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Responsible management education: Social entrepreneurial competences of civically-engaged students

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1. Introduction

In light of the world's important development areas, as exemplified by the United Nations SDGs, the biggest challenge today seems to be how to prepare future business leaders for the on-going social and environmental challenges such as globalization, climate change, demographic shifts, inequality, and so forth (Herrmann & Rundshagen, 2020; Parkes, Kolb, Schlange, Gudić, & Schmidpeter, 2020; Rusinko, 2010). Recent discussions regarding the future of management education (Khurana, 2007; McDonald, 2017; Pattit et al., 2018), raise the important question how future leaders can acquire the necessary competences to adequately meet these global challenges.

For example, Moosmayer et al. (2018) identified a normative paradox in the practiced responsible management education. In their view, most business educators want to develop social values and ethical habits through the education provided, but at the same time they build on theories with normative underpinnings that readily undermine those very ambitions (Brahm & Jenert, 2019; Dierksmeier, 2016; Moosmayer et al., 2018). In this regard, Gosling and Mintzberg (2004) also argue that management cannot only be learned in a common university classroom environment because "[…] management is neither a science, nor a profession, nor a combination of functions. Management is a practice—it has to be appreciated through experience […]" (p. 19).

In terms of a holistic education, various authors therefore propose a pragmatic approach to responsible management education (Laasch & Moosmayer, 2017; Moosmayer et al., 2018; Pirson, 2020). According to Moosmayer et al. (2018), confronting students with learning situations that require dialogical reflection and practical problem solving through interdependent social inquiry, seems helpful. This kind of responsible management education is found in learning programs of (social) entrepreneurship education (Ratten & Jones, 2021) or sustainability in management education (Kurucz, Colbert, & Marcus, 2014). Such programs focus on the role of the students as "changemakers" (Alden-Rivers, Nie, & Armellini, 2015), socially conscious entre- and intrapreneurs (Parris & McInnis-Bowers, 2017; Siqueira, Ramos, Kelly, Mnisri, & Kassouf, 2015), socially responsible leaders (Cauthen, 2016), or responsible world citizens (Gibson, Rimmington, & Landwehr-Brown, 2008; Gohl, 2018; Maak & Pless, 2009; Moosmayer et al., 2018).

In recent years, constructivist understandings of learning processes have increasingly come to the fore where learning is seen as an active process of constructing than merely acquiring knowledge. This is particularly evident in the contemporary discourse on entrepreneurship education (Mueller & Anderson, 2014) and current discussions on how (social) entrepreneurship can be understood within management education as well as in society in general (Litzky, Godshalk, & Walton-Bongers, 2010; Ratten & Jones, 2021).

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According to the European Commission's definition, entrepreneurship education encompasses "all educational activities that seek to prepare people to be responsible, enterprising individuals who have the skills, knowledge and attitudes needed to prepare them to achieve the goals they set for themselves to live a fulfilled life" (Curth, Chatzichristou, Devaux, & Allinson, 2015, p. 3).

Responsible management learning and the constructivist perspective in entrepreneurship education emphasizes the role of 'responsibility' on a multidimensional level (Mueller & Anderson, 2014). Learning settings in which responsibility is practiced in the ways described are found in extracurricular activities of voluntarily engaged students in and through their initiatives, clubs, and groups. Such extra-curricular activities—usually located outside of the students' formal curriculum at higher education institutions (HEI)— provide therefore important opportunities for (social) entrepreneurship education and responsible management learning (Bodolica, Spraggon, & Badi, 2021; Igwe, Okolie, & Nwokoro, 2021). Accordingly, this paper focuses on student-led initiatives.

At many universities, student-led clubs or initiatives form a platform for responsible management practice and social inquiry (Pittaway, Rodriguez-Falcon, Aiyegbayo, & King, 2011). Such initiatives are best portrayed as "communities of practice", defined as "groups of people, who share a concern or passion for something they do, and they learn how to do it better as they interact regularly" (Borges, Cezarino, et al., 2017; Wenger & Wenger-Trayner, 2015, p. 1). Student initiatives are also described as institutional innovators (Drupp et al., 2012), as entrepreneurial learning places (Pittaway et al., 2011), or as training opportunities for social responsibility (Keser, Akar, & Yildirim, 2011; Wihlenda, 2018; Youniss & Yates, 1997). Furthermore, many student initiatives, implicitly or explicitly, contribute to the idea of the common good (Etzioni, 2014; Habisch & Schwarz, 2010).

Quite a few initiatives and their activities fit well under the "umbrella" of the UN Sustainable Development Goals (SDGs) (United Nations, 2019; Author, 2018). Depending on the focus of the student initiative, they may address different sustainable development goals such as climate change (SDG 13), sustainable consumption (SDG 12), inequality (SDG 10), or peace and justice (SDG 16).

Often student initiatives appear explicitly as education providers. They organize e.g., events like seminars, workshops, reading groups, lecture series or study simulations etc. These formal learning settings are often prepared in non-formal (peer) learning settings in the form of meetings, discussions or general project organization or management activities of all kinds. Therefore, engagement in student initiatives often represents an informal, community-based and interdisciplinary learning environment for students.

The importance of student (extracurricular) engagement as a place of learning are often emphasized (Bodolica et al., 2021; Siqueira et al., 2015). Nevertheless, empirical evidence is still lacking about the specific skills and attitudes engaged students are developing as a result of their engagement in their specific learning environments. Moreover, little is known about the differences between various types of student initiatives and their importance for responsible management practice. Accordingly, our research addresses this research gap by.

a) contributing to the discussion of extracurricular activities and how these relate to (responsible) management education and (responsible) entrepreneurship education.
b) analyzing the (social) entrepreneurial competencies of participants in student initiatives, above all, in sustainability-oriented initiatives in comparison to other initiatives.

Overall, our research supports the inclusion of sustainability in management education by relating sustainability-oriented student initiatives to social entrepreneurship.

In our research, we first ask if the competences of those students who are engaged in such initiatives, differ from their disengaged colleagues. In a second step, we also analyze differences pertaining to various types of student's engagement.

2. Literature review

Extra-curricular activities and how they contribute to management and entrepreneurship education have rarely been described in the literature. Only in recent years have studies appeared that demonstrate the role of extracurricular engagement in responsible management education and entrepreneurship education and its contribution to sustainable development in general (Bodolica et al., 2021; Borges, Cezarino, et al., 2017; Igwe et al., 2021).

In the last 20 years, several curricular integrated social entrepreneurship programs have emerged in different institutional settings (Mirabella & Young, 2012). Within these programs, social entrepreneurship and social innovation represent related concepts, so much so that they are often even used synonymously (Dacin, Dacin, & Tracey, 2011). Thereby, however, both terms tend to be used in a rather ill-defined way (Rivers et al., 2015).

In our study, we follow the 'Social Innovation School of thought' as advocated, for example, in the context of education by Alden-Rivers, Armellini, and Nie (2015) and Kalemaki, Kantsiou, and Wall (2019) (Defourny & Nyssens, 2010). Mulgan (2012) defines social innovation as follows: "It covers new ideas (products, services, models, markets, processes etc.) that simultaneously meet socially recognized social needs (more effectively than existing solutions), and create new social relationships or collaborations, that are both good for society, and enhance society's capacity to act" (Mulgan, 2012, p. 22).

The approach to social innovation education (SIE) described by Alden-Rivers et al. (2015a) is based on three learning theories (critical learning, transformational learning, and epistemological development), and focuses on social problem-solving skills, for which the authors developed a set of fourteen "changemaker attributes" (Alden-Rivers et al., 2015b, p. 253). The authors perceive SIE "as the complex process of developing graduates who aspire to change the world for the better, regardless of career path. These individuals are knowledgeable, socially and ethically responsible, as well as emotionally intelligent innovators, leaders, and communicators" (Alden-Rivers et al., 2015a, p. 3), and consequently, the idea of social innovation education is aligned with responsible management and entrepreneurship education. Both "social innovation and entrepreneurship refer to the process of generating new

ideas that provide social benefits and drive value for the society" (Bodolica et al., 2021, p. 1).

In spite of the fact that a broad stream of research on entrepreneurship and entrepreneurial competences exists (Arafeh, 2016; Bacigalupo, Kampylis, Punie, & Van den Brande, 2016, p. 14; Boyles, 2012; Driessen & Zwart, 2006; Lackéus, 2013; Man, Lau, & Chan, 2002; Mitchelmore & Rowley, 2010; Wu, 2009), to date we find hardly any research on social entrepreneurship in the context of student initiatives. One notable exception is the recent qualitative case study by Bodolica et al. (2021) who document the experience of a student who was involved in student-led extracurricular activities in his university. Although this single case study provides valuable insights into the interaction of student initiatives and the development of both a sense of community and of entrepreneurial competences, the question remains open which competences students develop when being actively involved in student initiatives.

Thus, in the following sections, we also expand our literature analysis to more general entrepreneurship education. "There is a general consensus that entrepreneurial competences are carried by individuals, who begin and transform their businesses" (Mitchelmore & Rowley, 2010, p. 97). Different entrepreneurial skills are needed in the different phases of an entrepreneurial venture, relevant to both self-employment and within established organizations. Moreover, in an educational context, developing entrepreneurial skills supports students in practicing what they learn, and applying the knowledge they acquire (Moberg et al., 2014).

With reference to a competence framework, Mitchelmore and Rowley (2010) highlight the importance of entrepreneurial competences, management competences, relationships, and conceptual competences. In comparison, Arafeh (2016) suggests the use of the "soft-computing-based entrepreneurial key competences model" (SKECM), which is based on three clusters, namely performance, planning, and strength (based on McClelland, 1962). The EU commission also perceives entrepreneurship competences as crucial in the context of lifelong learning. Entrepreneurial competence is defined as "the capacity to act upon opportunities and ideas, and to transform them into values for others. It is founded upon creativity, critical thinking and problem solving, taking initiative, perseverance, and the ability to work collaboratively in order to plan and manage projects that are of cultural, social, or commercial value" (European Commission, 2018, p. 6).

Following the lines of Boyles' (2012) KSA approach, Lackéus (2013) developed a framework for entrepreneurship competences defined as "knowledge, skills and attitudes, that affect the willingness and ability to perform the entrepreneurial job of new value creation; that can be measured directly or indirectly; and that can be improved through training and development" (Lackéus, 2013, p. 1). The European Assessment Tools and Indicators for Entrepreneurship Education (ASTEE) project also makes use of Boyles' (2012) KSA approach—as also used by Lackéus (2013), which aims to develop instruments to measure the effects of entrepreneurship education (Moberg et al., 2014). For that purpose, the ASTEE project developed a questionnaire which, after several pilot tests, was presented to 4900 young people. Based on the data gathered, five dimensions were identified as being of importance for entrepreneurship education: "skills, knowledge, mindset, connectedness to education, and connectedness to future career" (Moberg et al., 2014). These general skills were subsequently further divided into six sets of sub-skills: creativity, planning, financial literacy, marshalling of resources, managing ambiguity, and teamwork. Obviously, these sub-skills comprise both cognitive and non-cognitive competences; accordingly, they are more or less easily taught (Moberg et al., 2014), and turned out to be highly effective. "The tests showed that pupils and students who demonstrate entrepreneurial behavior or who have experience with entrepreneurship education, also have significantly higher levels in each of the constructs" (Moberg et al., 2014, p. 37). Based on the work by Moberg et al. (2014), we will investigate the skill set identified in their study.

Another important empirical approach is demonstrated by Peterman and Kennedy (2003) study on the effects of (participation in) an entrepreneurship program, on the usefulness and feasibility of founding an enterprise. Based on a pre/post-test design, the authors analyze participants in the "Young Achievement Australia (YAA) enterprise program" as well as a control group of non-participants. For rating the effects of the YAA, the authors refer to the Shapero model (Shapero, 1985), which assumes that founding an enterprise, above all, depends upon three factors: the attractiveness of founding, the feasibility, and the propensity to act (Peterman & Kennedy, 2003). Moreover, Shapero also suggests that a person's attitude toward entrepreneurship, would be indirectly influenced by his or her prior exposure to entrepreneurship, through prior work experience or the existence of role models (Krueger & Carsrud, 1993; Peterman & Kennedy, 2003; Shapero, 1985). Regarding the intention towards entrepreneurship, the importance of *self-efficacy* is also particularly emphasized (Shapero, 1975). Peterman and Kennedy's (2003) study, found that the participants of the YAA program showed a higher perception of attractiveness and feasibility, compared to the control group. This could imply that practical experience supports the perception of feasibility, and consequently strengthens the self-efficacy of students.

To the best of our knowledge, the only empirical study concerning the competences developed in socially, sustainability, and civically oriented initiatives, was conducted by Hockerts (2017). Based on an existing model by Mair and Noboa (2006), Hockerts investigated students' intentions for social entrepreneurial initiatives. According to Mair and Noboa (2006), "… intentions to set up a social venture develop from perceptions of desirability, which are affected by emotional and cognitive attitudes (empathy and moral judgment), and from perceptions of feasibility, which are instigated by 'enabling' factors such as self-efficacy and social support" (Mair & Noboa, 2006, p. 126). Consequently, their model conceptually distinguishes between four different intentions of social entrepreneurship: "empathy as a proxy for attitudes toward behavior, moral judgment as a proxy for social norms, self-efficacy as a proxy for internal behavioral control, and perceived presence of social support as a proxy for external behavioral control" (Hockerts, 2017, p. 106). Based on this model, Hockerts (2017) tested his hypotheses with three different samples: students from a Scandinavian business school, a random sample of SurveyMonkey respondents, and participants in a course on social entrepreneurship. The results indicate that persons who already have experience with social problems show a higher degree of entrepreneurial intention (ibid.). Furthermore, entrepreneurial self-efficacy and perceived social support are connected to the intention to found an enterprise; Hockert's research, also consequently suggests that service learning in social organizations, could enhance the inclination to (social) entrepreneurship (ibid.).

In the light of the previous research, we suggest the following hypotheses:

Research hypothesis A: Students participating in student-led initiatives show a different set of specific skills and attitudes when compared with those who are not participating in student-led initiatives.

Research hypothesis B: Students develop significantly distinct competences when participating in different types of student-led initiatives.

3. Methodology

For this research, a quantitative study was conducted using an online questionnaire that was accessible from June to December 2018; to reach as many students as possible, the questionnaire was sent to seven universities. At two of the universities, the student e-mail provider was used to send the survey invitation to all students enrolled at these universities. In addition, to specifically address students participating in student initiatives, e-mail addresses of student clubs were searched, and invitations sent to these addresses as well.

Sample. In total, 1006 students from 13 different HEIs in Germany and Switzerland, replied to our survey. The HEIs were addressed by mailing or Facebook postings. As not all of the registered students were addressed, it is difficult to determine the response rate. The sample is a convenience sample which is not representative of students in Germany; however, it is a rather large sample. Of the 1006 respondents, 645 (64% of our sample) reported being engaged in a student initiative. On average, participants were 22.87 years old—with the youngest respondent being 18 and the oldest 56. About 62.3% of the students in our sample are female. The participants study a wide range of topics. Those who are engaged study e.g. business and economics (22.6%), social sciences (11.9%), humanities (18.6%) and natural sciences (22.9%). The students are in different stages of their studies with about one fourth being in the first, second and third year respectively and the final one fourth, studying in year 4 and beyond.

For the categorization of student initiatives, we were guided on the one hand by the list of different engagement areas in the German Volunteer Survey (Schmiade, Vogel, Lux, & Simonson, 2014) and on the other hand by the typical university engagement structures (Stuart, Lido, Morgan, Solomon, & May, 2011).

In line with the various Sustainable Development Goals of the United Nations, we understand not only ecological engagement but also commitment to the common good. Accordingly, we include the category of sustainability-oriented initiatives, e.g. human rights initiatives, environmental and animal protection initiatives, climate change initiatives, initiatives for equal opportunities and educational justice, democracy promotion initiatives equally. Furthermore, we distinguish initiatives, clubs and groups that are tied to university politics and typically have voting rights within the university or faculties (e.g., the student councils, student parliaments, etc.). We distinguish political groups that typically maintain close ties to political parties and sometimes participate in student parliaments. A further category is formed by cultural groups, to which we include cultural and music associations or leisure initiatives such as travel and hiking groups. In addition, we distinguished career-oriented groups, such as consulting or business associations that students use to establish contacts with future employers. Our final category was made up of religious groups, such as Christian or Muslim university groups. Of the students, involved in student initiatives, the largest single group of students, roughly one fifth (22% of the 645), participated in a student union (e.g., council, committee, parliament), the second largest, roughly one sixth (16.8%), was engaged in a sustainability-oriented group (e.g., human rights, sustainability, democracy, inequality). Smaller groups included participants in sports or cultural clubs (e.g., music, art), religious groups, or political initiatives.

Data analysis. All analyses were conducted using SPSS (Version 24.0.0.0). The data were first analyzed regarding the reliability

Table 1
Sample item and reliability of research instrument.

	Scale	Sample item	Cronbach's α
Social Entrepreneurial Intentions (Hockerts. 2017)	Prior Experience[a]	I know a lot about social organizations.	.717
	Empathy	I feel compassion for marginalized groups	.829
	Moral obligation	We are morally obliged to help disadvantaged people.	.827
	Self-efficacy	Solving societal problems is something each of us can contribute to.	.727
	Perceived social support	If I planned to address a significant societal problem people would back me up.	.768
Entrepreneurial Intentions (Peterman & Kennedy. 2003)	Perceived desirability[a]	I would love doing it.	0.716
Entrepreneurial Mindset Mindset. attitude (ASTEE. 2014)	Social Entrepreneurial Attitude	In general. starting a social enterprise is useful.	.803
Connectedness to labor market (ASTEE. 2014)	Innovative Employee	I would like to have a job that allows me to solve problems in a new way	.757
Entrepreneurial Skills (ASTEE. 2014)	Creativity	I am able to come up with new ideas.	.838
	Financial literacy	I am able to control the cost for projects	.787
	Managing Ambiguity	I am able to manage uncertainty in projects and processes	.753
	Preparing an entrepreneurial endeavor[a]	I am able to formulate project goals.	.827
	Cooperation[a]	I am able to network	.807

Items were measured on a Likert scale from 1 to 7 (do not agree at all – fully agree).

[a] Slightly adapted due to reliability issues in comparison to the original scale of the respective authors.

and validity. In a second step, t-tests were conducted for group comparisons, and finally variance analyses and regression analyses were conducted.

Valid and reliable scales from the literature were applied, to investigate students' entrepreneurial competences.

Given the paucity of instruments regarding social entrepreneurial skill development at the time of our study and to our knowledge still today, we used the ASTEE entrepreneurial competence scales (Moberg et al., 2014), as well as the instruments for entrepreneurial intention (Peterman & Kennedy, 2003) and social entrepreneurial intention (Hockerts, 2017).

In the first part of the survey, the items of the "ASTEE Measurement Tool–Tertiary level" were used, namely: *creativity*, *financial literacy*, *managing ambiguity*, *marshalling of resources*, *planning*, *entrepreneurial mindset,* and *(social) entrepreneurial attitude* (Moberg et al., 2014, p. 45). In our study, some constructs of the ASTEE questionnaire could not be replicated in our study. In particular, due to limited reliability, the scales *marshalling of resources* and *planning* had to be slightly adapted and were combined with the scales *preparing an entrepreneurial endeavor,* and *cooperation*. These scales now form the entrepreneurial skillset investigated in our study.

The second part of the questionnaire captured the determinants of *social entrepreneurial intentions* developed by Hockerts (2017), namely *prior experience*, *empathy*, *moral obligation, social entrepreneurial self-efficacy,* and *perceived social* support. These constructs were used as a proxy for students' attitudes towards social entrepreneurship.

Finally, students' *perceived desirability* of starting an (social) enterprise, based on Peterman and Kennedy (2003), was assessed as an approximate indicator for students' intention.

The following table shows the scales, a sample item for each scale, and Cronbach's alpha as an indicator of reliability.

4. Results

The research hypotheses were tested, using different analyses (see Table 1). Table 2 shows the correlations of all relevant variables for the research hypotheses.

Hypothesis A. To determine the differences between students engaged in student initiatives and those who are not engaged, we ran several t-tests for independent groups.

The results show differences for the constructs of *self-efficacy*, *moral obligation*, *perceived social support*, *creativity*, *financial literacy*, *managing ambiguity*, *cooperation*, *preparing an entrepreneurial endeavor,* and *innovative employee*. In each of these aspects, engaged students self-rate their competency higher than those who are not engaged (see Table 3). For instance, students who are engaged in student initiatives rate their own self-efficacy and moral obligation very high (Mean = 5.485 and SD = 1.112; Mean = 5.688 and SD = 1.129, respectively), while those students who do not take part in such extra-curricular activities, rate the determinants of social entrepreneurial intentions, as Hockerts (2017) calls them, significantly lower (see Table 4).

In comparison, for the dimensions *prior experience*, *empathy,* and *social entrepreneurial attitude,* no differences between the different student groups could be found. Interestingly, although a significant difference was found regarding students' self-rated competence to prepare an entrepreneurial endeavor (albeit with a small effect size of Cohen's d = 0.327), there is no significant difference regarding the perceived desirability of social entrepreneurship between the two groups (which could be seen as an indicator for students' future intention to found a (social) enterprise. As significant differences can be found for most of students' skills, as well as for the determinants of social entrepreneurial intentions, hypothesis A can be confirmed. Accordingly, our results provide initial evidence that there are significant differences between those students engaged in student initiatives in comparison to those who are not. The results can also be seen as an indicator that students apply (social) entrepreneurial competencies in extracurricular learning settings. Accordingly, extracurricular engagement can be seen as social entrepreneurial learning spaces.

Table 2
Correlations between relevant variables (N = 1000).

	1	2	3	4	5	6	7	8	9	10	11	12	13
Social Entrepreneurial Intentions (Hockerts. 2017)													
Prior experience	1												
Empathy	.264	1											
Moral obligation	.214	.581	1										
Self-Efficacy	.385	.352	.320	1									
Perceived Soc. Support	.269	.314	.281	.355	1								
Entrepreneurial Intentions (Peterman & Kennedy. 2003)													
Perceived Desirability	.169	.185	.115	.298	.289	1							
Entrepreneurial Mindset Mindset, attitude, core-self-evaluation (ASTEE, 2014)													
Soc. Entrepr. Attitude	.287	.433	.417	.310	.332	.268	1						
Connectedness to labour market (ASTEE, 2014)													
Innovative Employee	.177	.208	.207	.359	.281	.371	.209	1					
Entrepreneurial Skills (ASTEE, 2014)													
Creativity	.248	.130	.103	.380	.307	.351	.101	.596	1				
Financial Literacy	.166	−0.038	−0.038	.187	.167	.249	0.032	.238	.475	1			
Managing Ambiguity	.225	0.056	0.046	.308	.230	.293	0.050	.457	.634	.496	1		
Prep. entrepr. endeav.*	.255	.081	0.043	.307	.264	.311	.091	.414	.645	.604	.642	1	
Cooperation*	.257	.220	.115	.337	.320	.311	.195	.374	.518	.351	.516	.571	1

Table 3
Differences between engaged and disengaged students in different constructs.

	Scale		Mean	SD	T	Sign.
Social Entrepreneurial Intentions (Hockerts, 2017)	Prior Experience[a]	Engaged	4.108	1.511	0.963	n.s.
		Not-engaged	4.013	1.486		
	Self-efficacy	Engaged	5.485	1.112	4.091	<.00
		Not-engaged	5.177	1.193		
	Empathy	Engaged	5.554	1.205	1.526	n.s.
		Not-engaged	5.420	1.396		
	Moral obligation	Engaged	5.688	1.129	3.037	<.01
		Not-engaged	5.455	1.221		
	Perceived social support	Engaged	4.919	1.243	2.533	<.05
		Not-engaged	4.709	1.279		
Entrepreneurial Intentions (Peterman & Kennedy, 2003)	Perceived desirability[a]	Engaged	4.527	1.443	0.798	n.s.
		Not-engaged	4.451	1.457		
Entrepreneurial Mindset Mindset, attitude, core-self-evaluation (ASTEE, 2014)	Social Entrepreneurial Attitude	Engaged	5.322	1.279	1.455	n.s.
		Not-engaged	5.198	1.313		
Connectedness to labour market (ASTEE, 2014)	Innovative Employee	Engaged	5.745	1.011	3.932	<.00
		Not-engaged	5.450	1.206		
Entrepreneurial Skills (ASTEE, 2014)	Creativity	Engaged	5.346	0.984	2.757	<.01
		Not-engaged	5.144	1.176		
	Financial literacy	Engaged	4.511	1.384	3.031	<.01
		Not-engaged	4.231	1.428		
	Managing Ambiguity	Engaged	5.406	0.938	4.113	<.00
		Not-engaged	5.118	1.119		
	Cooperation[a]	Engaged	5.585	1.067	5.233	<.00
		Not-engaged	5.182	1.217		
	Preparing an entrepreneurial endeavor[a]	Engaged	5.427	1.098	4.957	<.00
		Not-engaged	5.042	1.216		

[a] Slightly adapted due to reliability issues in comparison to the original scale of the respective authors.

Hypothesis B. In the research process, we distinguished between student unions (e.g., committees, councils), sustainability-oriented initiatives (e.g., sustainability, human rights, and inequality), career-oriented groups (e.g., consulting, job-seeking, lobby), and cultural groups (e.g., music, sports). Due to the small number of respondents of political groups (n = 25) and religious groups (n = 36), however, both had to be excluded from the further analyses.

Notably, students in the sustainability-oriented groups outperform their fellow students taking part in other student initiatives, regarding all aspects of Hockert's determinants for social entrepreneurial intentions (see Table 3). Students in sustainability-oriented groups rate their own empathy particularly high (Mean = 6.004; SD = 0.929), with a medium associated effect size of eta-square = 0.0594. For the other determinants of Hockert's, the differences are still significant between the groups, with a small to medium effect size (0.017 < eta-square <0.05). Students rate their *moral obligation* (M = 6.058; SD = 0.76), their *prior experience* (M = 4.539; SD = 1.419), their *self-efficacy* (M = 5.698; SD = 1.105), and their *perceived social* support (Mean = 5.132; SD = 1.135) higher than students in student initiatives which are not concerned with sustainability topics. In comparison, the results do not show any significant differences between the groups regarding their *entrepreneurial skills (creativity, financial literacy, managing ambiguity, cooperation, preparing an entrepreneurial endeavor),* neither concerning their attitude to being an *innovative employee* (according to ASTEE), nor the perceived *desirability* for starting a (social) enterprise according to Peterman.

In terms of their social entrepreneurial mindset, students engaged in sustainability-oriented groups also differ significantly from students in other groups (MW = 5.653, SD = 1.210). As there are "only" differences regarding the determinants of social entrepreneurship (i.e., regarding students' attitudes towards social entrepreneurship) but not regarding their entrepreneurial skills when engaged in sustainability-oriented student initiatives, hypothesis B can only be partially confirmed. Overall, our research shows that the competencies of engaged individuals differ significantly between different types of groups. This contributes to closing the research gap insofar that it is worthwhile to take a closer look at the topics that student initiatives focus on in their extracurricular learning spaces. At the same time, for management and entrepreneurship education in general, it should be noted that any extracurricular engagement represents an entrepreneurial learning space (Hypothesis A). Furthermore, to emphasize responsible management

Table 4
Differences between groups (sustainability-oriented, student unions, career-oriented, cultural).

	Scale		Mean	SD	F	Sign.
Social Entrepreneurial Intentions (Hockerts, 2017)	Prior Experience*	Student unions	3.939	1.535	10.288	<.00
		sustainability-oriented	4.539	1.419		
		career-oriented	3.506	1.486		
		Cultural	4.005	1.576		
	Self-efficacy	Student unions	5.345	1.178	3.847	<.02
		sustainability-oriented	5.698	1.105		
		career-oriented	5.337	1.163		
		Cultural	5.393	0.918		
	Empathy	Student unions	5.335	1.304	12.179	<.00
		sustainability-oriented	6.004	0.929		
		career-oriented	5.322	1.293		
		Cultural	5.425	1.189		
	Moral obligation	Student unions	5.522	1.187	10.231	<.00
		sustainability-oriented	6.058	0.76		
		career-oriented	5.468	1.382		
		Cultural	5.476	1.152		
	Perceived social support	Student unions	4.750	1.321	3.385	<.02
		sustainability-oriented	5.132	1.135		
		career-oriented	4.760	1.317		
		Cultural	4.874	1.185		
(Social) **Entrepreneurial Intentions** (Peterman & Kennedy, 2003)	Perceived desirability*	Student unions	4.423	1.593	0.915	n.s.
		sustainability-oriented	4.660	1.359		
		career-oriented	4.593	1.327		
		Cultural	4.561	1.340		
Entrepreneurial Skills (ASTEE, 2014)	Creativity	Student unions	5.330	0.976	0.219	n.s.
		sustainability-oriented	5.355	0.979		
		career-oriented	5.390	1.017		
		cultural	5.418	0.916		
	Financial literacy	Student unions	4.623	1.338	1.964	n.s.
		sustainability-oriented	4.345	1.398		
		career-oriented	4.733	1.471		
		cultural	4.566	1.340		
	Managing Ambiguity	Student unions	5.405	0.938	0.293	n.s.
		sustainability-oriented	5.395	0.893		
		career-oriented	5.497	0.986		
		Cultural	5.453	0.957		
	Cooperation*	Student unions	5.640	1.062	0.729	n.s.
		→	5.530	1.069		
		sustainability-oriented				
		→	5.680	1.077		
		career-oriented				
		Cultural	5.514	1.059		
	Preparing an entrepreneurial endeavor*	Student unions	5.422	1.116	1.045	n.s.
		→	5.349	1.107		
		sustainability-oriented				
		→	5.576	1.093		
		career-oriented				
		Cultural	5.517	0.952		
Entrepreneurial Mindset (ASTEE, 2014)	Social Entrepreneurial Attitude	Student unions	5.109	1.372	6.413	<.00
		sustainability-oriented	5.653	1.210		
		career-oriented	5.244	1.235		
		Cultural	5.151	1.251		
Connectedness to labour market (ASTEE, 2014)	Innovative Employee	Student unions	5.759	1.064	1.323	n.s.
		sustainability-oriented	5.896	0.918		
		career-oriented	5.647	1.038		
		Cultural	5.755	0.928		

education and social entrepreneurship education, it is noteworthy that the sustainability-oriented initiatives seem to provide a learning space for social entrepreneurial competence development.

5. Discussion

The results of our study draw a picture of (social) entrepreneurial learning 'beyond the curriculum' in a university context. Our study thus extends recent studies by Bodolica et al. (2021) as well as Igwe et al. (2021). The major conclusions we draw and discuss in the following section are.

a) extracurricular engagement in any kind of student initiatives builds a relevant development space for (social) entrepreneurial competencies
b) engagement in sustainability-oriented groups in comparison to other types show the most potential for the development of social entrepreneurial competences and responsible management education.

In this paper, we assessed whether engagement in different types of student groups correspond with differences in a broad array of self-reported (social) entrepreneurial skills, mind-sets and attitudes. We also analyzed the differences between the different kinds of student groups and identified resulting differences in social entrepreneurial intentions. In so doing, we aimed to draw a detailed picture of the students taking part in sustainability-oriented initiatives, thus adding to research in the field by combining different instruments (Hockerts, 2017; Moberg et al., 2014; Peterman & Kennedy, 2003).

Based on a survey of about 1000 participants, in different Southern German universities, the results clearly show that differences between these groups exist, and that students who are engaged perceive themselves as better equipped with (social) entrepreneurial competences than those who are not. This result is in line with Hockerts' (2017) findings that extra-curricular engagement may enhance the inclination toward social entrepreneurship. On the other hand, our results diverge from Hockerts' study, regarding previous experience. Thus, the role of previous experience in students' engagement in initiatives, should be subject to future research.

Generally speaking, student initiatives of any kind seem to represent an appropriate learning environment to develop entrepreneurial and responsible management competences. What is more, sustainability-oriented groups show a particular potential for social entrepreneurship education (see also Gunn, Durkin, Singh, & Brown, 2008; Howorth, Smith, & Parkinson, 2012; Pache & Chowdhury, 2012; Smith & Woodworth, 2012; Toyah L. Miller, Wesley, & Williams, 2012). More precisely, sustainability-oriented groups—in comparison to the other initiatives analyzed—may be perceived as more "socially entrepreneurial" or "socially innovative", as they show more pronounced attitudes towards social entrepreneurship as a proxy for social entrepreneurial intentions (Hockerts, 2017). Thereby, these social entrepreneurial competences are aligned with the *"changemaker"* attributes in the young field of social innovation education (Alden-Rivers, Nie, & Armellini, 2015). Future research could explore this relationship further and investigate the relationship between (social) entrepreneurial competences and the changemaker attributes in different student initiatives.

Sustainability-oriented initiatives provide a powerful learning environment for an education for sustainable development and responsible management education. As practice-oriented learning communities, student initiatives provide a home for numerous change agents for sustainability (Heiskanen, Thidell, & Rodhe, 2016; Mogensen & Schnack, 2010; Sinakou, Donche, Boeve-de Pauw, & Van Petegem, 2019). For a holistic, pluralistic, and action-oriented educational approach towards sustainable development, peer- and self-organized, action-oriented and transdisciplinary learning, as practiced in student initiatives, are central aspects (Sinakou et al., 2019). Against this background, sustainability-oriented student initiatives could be a highly effective and serious educational resource for sustainable transformation processes in the local university environment, often with a potential global impact (Gibson et al., 2008; Wihlenda, 2018).

It remains to be said: For the design of entrepreneurial learning spaces in the context of management education and entrepreneurship education, extracurricular learning spaces seem to be very well suited. Sustainable and social entrepreneurial learning spaces, especially sustainability-oriented extracurricular engagement, seem to have the highest potential for responsible management education.

6. Contribution, limitations, and implications

Our results contribute to contemporary discussions on entrepreneurship education in general, which center on the theoretical and philosophical foundations of an constructivist perspective by problem-based as well as experience-based teaching and learning (Hägg & Gabrielsson, 2019; Igwe et al., 2021). Learning to take responsibility for one's own learning process and learning to learn are of particular importance for the development of entrepreneurial competencies (Mueller & Anderson, 2014). Regarding the organization of teaching and learning processes in responsible management education and sustainability in management education, our study uncovers student initiatives as learning spaces that have often been underestimated so far, in which students take full responsibility and power over their learning projects and learning content in the spirit of lifelong learning (Igwe et al., 2021; Sahin, Akbasli, & Yelken, 2010; Shier, 2001).

Our study extends the recent contribution by Bodolica et al. (2021) by investigating the development of students' (social) entrepreneurial competences. Our results provide first indications that students involved in student initiatives develop different competences than those who do not participate in such extracurricular activities. Furthermore, our study highlights the importance of sustainability-oriented student clubs for the development of a social entrepreneurial mindsets as well as sustainable and responsible management competences. Thus, it seems crucial for the future development of management education to provide students with

learning settings based on responsibility since they form a prerequisite for personal development to become a responsible economic and global citizen. Our study refers also explicitly to social learning settings. Students' engagement takes place in groups and teams that organize themselves and in which learning goals and activities are negotiated (informally) by the students themselves. There, they learn to take responsibility for their behavior in the group and their team and, at the same time, their impact through the group by real world projects. Educators can ask themselves to what extent their previous learning settings promote group and teamwork and to what degree (Tosey, Dhaliwal, & Hassinen, 2013).

Learning spaces of extracurricular activities can inspire curricular-based learning settings in which teachers learn to better understand the mechanisms and frameworks for voluntary and intrinsically motivated learning and engagement in order to modify their own teaching offerings accordingly. In essence, this concerns the degree of freedom and responsibility that teachers give students in pursuing their learning processes, learning topics, or the extent to which problem-based learning is didactically integrated (Igwe et al., 2021; Kirk, Lewis, Brown, Karibo, & Park, 2016).

Our study may also contribute to student initiatives overcoming a situation in which they are regarded as mere complementary, "nice-to-have" adornments of the academic knowledge development process. Consequently, universities could or should think about creating conditions that promote the self-organized learning of student initiatives, for example with an own department, which may take the form of a 'school of organizing', as discussed by Parker (2016) in the context of management education or as a 'school for democracy' discussed by Dodge and Ospina (2016).

Building on the close relationship between education for sustainable development (ESD) and global citizenship education (GCE), also UNESCO emphasizes the importance of experience-based learning in the GCE approach, and the discourse about (global) values and attitudes (Gaudelli, 2016; Gohl, 2018; Nikolitsa-Winter, Mauch, & Maalouf, 2019; Suša, 2019; UNESCO, 2016). Of particular interest is the finding that students engaged in sustainability-oriented groups, are directly addressing global environmental and societal challenges. Local student groups also often belong to global student organizations (Wihlenda, 2018). Consequently, their nature as experiential-learning groups seems particularly suited for global citizenship education, and is also in line with recent scientific discussions regarding social entrepreneurship research—increasingly focusing on ethical issues (Hota, Subramanian, & Narayanamurthy, 2019).

However, some serious limitations of our results must also be mentioned here. These primarily have to do with the necessary static, cross-sectional character of our research; although we could show significant differences between the engaged and disengaged students, as well as between participants in different groups, *the direction of causality still remains unclear*. Thus, our results allow no conclusion as to whether participation in sustainability-oriented groups (or even in student initiatives at all) does effectively strengthen the reported variables, or whether more self-effective, empathetic, morally obliged, or perceptibly socially supportive young people simply choose to join sustainability-oriented student groups. Further research—especially longitudinal or panel studies analyzing changes over the course of time (e.g., before and after involvement in a student group)—is warranted here to answer this question.

Moreover, another limitation of our results lies in the self-reported character of the mentioned skillsets, intentions, and mindsets. As mentioned above, our results show a (slightly) higher level of social attitude, self-perceived innovativeness, empathy, moral obligation, and perceived social support for participants in sustainability-oriented student groups. It remains unclear, however, whether this difference could also be supported by external assessment or complementary tests. Rather, an alternative cause for these findings could be that students engaged in sustainability-related groups—compared for example with colleagues from student unions or career-oriented groups—might be particularly susceptible to the *desirability bias*. It is true that research regarding the validity of self-reported measures has found that "self-reports and test scores do represent the same constructs, but not to the degree that there is a one-to-one correspondence between self-reports and more objective measures of achievement" (Gonyea, 2005, p. 81). Additional research would therefore be necessary to find out more about differences between students and come to a less ambiguous interpretation of our result. Additionally, an important question that still needs to be answered is whether students engaged in such groups will indeed become (social) entrepreneurs in the future. Furthermore, future studies should assess the institutional impact of these initiatives, for instance, on the HEIs. As our study is cross-sectional, it would be worthwhile to conduct longitudinal studies to shed light on the long-term benefits of engaging in student initiatives.

Despite these limitations, our results represent an important heuristic and exploratory step toward a new, and substantially transformed, perception of the role of engagement in student groups. Until recently, this engagement in student groups was rather exclusively interpreted as a private affair, which has nothing to do with (and sometimes even contradicts) the academic process of knowledge development. The mainstream character of this interpretation is still manifest in the fact that examination regulations of most universities still rate all kinds of student engagement as strictly extracurricular. Even though our results do not yet prove the educational function of student initiatives in an unambiguous way, they may nevertheless show that those initiatives represent an important complementary element of the formal education in university seminars, lectures, internships, and other traditional forms of education.

Finally, the evident relationship between students' engagement in sustainability-oriented initiatives and their perceived self-efficacy for (social) entrepreneurship revealed by our data, may also help to instruct the recruiting process for university programs. It may further emphasize the relevance of these types of memberships as a qualification criterion for academic entrepreneurship programs.

Overall, our results contribute to describing future responsible leaders in a more differentiated way. They highlight the value of student-led initiatives for the development of entrepreneurship competences, and consequently for the development of future responsible managers. In this way, our study also encourages educators to consider student extracurricular engagement as an opportunity-rich place for responsible management learning and (social) entrepreneurship education. It also highlights the potential

and responsibility for universities and higher education institutions in general to extend their (global) societal impact.

Authorship statement

Conception and design of study: Wihlenda, M.; Brahm, T. acquisition of data: Wihlenda, M. analysis and/or interpretation of data: Brahm, T., Wihlenda, M.; Habisch, A. Drafting the manuscript: Wihlenda, M.; Brahm, T., Habisch, A. revising the manuscript critically for important intellectual content: Brahm, T. Approval of the version of the manuscript to be published (the names of all authors must be listed): Wihlenda, M; Brahm, T.; Habisch, A.

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