching an entrepreneurial action and starting a business (Duong, 2022; Gieure, Benavides-Espinosa & Roig-Dobón, 2020). However, some research outcomes, including the study of 300 university students from 34 countries by Gieure, Benavides-Espinosa and Roig-Dobón (2020), do not support the claim. Thus, there is a gap between entrepreneurial attitudes and actions (Duong, 2022), which might be caused by different factors creating an attitude, the most fundamental of which include gender and age. In this light, the authors of this article suggest the need to further study the link between an entrepreneurial attitude and sustainable entrepreneurship via the mediating factors of gender and age.

2.2 Circular economy business models

The concept of the CE is used as one of the directions on the way to sustainable development. Business models are considered a key factor in the transition from linear concepts to the CE.

According to Lüdeke-Freund, Gold and Bocken (2018, p. 36), “the number of different business models is just too big to be covered in a single typology or to be described in a single research paper,” which is why they argue that companies implementing CE principles need to understand how they create and deliver value through their business models. The same opinion was reached by Antikainen *et al.* (2017, p. 546) who mentioned that “companies need to find new collaboration partners and reconsider the value offered to stakeholders.” To develop new business models in CE, they propose using mixed methods in the innovation process.

Planing (2018) noted that to change the entire economy, to develop, and to promote new CE business models, it is essential to explore the hidden motives and norms that underlie the reasoning of consumers and the decision-making process. Otherwise, certain business models cannot be successfully implemented (Planing, 2018). Thus, the authors of this paper conclude that it is necessary to consider both rational and irrational motives of consumer behavior in order to successfully implement CE business models.

At present, innovative business models for the CE are still fragmented (Pieroni, McAloone & Pigosso, 2019). Despite such fragmentation, more and more companies are using such models and heterogeneous approaches that deviate from the traditional view (Pieroni, McAloone & Pigosso, 2019). To minimize this fragmentation gap, Rosa, Sassanelli and Terzi (2019) conducted a systematic literature review of 283 articles on existing circular business models (henceforth CBMs) and their classification methods.

CE offers more resource-efficient models of production and consumption and has attracted the interest of various stakeholders in recent years. There is a growing number of studies analyzing the results of companies that place the principles of a closed cycle at the heart of their business. Hopkinson *et al.* (2018) present a detailed case study of CE business models spanning the period of 30 years and explore the successes, challenges, and conflicts associated with the implementation of such models.

Cullen and De Angelis (2021) in their research for a “born-circular” start-up consider circular entrepreneurship from a business model perspective and

believe that to be entrepreneurial in a CE it is necessary to establish value for the entire system that includes the organization.

Ranta, Aarikka-Stenroos and Väisänen (2021) argue that for innovating new business models for CE, it is necessary to use digital technologies, which is why they developed a model of four key types of business model innovation for the CE. In addition, Gregori and Holzmann (2020) investigated how to minimize the gap between the theory and practice of environmentally and socially sustainable entrepreneurship through digital BMs.

Having examined the business models of 128 circular start-ups, their strategies and innovations, Henry *et al.* (2020) proposed a new typology of circular start-ups, concluding that circular start-ups tend to use strategies with a higher level of circularity than other types of businesses.

However, the development and implementation of CE business model innovations might be problematic due to barriers (Guldmann, & Huulgaard, 2020; Murray, Skene & Haynes, 2017; Veleva & Bodkin, 2017; Werning & Spinler, 2020). Differences between barriers and business models were analyzed by Vermunt *et al.* (2019).

3. Methodology

To achieve the research goal, the authors of the article developed a questionnaire that consists of four parts:

Part A: Respondent profile questions;

Part B: Environmental attitudes (12 questions);

Part C: Attitudes to sustainable entrepreneurship (6 questions);

Part D: Willingness to start a sustainable business (to be a social entrepreneur in the field of circular economy; 9 questions).

The structure of the questionnaire is presented in Table 1.

Table 1. Structure of the questionnaire.

Part	Question	Type of the question; responses
A	Respondent profile	Age, gender, country of residence
B	Environmental attitudes	12 statements. Evaluation scale: level of agreement (1—absolutely disagree; 5—absolutely agree)
C	Attitudes to sustainable entrepreneurship	6 statements. Evaluation scale: level of agreement (1—absolutely disagree; 5—absolutely agree)
D	Willingness to start a circular business	9 business types. Evaluation scale: level of readiness (1—never, the lowest probability; 5—the highest probability)

Source: Authors' own.

The process of the development of the questionnaire was described in detail in the authors' previously published paper 'Attitude towards sustainable entrepreneurship among students: Testing a measurement scale' (Titko *et al.*, 2022).

For the purposes of this study we have developed a set of hypothesis for testing:

H1a: Gender affects personal environmental attitudes (Part B questions).

H1b: Age affects personal environmental attitudes (Part B questions).

H2a: Gender affects personal attitude to sustainable entrepreneurship (Part C questions).

H2b: Age affects personal attitude to sustainable entrepreneurship (Part C questions).

H3a: Gender affects personal willingness to start a sustainable business (Part D questions).

H3b: Age affects personal willingness to start a sustainable business (Part D questions).

To test these hypotheses within the proposed research, we implemented statistical analyses, i.e. a descriptive statistics analysis, a regression analysis, and a graph analysis. In accordance with existing literature we have proposed, that in general, females are more eager to accept sustainable practices, and this was our null-hypothesis assumption for all the hypotheses mentioned above. Within the sample used for hypotheses testing, 18.6% of respondents were male, and 81.4% were female. In general, about 20% of the student population in Latvia and Lithuania are male, and the rest are

female. This gender profile, though seemingly misbalanced, is justified as it is the gender profile among economics and business-oriented students who were involved in the study.

4. Results

At the first stage of our research, we proposed that females tend to demonstrate more environmentally friendly attitudes compared to the male sample of our study. To assess this hypothesis, we performed a descriptive statistics analysis for the whole sample, and then compared the results to female and male samples for each question in the questionnaire described above in the methodology section.

Table 2. Gender differentiation for environmental attitudes of the students.

Question	Average		Standard deviation		Median		Mode	
	Female	Male	Female	Male	Female	Male	Female	Male
I am ready to reduce the use of single-use plastics	4.28	3.31	0.11	0.33	4	3	5	4
I am ready to reduce the amount of new products and goods I buy	3.81	3.08	0.14	0.29	4	3	5	3
I am ready to reduce my air travel	2.91	2.31	0.16	0.31	3	2	3	2
I would rather choose brands that have environmentally sustainable practices/values	3.77	3.23	0.13	0.3	4	3	3	4
I am ready to stop purchasing certain brands or products if I have ethical or sustainability related concerns about them	3.66	3.23	0.13	0.32	4	3	3	3
I am ready to make an effort to cut down on the amount of electricity I use to save energy	3.61	2.92	0.13	0.33	4	3	4	3

Question	Average		Standard deviation		Median		Mode	
	Female	Male	Female	Male	Female	Male	Female	Male
I am ready to use a bike or public transport (if available) rather than a car to get to work	3.12	2.62	0.2	0.35	3	2	5	2
People should change their buying habits and way of life to solve our environmental problems	4.01	3.62	0.14	0.33	4	4	4	3
Government should take action to solve our environmental problems even if it means that some of the products we now use would have to be changed or banned.	3.84	3.69	0.13	0.26	4	4	4	3
Government should place higher taxes on products that cause pollution in their manufacture or disposal, so that companies will be encouraged to find better ways to produce them	3.04	3.08	0.17	0.37	3	3	3	3
Government should take steps to deal with our environmental problems, even if it means most of us pay higher prices or taxes	3.3	3.15	0.17	0.37	3	3	3	3

As the table demonstrates, there is a significant difference in female and male attitudes towards environmental safety; as we suggested, females are more environmentally friendly than males in general. For instance, median answer indicating readiness to reduce the use of single-use plastic for females is 4 (“strongly agree”), while for the male sample it was 3 (“neither agree nor disagree”). The same difference is even higher for the agreement to buy less products and goods (5 versus 3 for mode). For the choice of brands, the situation is still different for males and females, yet it is interesting that more males than females choose environmentally sustainable brands, though, in general, environmental friendliness is more important for females; yet the attitude towards rejecting a non-sustainable brand is almost the same for both genders. When it comes to more sensitive issues, like heating in winter, both genders become much less eager to accept

inconvenience to be environmentally friendly; yet females are slightly more ready to cut down their consumption to save. In terms of switching a car to more environment friendly transportation options the tendency remains the same—females are more eager to use a bike or public transport; still, it is the decision which provoked most contradictory answers for both genders—the reasoning behind might be car ownership—as it seems that car owners are much less eager to reject the use of cars and move around by bike or public transport. In terms of posing restrictions on others, and the attitudes towards required government actions, both males and females tend to show the same attitudes—they are not ready for higher taxes and costs for both themselves and companies, yet they seem to agree that certain products should be banned to ensure environmental safety. Thus, *H1a: Gender affects personal environmental attitudes*, was fully supported—females are more affected in the choices they make when it comes to environmental attitudes, while males are less eager to change their habits due to personal assessment of environmental safety. Those differences mainly apply to personal choices and personal behavior—on the contrary, when it comes to other people's choices and government initiatives, both genders in general provide the same reaction.

Second, we analyzed gender differences in attitudes to sustainable entrepreneurship in relation to the questions proposed in the questionnaire, and the descriptive statistics analysis is presented in Table 3.

Regarding the attitudes to sustainable entrepreneurship of males and females, our research indicates that in this case the difference exists, too, and is even higher than in the case of entrepreneurial intentions. Male sample demonstrates much higher intentions to start sustainable business, and males in 15.5% more cases have a sustainable business idea in mind compared to females; though for both genders the intention to start business is quite low (the median answer is 2, meaning that the respondent strongly disagrees with the idea of starting a business right after graduation), males quite frequently chose that they are willing to start a sustainable business in the future (mode male answer to the question “I intend to start a sustainable business in future” is 4, meaning “strongly agree”). Hence, *H2a: Gender affects personal attitude to sustainable entrepreneurship*, was also supported—we have found gender differences in relation to sustainable entrepreneurial intentions of the respondents, with the most controversies arising from the idea that sustainable business should allow its owner to gain profit. While males tend to see sustainable business as potentially profitable, the female sample mainly disagreed with that—the median for

females to answer this question was 2 (so females mainly disagreed with the idea of earning money from a sustainable business), and mode was even 1 (“absolutely disagree”)—meaning that most answers to this question, given by females, indicate that they reject the idea of gaining profits by solving someone’s social problems.

Table 3. Gender differentiation for attitudes to sustainable entrepreneurship among students.

Question	Average		Standard deviation		Median		Mode	
	Female	Male	Female	Male	Female	Male	Female	Male
I have a preliminary sustainable business idea	1.93	2.23	0.13	0.3	2	1	2	1
I intend to start a sustainable business in the future	2.02	2.62	0.14	0.33	2	3	1	4
I am ready to start a sustainable business within five years after graduation	1.96	2.31	0.15	0.35	2	2	1	1
I want to start a sustainable business to solve environmental problems	2.18	2.46	0.15	0.33	2	3	1	1
I want to start a sustainable business to solve social problems (gender equality, reducing unemployment)	2.3	2.38	0.16	0.35	2	2	1	2
I want to start a sustainable business to get profit	2.67	3.31	0.19	0.41	2	4	1	4

Finally, we have analyzed how gender affects personal willingness to start a sustainable business in a specific sphere. The results are presented in Table 4.

Table 4. Gender differentiation for willingness to start a sustainable business among students.

Question	Average		Standard deviation		Median		Mode	
	Female	Male	Female	Male	Female	Male	Female	Male
If I decide to start a social business, it will be production from waste	3.37	3.38	0.16	0.35	3	3	4	3
If I decide to start a social business, it will be closed-loop product design	3.28	3.07	0.15	0.37	3	3	4	3
If I decide to start a social business, it will be production of eco-products	3.72	3.69	0.16	0.33	4	4	4	4
If I decide to start a social business, it will be recycling	3.28	2.92	0.17	0.37	4	3	4	3
If I decide to start a social business, it will be collection of products from waste	2.68	2.67	0.18	0.36	3	3	1	2
If I decide to start a social business, it will be a co-working service	3.42	3.08	0.16	0.31	3	3	3	3
If I decide to start a social business, it will be re-selling	3.26	2.92	0.16	0.42	3	3	4	2
If I decide to start a social business, it will be a sharing service	3.46	2.69	0.16	0.40	3	3	3	3
If I decide to start a social business, it will be PAAS or IAAS	3.4	3.23	0.16	0.36	3	3	3	4

What one can derive from the table above is that there is only a very slight gender-based difference in the willingness to start a sustainable business which can be considered insignificant, with one exception. The exception concerns re-selling business: though the median for both male and female audience is the same, on average, females tend to believe re-selling to be a sustainable business model much more than their male counterparts. This suggestion is supported by the difference in mode—for this type of entrepreneurial activity mode for the female sample is 4 (“strongly agree”) while for the male sample it is 2 (“strongly disagree”). Another controversial

business is sharing, but in this case the difference can only be seen in terms of average evaluation, while median and mode are the same for both genders. Thus, *H3a: Gender affects personal willingness to start a sustainable business* is not supported, yet we can state that there are some types of sustainable business activities which are seen differently by genders.

In general, the difference in male and female perception of environmental safety and business opportunities created in the field of sustainable entrepreneurship are relatively close, and this allows to perform regression and graph analysis with the whole sample collected. Further we assess the influence of age characteristics on each of the survey questions. The results of the regression analysis where age is the independent variable and personal perception of the question in the survey is the dependent variable, can be seen in Table 5.

Table 5. The regression analysis of "Age" variable significance (bold marks significant relationship).

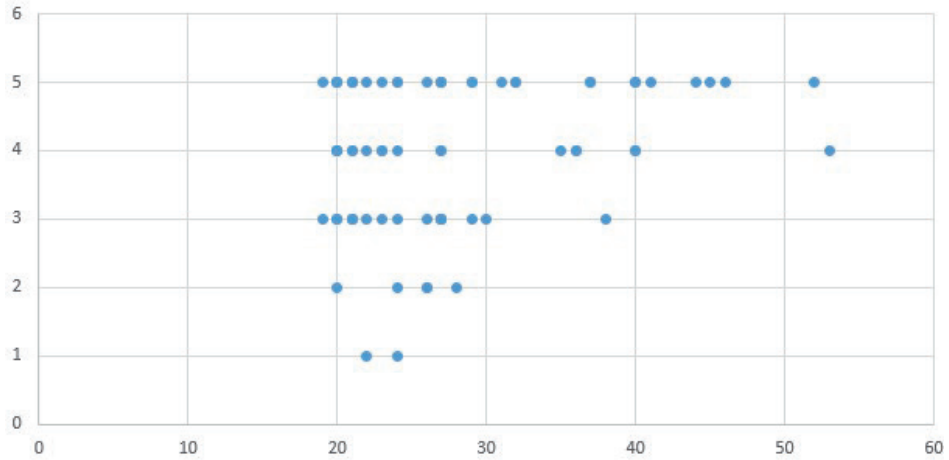
Question (dependent variable)	R-square	F-significance
I am ready to reduce the use of single-use plastics	0.029	0.162
I am ready to reduce the number of new products and goods I buy	0.032	0.133
I am ready to reduce my air travel	0.001	0.824
I would rather choose brands that have environmentally sustainable practices/values	0.022	0.217
I am ready to stop purchasing certain brands or products if I have ethical or sustainability-related concerns about them	0.038	0.612
I am ready to make an effort to cut down on the amount of electricity I use to save energy	0.091	0.011
I am ready to reduce heating in my house in the winter to save electricity	0.002	0.719
I am ready to use a bike or public transport (if available) rather than a car to get to work	0.022	0.217
People should change their buying habits and way of life to solve our environmental problems	0.058	0.045
Government should take action to solve our environmental problems even if it means that some of the products we now use would have to be changed or banned.	0.003	0.630
Government should place higher taxes on products that cause pollution in their manufacture or disposal, so that companies will be encouraged to find better ways to produce them	<0.0001	0.993
Government should take steps to deal with our environmental problems, even if it means most of us pay higher prices or taxes	0.001	0.812
I have a preliminary sustainable business idea	0.002	0.737

I intend to start a sustainable business in the future	0.013	0.344
I am ready to start a sustainable business within five years after graduation	0.002	0.706
I want to start a sustainable business to solve environmental problems	0.001	0.836
I want to start a sustainable business to solve social problems (gender equality, reducing unemployment)	0.001	0.763
I want to start a sustainable business to get profit	0.0001	0.921
If I decide to start a social business, it will be production from waste	0.001	0.837
If I decide to start a social business, it will be closed-loop product design	0.001	0.853
If I decide to start a social business, it will be production of eco-products	0.007	0.493
If I decide to start a social business, it will be recycling	<0.0001	0.987
If I decide to start a social business, it will be collection of products from waste	0.014	0.307
If I decide to start social business, it will be a co-working service	0.018	0.269
If I decide to start a social business, it will be re-selling	0.002	0.683
If I decide to start a social business, it will be a sharing service	0.001	0.877
If I decide to start a social business, it will be PAAS or IAAS	0.002	0.889

As the above table suggests, only two of the analyzed parameters are age-driven—namely, the readiness to take effort in cutting down the amount of electricity the person uses. The relationship is positive—the older a person is, the more he or she is willing to cut down personal electricity consumption to save energy. Also, as people get older, they seem to agree to change their consuming habits more quickly to protect the environment. Yet, the variance explained in both cases is relatively low—age explains 9.1% of the variance in efforts to cut down the amount of electricity consumed, and 5.8% of the variance in agreeing that people should change their consumer habits to solve environmental problems. For all the other cases, the significance of “age” as an independent variable that predicts environmentally friendly choices and behaviors was not confirmed, therefore the *H1b: Age affects personal environmental attitudes*, is only partly supported.

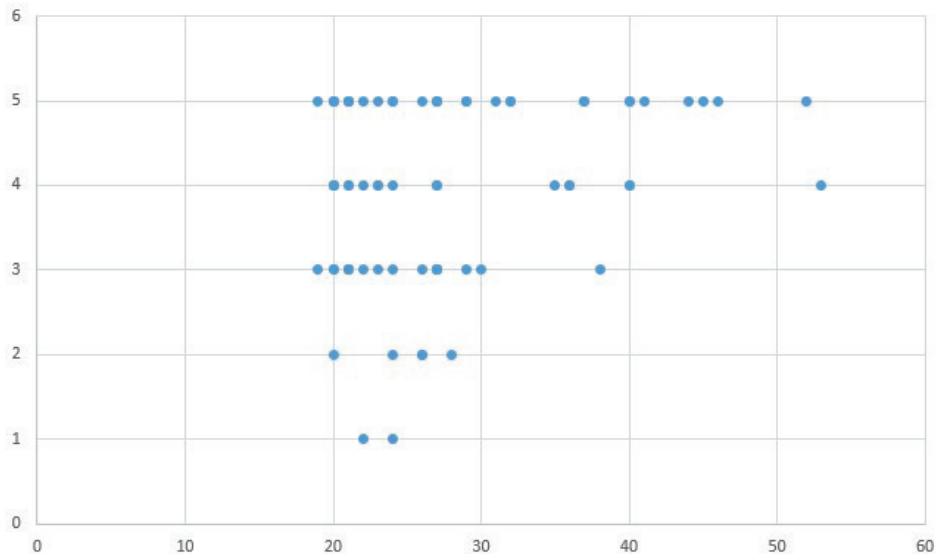
To finalize the research, we performed a graph analysis to estimate the trends for both dependent variables which were indicated as the ones related to respondent’s age by the regression analysis. The result can be seen in the figures below (Figs. 2–3).

Figure 2. Representation of the relationship between age and readiness to make an effort to cut down electricity consumption.



The figure illustrates that older people (above 40) are either neutral or willing to cut down their personal electricity consumption to ensure environmental safety, while younger people had made all types of choices in response to this challenge.

Figure 3. Representation of the relationship between age and agreement that people should change their consuming habits to protect the environment.



The same is applicable to agreeing that people should change their consuming habits to protect the environment—people above 40 strongly or absolutely agreed that people should change their habits to protect the environment, while younger people provided different answers to the question.

Based on the performed analysis, we have determined whether the proposed hypotheses were supported (the results can be seen in Table 6).

Table 6. Evaluation of the proposed hypotheses

Hypothesis	Supported / not supported	Remarks
<i>H1a: Gender affects personal environmental attitudes</i>	Fully supported	
<i>H1b: Age affects personal environmental attitudes</i>	Partly supported	2 exceptions
<i>H2a: Gender affects personal attitude to sustainable entrepreneurship</i>	Fully supported	
<i>H2b: Age affects personal attitude to sustainable entrepreneurship</i>	Rejected	
<i>H3a: Gender affects personal willingness to start a sustainable business</i>	Rejected	1 exception
<i>H3b: Age affects personal willingness to start a sustainable business</i>	Rejected	

5. Conclusions

The characteristics of social entrepreneurship and the circular economy were analyzed to research the attitude towards sustainable entrepreneurship. The analysis of the theoretical literature continues on values perception in line with entrepreneurship aspects to help develop a set of hypotheses for testing:

H1a/b: Gender/age affects personal environmental attitudes;

H2a/b: Gender/age affects personal attitude to sustainable entrepreneurship;

H3a/b: Gender/age affects personal willingness to start a sustainable business.

Seventy respondents from Latvia and Lithuania participated, of whom 18.6% were male and 81.4% were female. The disbalance represents the distribution of economics and business-oriented students and is justified.

To sum up the results, females are more environmentally friendly than males and covered the main part of questions of gender differentiation for the environmental attitudes of the students. Therefore, it fully supports *H1a*. When evaluating the results of the attitudes to sustainable entrepreneurship of males and females, the difference is even greater, so *H2a* is also supported. The results of research on how gender affects personal willingness to start a sustainable business are not identical. There is only a very slight gender-based difference; therefore, *H3a* is rejected.

The next stage of the research was related to the age aspect toward personal environmental attitudes, personal attitude to sustainable entrepreneurship, and personal willingness to start a sustainable business. Age only partly affects the attitudes towards the personal environment, and *H1b* could be partly supported. However, the calculations showed that age does not have an effect on personal attitudes to sustainable entrepreneurship and on the willingness to start a sustainable business; therefore, *H2b* and *H3b* are rejected.

The current article is the second one in the series of papers devoted to evaluation of students' attitude towards sustainable/social/circular entrepreneurship. In the given research, the authors were limited with only two countries; the next step is conducting of a cross-country survey. The potential direction for further research is a comprehensive evaluation of students' ecological/biospheric values and a comparison of perceptions of the circular business between representatives of different countries.

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