Linking sustainability and spirituality: a preliminary assessment study in pursuit of a sustainable and ethically correct world

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Abstract

The influence of humanity on the environment and the use of natural resources may be affected by spirituality, through awareness for developing a greater conscience about the implications of human actions and needs to adjust these in achieving sustainable development. However, the literature indicates a lack of consensus about operationalizing spirituality outside the management field and its connection with sustainability. This study focused on the relation between these topics in the educational sector and investigated whether spirituality informs the teaching and research of sustainability within higher education curricula. An online survey was administered to a convenience sample (n=100) of academic staff working at higher education institutions in 25 countries. The questions posed by the research instrument included open-ended and multiple-choice queries, that yielded qualitative and quantitative data. Overall, the results suggest that there is widespread awareness about making connections between spirituality and sustainability and a general agreement about the usefulness of including spiritual aspects in sustainability teaching and research practices. However, there are some elements which hinder progress in this area, such as a common understanding of spirituality definition and an apparent lack of training to handle matters related to spirituality as part of teaching and research. The study presents actions to promote a better integration of sustainability and spirituality, which include a greater emphasis on matters related to sustainability, human well-being, and ethics, a part of initiatives on spirituality, and involvement of key stakeholders.

Keywords: Spirituality; Sustainable development; Higher education; Teaching; Research.

1. Introduction

Although presented in relation to the religion construct, spirituality is a much more inclusive concept, which is representative of various peoples, in differing cultures and belief systems (Göçen and Özğan (2018). A compliance with formal structure and methods of fundamentalist religion practices are often centered around a recognized authority, remaining resistive to stewardship, whereas spirituality is more conducive fostering environmental values, in a trajectory toward sustainability (Preston and Shin, 2022). Thus, spirituality is defined by a desire to identify behavior that may or may not be aligned to recognize religions and as a result, may be characterized as pagan yet, given the ambiguity, it may also be described as "religious" (Harris 2017).

The practice of spirituality is characterized as being self-reflective and thereby, aligned to social justice, environmental sustainability, as well as economic equity (Sheridan, 2015; Bock, 2013). Though the relationship with religion exists (Johnston 2014; McNutt 2014), it is not as consistent as the attributes characterizing spiritual practice. Ballantyne (2011) argued that the justification of man's dominion over nature, as legitimized from interpretations of Biblical verses, defines the existential threats to life on the planet. According to Borsari and Kunnas (2022) this anthropocentric worldview remains ubiquitous and pervasive in all human activities (including education), because Judeo-Christian religions have infused in these a considerable amount of optimism, that forged the culture of learning, since an establishment of the first European universities, from the 11th century.

Considering the individual's perspective, spirituality is associated with the human being's constitution because human ontologies are inclusive of body, mind, emotions, and spirit. Howard (2002) conceded that non-rational constructs, including the psychological world, could be considered matter of the spiritual domain. In line with this thinking trajectory, Elkins et al. (1998), together with Dewey (1934) and Maslow (1970), proposed a humanistic understanding of spirituality, conceiving a vision in which this concept is considered a human phenomenon that differs and preceded all traditional religions.

Zawawi and Wahab (2019) state that despite a lack of a universally accepted definition of spirituality, most parts of various definitions present the concept as related to the searching for a meaningful life in society, often through people's work, or through their behaviours. Therefore, spirituality can be about someone's philosophy of life, and a syncretic mix of how values and beliefs about what matters are influenced by culture, education, society, and/or family. To this end, Holloway (2015) refers to spirituality by using its assets (e.g., happiness, love, emotion, wonder), which also contribute to the understanding of self- and life-purpose in a spiritual context.

However, establishing organizations of spirituality has been limited and challenging because for many, this concept is self-defined, or because it remains limited to small communities of practitioners (Brown 2003). Thus, organizational spirituality can be realized at different levels, from individual to group, and similar community entities, as a result of a structured system, inclusive of vision and organizational goals. Within the business practices and organizational management contexts, Zawawi and Wahab (2019) considered the impact of spiritual values in company operations, while reflecting on several of its potential benefits such as: improvements in the levels of employees' loyalty, rectitude, trustworthiness, and integrity, influencing both managers and workers to act more responsibly and in accord with specific moral principles (Hartman 1998). Therefore, an emphasis of spirituality in business practice could be the first step to limiting corruption and lack of transparency, acting as a mediator between work, stress, and job satisfaction, as presented by Altaf and Awan (2011), aligned with business ethics (Suriyankietkaew and Kantamara 2019).

The inclusion of spirituality in education is being defended by several academics and has grown across many courses/disciplines. For example, Bakar (2020) analysed, through a qualitative study, the tourism educators' perspectives about the role and importance of spirituality in tourism higher education. From another perspective, Desai and Wane (2022) defend that infusing spirituality in education can help students develop both holistically and intellectually. The workplace spirituality is also being used as a significant predictor of employees' attitudes and behaviour (Soliman et al., 2021). Furthermore, spirituality construct is being used to predict sustainable purchase behaviour. According to Joshi and Rahman (2019), the impact of spirituality, oriented for environmental responsibility and perceived marketplace, influences along with other key psychological variables on consumer sustainable purchase behaviour. Generally speaking, spirituality positively predicts environmental attitudes, this is, it points to stronger belief in climate change and intentions to conserve energy and reduce waste. According to Preston and Shin (2022), positive effects of spirituality on environmental attitudes are partly mediated by trait compassion and moral foundations of harm and fairness.

The connections between sustainability and spirituality are intertwined, and there is a perceived need to foster a greater understanding of these to apply their synergistic potential in human life. Thus, this paper aims to explore the links between sustainability and spirituality, reporting the extent to which universities consider spirituality as part of teaching and research on matters related to sustainable development. The nature of this paper means that it is also a direct contribution to efforts to implement the United Nations Sustainable Development Goals (UN SDGs), since issues related to spirituality permeate all of them.

This study is structured as follows: first we start by introducing the topic and the context of the research; then, the second section aligns the research with the relevant literature related with sustainability, sustainable development and spirituality; section 3 introduces the methods used in a study aimed at assessing the relationships between sustainability and spirituality in higher education, with a focus on teaching and research. This narrative is followed by a presentation of the results and discussion in the fourth section where the lessons learned from the responses provided are drawn. The paper concludes by recommending actions needed for achieving a better integration of spirituality in support of efforts to implement sustainability in higher education (section 5).

2. Literature Review: Spirituality, sustainable development and the nexus to the SDGs

The concept of sustainability requires much attention on the way an individual relates to the world, and that relationship is not limited to the physical domain (eating, drinking, or breathing), but also includes needs that are emotional and spiritual (Scoffham 2019; Nelson 2020). The spiritual needs represent a quest for connectedness to others, to our living world, in search of oneness, inclusivity, and harmony with the whole (de Souza 2016). Although our connection with nature may be perceived as innate (Wilson 1984), it must be nurtured and developed through "learning, culture and experience" (Hinds and Sparks 2008, p. 110). Further, much of our relationship with the world around us is a result of culture, socialization, and experiences in nature from an early age, or the lack of these (Kellert 2002; Clayton and Myers 2009; Consorte-McCrea et al. 2017), framed by a system of shared beliefs.

In opposition, unsustainability is associated with a process of disenchantment and detachment from the natural world. In Western Europe for example, it could be argued that the separation between nature and the divine and spiritual happened at the beginning of the modern era, facilitated by the scientific revolution of the 15th century. As natural phenomena began to be measured and quantified, as a shift in our perception of nature, from belonging to exploiting, provoked deep changes in societal values (Scoffham 2019). This thesis suggests that a separation of mankind from wilderness entitled western society for a progressive use and disposal of a subdued nature, which fostered a denial of responsibility for preserving biodiversity, accompanied by the severing of connectivity with the living world, as explained by Stein (2019).

Sustainability encompasses concerns for conserving "…ecological integrity but also for social and economic justice and for nonviolence, democracy, and peace..." (McDaniel, 2002, 1461). Further, "…sustainable culture is a socially and economically just culture, recognizing that wealth is never an individual or corporate accomplishment" (Holthaus, 2008, 123). Sustainability seen from this perspective is aligned with an ecological and spiritual worldview (Borsari, 2016). In Orr's opinion (2002) transitioning toward sustainability requires an achievement of a higher level of spiritual awareness that may allow humans to reckon with their mortality through a deeper altruistic cognition that focuses on the well-being of future generations. Essentially, in assessing spirituality, religion, and sustainability, Earth's true value may be related to enhanced perceptions of an individual's connection with life itself.

According to Litonjua (2016), the structural rigidity of monotheistic religions hampers opportunities for sustainability traction, suggesting that a shift in favor of sustainable development can be realized through a paradigm change in organized religion when this moves expeditiously, toward spirituality. Increasing numbers of citizens do not consider themselves religious yet, spiritual, indicating that spirituality may become most effective for all (religious and non-religious people), to boost a culture of environmentalism (Preston and Shin 2022), in pursuit of the goals predicated by the United Nations action plan (Agenda 2030). We think that as the uncertainties brought about by climate change intensify, the urgency to understand how religious beliefs influence environmental attitudes become most compelling for optimizing an achievement of the 17 SDGs. The intersectionality of these with the connections between sustainability and spirituality frames theoretically, the path for the achievement of sustainable development (Figure 1).

The model here proposed demands for values of a new ethic that shifts from anthropocentrism to ecocentrism, as White Jr. (1967) proposed many years ago to shed light on the ecological crises triggered by western society and amplified by the Judeo-Christian faith. A search in notable databases such as Web of Science and Scopus returns over 200 and 300 published articles, respectively, with the words 'sustainability' and 'spirituality' together in titles, abstracts or keywords. Publications involving these topics significantly increased in the last few years, and the topics cover the connection with health and

well-being (Gerhardt-Strachan, 2022; Triplett, 2022; Walshe et al., 2022), pro-environmental behaviour (Lestar, 2022; Muñoz-García and Villena-Martínez, 2020; Ramyar, 2021) and the relations between workplace spirituality and sustainability (Alomar et al., 2022; Iqbal et al., 2018; Rezapouraghdam et al., 2019). This investigation supports the development of further studies in this area, particularly with a focus on teaching and research and the role of higher education institutions.

Figure 1. The relationships between selected sustainability and spirituality themes are framed within the 17 SDGs of agenda 2030. Source: authors.

3. Methodology

The central research question in this study consists in better understanding whether spirituality informs the teaching and research of sustainability within higher education curricula. To address this question a specific survey instrument was created to uncover current best practices and approaches that embed spirituality within teaching and research about sustainability.

The survey instrument included a questionnaire with 14 questions divided into 3 sections. The first section is dedicated to background questions to collect demographic data (e.g., country, gender, age). The second, section focuses on assessing i) self-identification as faculty members around spirituality and sustainability; ii) sustainability teaching practices followed by the respondents' relation with spirituality; and iii) sustainability research practices followed by the respondents and their relation with spirituality, as well as their views on the status of spirituality in sustainability research practice. This section had a total of 26 statements measurable on a 5-point Likert scale. The third and final section investigated both challenges and drivers for the integration between spirituality and sustainability; based on two multiple-answer multiple choice questions, a list of challenges and drivers were provided (in

order to not limit the possible responses, an open space was also offered in case respondents desired to add other options). The questions are summarised in Table 1.

Table 1. Questions posed by the survey instrument

Background	1 Your Country:		2 Your age group:
	3 Your Gender:		4 Your Highest Level of Education
	5 The main area you teach is:		6 For how long have you taught in a higher education setting?
	7 Do you consider yourself a spiritual person?		8 Do you practice a religion? If so, which one?
Spirituality and Sustainability	**Self-identification around spirituality and sustainability** 9 Please indicate your level of agreement on each of the following statements about faculty aspects (Strongly disagree, Disagree, Neither agree nor disagree, Agree, Strongly agree): - Spirituality influences/ inspires my teaching of sustainability to students - Spirituality should influence the teaching of sustainability - Given the impacts of climate change and biodiversity loss and other unsustainable metrics, I use spiritual practices to keep inspired and motivated to continue teaching sustainability. - Efforts to create and teach sustainability are part of my spiritual practice. - Issues related to the purpose and meaning of life should be discussed in classrooms. - There is a shortage of training programmes on spirituality in sustainability teaching.	**Teaching sustainability** 10 Please indicate your level of agreement on each of the following statements about the sustainability teaching practices you may follow (Strongly disagree, Disagree, Neither agree nor disagree, Agree, Strongly agree): - When I teach sustainability, I discuss issues of spirituality in an academic context with my students. - I critique the UN SDGs as they do not contain a spiritual element/dimension. - The UN SDGs should contain a spiritual element/dimension. - I promote the normative elements of sustainability (e.g. economic, social and environmental) in my teaching. - Spirituality is a necessary element of the normative aspect of sustainability and I thus include spirituality when I teach sustainability. - Spirituality is a necessary element of the intrapersonal aspect of sustainability and I thus include spirituality when I teach sustainability. - I discuss spirituality when teaching about social equity in the context of sustainability. - I discuss spirituality when teaching about economic equity in the context of sustainability. - I discuss spirituality when teaching about environmental issues in the context of sustainability. - I discuss spirituality when teaching about racism/ discrimination in the context of sustainability. - An understanding of spirituality in the context of sustainability requires fairness and inclusiveness (no discrimination). - Spirituality is instrumental to an understanding of the indivisible connection between the planet and all living organisms, including ourselves.		**Researching sustainability** 11 Please indicate your level of agreement on each of the following statements about the sustainability research practices you may follow (Strongly disagree, Disagre, Neither agree nor disagree, Agree, Strongly agree): - I include aspects of spirituality in my sustainability research. - The spiritual aspects of sustainability should factor into sustainability research regimes, regardless of discipline. - A due emphasis on spirituality in sustainability research can help humankind's need for spiritual growth. - The integration of spirituality in research can support transdisciplinary research and enhance stakeholder engagement 12 Please indicate your level of agreement on each of the following statements about the status of spirituality in sustainability research practice: - The spiritual aspects of sustainability are under-researched. - There are social barriers to considering spiritual aspects of sustainability in sustainability research. - There are economic and social barriers to considering spiritual aspects of sustainability (e.g., lack of specific funding programmes). - There is a paucity of specialised literature on sustainability and spirituality.
Challenges and Drivers	**Main challenges** 13 In your opinion, which are the main challenges for the integration between spirituality and sustainability? (Multiple responses possible) - Spirituality definition (e.g. subjective characteristics, different cultural interpretations) - Common belief that religion and spirituality are the same - Scepticism on these issues - Lack of funding for spirituality-based research - Science-based sustainability research does not engage with issues of spirituality - Economics-based sustainability research does not engage with issues of spirituality - Lack of training in understanding the role of religion and spirituality in sustainability research - Lack of training in understanding the role of religion and spirituality in sustainability teaching		**Main drivers** 14 In your opinion, which are the main drivers for the integration between spirituality and sustainability? (Multiple responses possible) - Seeing/adopting spirituality and sustainability as a way of life - Greater awareness of the implications of our actions - Greater awareness of the impacts of climate change - Promotion of inclusive dialogue (i.e. of diverse cultures, spiritual experiences and world views) - Support for social sustainability and resilience - Knowledge-sharing and values-based action - Growing understanding that sustainability goals cannot be achieved without spirituality - Ethics as a driver for people to change their unsustainable habits

Some of the survey questions were tethered to the UN SDGs where the goals were strategically selected because they are internationally recognized goals.

The list of questions was reviewed by a jury panel of three anonymous sustainability researchers, who communicated with the senior author to reach a consensus about format and language used in all questions proposed by the survey. The final version of this instrument was created online with the use

of Google Forms. The non-probabilistic method of convenience sampling was employed, as the authors shared the invitation to participate in the survey with their scientific and academic networks. Two networks were used, namely the Inter-University Sustainable Development Research Programme (IUSDRP, https://www.haw-hamburg.de/en/ftz-nk/programmes/iusdrp/), a global consortium of academics at over 160 higher education institutions worldwide; and the "Green School" listserv, comprised of many institutional affiliates of the American Association for the Advancement of Sustainability in Higher Education (AASHE), a North American organization. The members of these networks received by e-mail an invitation note to participate in the survey, and they were also asked to share it with interested colleagues, supporting the study's dissemination.

The survey was returned by 100 respondents, at the end of a time period that spanned from September 2020 to January 2021. The respondents represent 25 countries from all continents: Argentina (n=1), Australia (n=6), Brazil (n=11), Canada (n=2), Colombia (n=1), Egypt (n=1), Finland (n=1), Germany (n=1), India (n=5), Italy (n=3), Japan (n=2), Malta (n=2), Netherlands (n=1), New Zealand (n=1), Nigeria (n=4), North Macedonia (n=1), Portugal (n=5), Serbia (n=1), South Africa (n=1), Spain (n=1), Sri Lanka (n=1), Tunisia (n=1), Uganda (n=1), the United Kingdom (n=20), and the United States of America (n=26) (Figure 2).
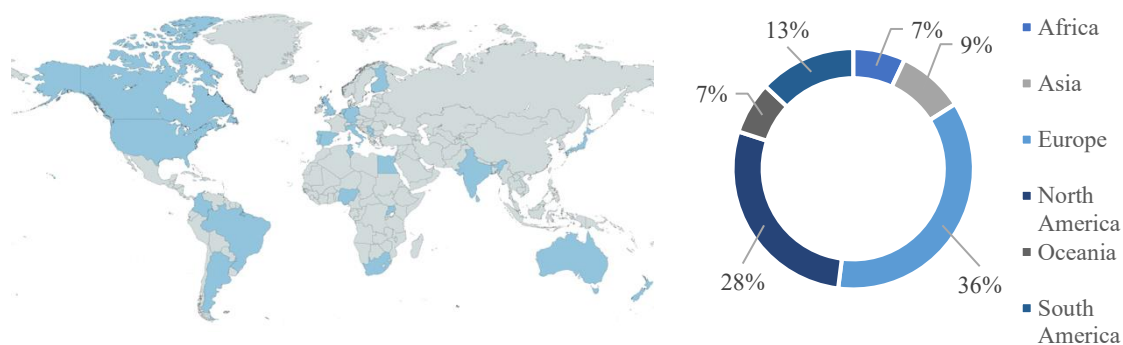

Figure 2. Countries and continents represented in the sample of respondents

4   Results and Discussion

The results were analysed through descriptive statistics to present an overview of the sample experience with sustainability and spirituality issues in teaching and research practices. Considering the sample size, the results are indicative of trends and a useful preliminary assessment rather than generalisable to larger populations.

4.1   Demographic data

The sample of respondents is balanced in terms of gender (49% female, 48% male, 3% other). Most respondents are postgraduates (96%) who have been teaching in a higher education setting for over 15 years (42%). The most represented age groups were those between 41-50 years (30%) and over 51 years (43%) of age categories. The respondents come from varied expertise areas: business, administration, and law (14%), engineering, manufacturing, and construction (13%), education (12%), arts and humanities (11%), social sciences, journalism, and information (9%), natural sciences, mathematics, and statistics (8%), agriculture, forestry, fisheries, and veterinary (7%), and sustainability (6%), among others (20%).

The sample demographics also revealed that 91% of the respondents consider themselves a spiritual person and most of them practice a religion (74%). Over 60% of the sample practice Christianity,

followed by Hinduism, Islam, Buddhism, Agnostic, Paganism/Pantheism, among others. Figure 3 illustrates these sample characteristics.
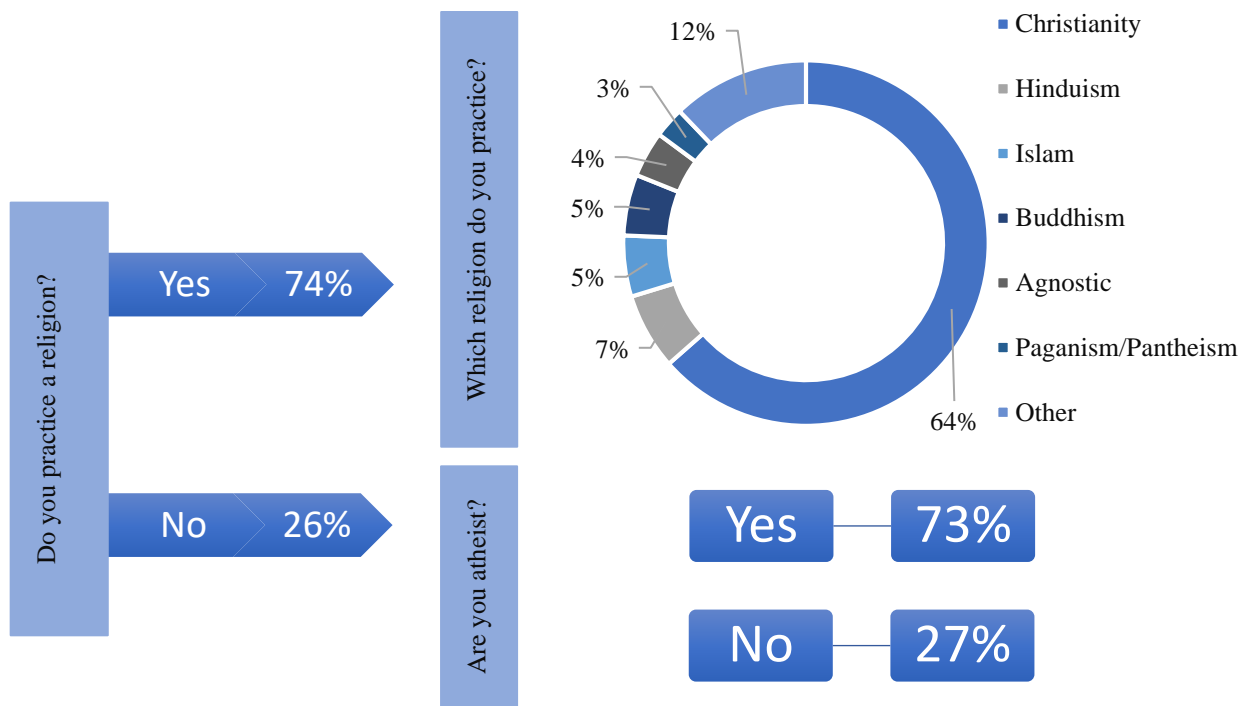

Figure 3. Religion practices of the sample

4.2 Spirituality and Sustainability

Figure 4 combines the results of the Spirituality and Sustainability section of the survey and presents the level of agreement of the sample to each item provided.

Sixty-nine percent of the sample agreed that spirituality is instrumental to an understanding of the indivisible connection between the planet and all living organisms, including humans. This indicates the experience of a transdisciplinary process occurring at present, at universities around the world, as well as the role played by spirituality in the pursuit of sustainability. Spirituality as a dimension of human beings and natural systems assists in the pursuit of sustainability through a consciousness growth fostered by studying ecology within a transdisciplinary education that allows an inclusion of the spiritual dimension for creating sustainable futures (Nuñez 2011). Seventy percent of the sample agreed that there is a paucity of literature on sustainability and spirituality. While there has been an interest in this dimension for some time, several reasons remain unexplained to justify why it is important to focus on the sustainability-spirituality nexus in current literature. Since the models presented by specialized literature relate to various cultural and organizational conditions, they differ quite distinctly, from one another.

Almost three fourth of the respondents (74%) agreed that the spiritual aspects of sustainability are under-researched. There is an increasing recognition that the twenty-first century's complex sustainability problems cannot be solved solely on the material, physical, or technical levels. This emphasizes the need to broaden the types and variety of pathways considered to ensure more sustainable futures.

Regarding the UN Agenda 2030, 44% of the respondents contend that the SDGs should address a spiritual element or dimension, however, 57% were not critical when presented with this limitation.
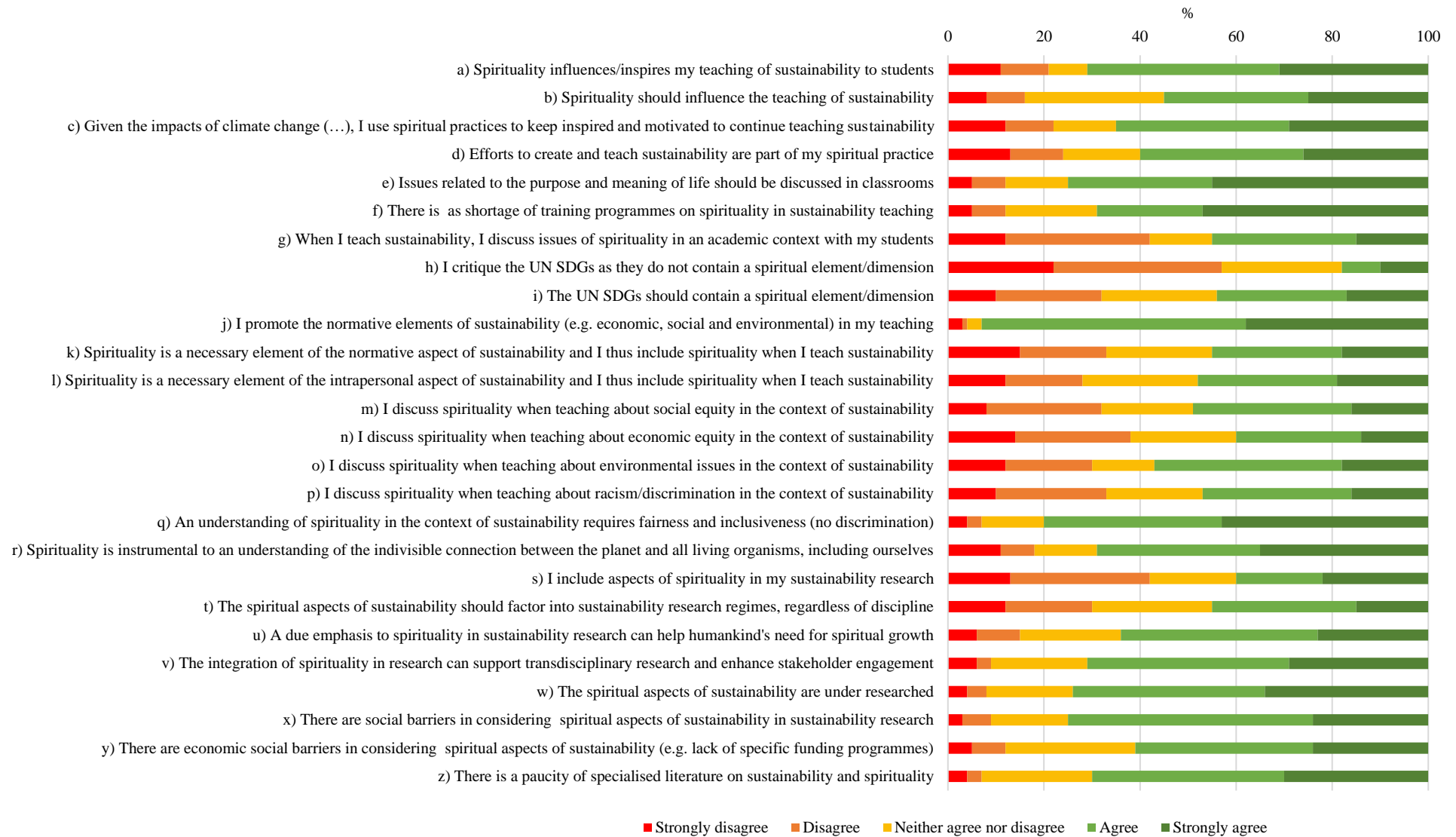
Figure 4. Level of agreement (%) of the sample on Spirituality and Sustainability statements

The respondents were invited to pinpoint the main drivers for an integration between spirituality and sustainability. Sixty-five percent of these pointed out the promotion of inclusive dialogue as a priority factor, justified by diverse cultures, spiritual experiences, and worldviews as ancillary components of this driver. Ethics for changing people's unsustainable habits and greater awareness of the implications of people's actions were cited by 63% and 56% of the study subjects. A complete list of the variables and percentages that emerged from the data analysis is reported (Figure 5).
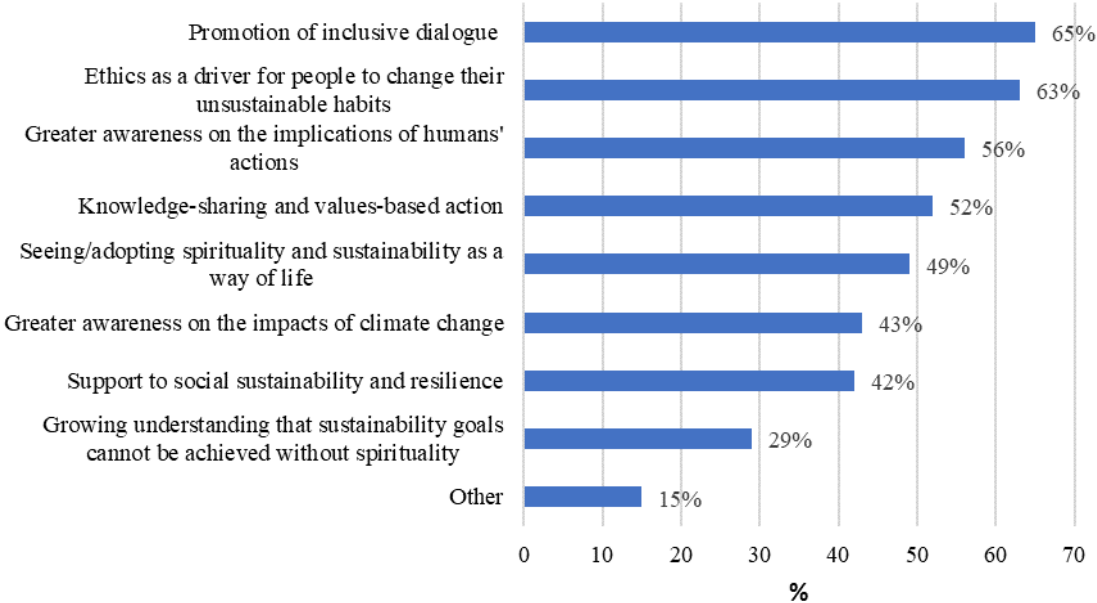

Figure 5. Main drivers in considering spiritual aspects in sustainability

Despite the drivers, several challenges for the integration between spirituality and sustainability were reported by the sample, as shown in Figure 6. Aspects around spirituality definition (such as subjective characteristics and different interpretations) were indicated by 89% of the respondents, followed by scepticism (88%) and lack of training in understanding the role of religion and spirituality in sustainability research and teaching (87% and 86%, respectively).
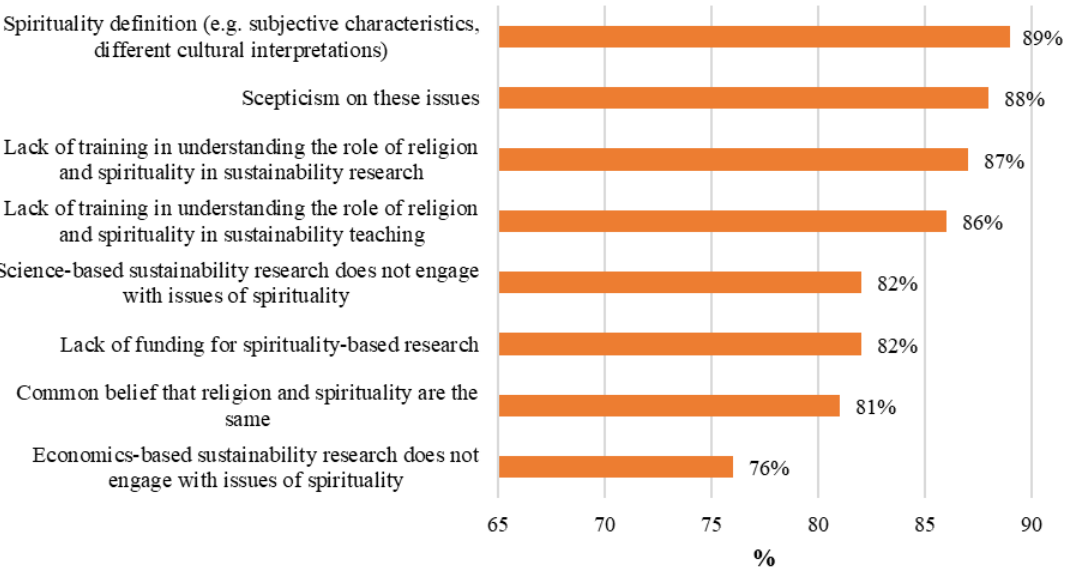

Figure 6. Main challenges for the integration between spirituality and sustainability

4.3 Spirituality and Sustainability Teaching

More than 90% of the respondents promoted the normative elements of sustainability (economic, social, and environmental) in their teaching. Sixty percent report efforts to create and teach sustainability as a part of their spiritual practice. Most respondents (71%) aligned with the perception that spirituality influences or inspires the teaching of sustainability to students, and high level of agreement was also seen in the item related to the use of spiritual practices to promote inspiration and motivation to teach sustainability (65%). These results are also presented in Figure 4 (items (j), (d), (a) and (c), respectively). Additionally, Table 2 reveals 77% of the respondents strongly agree about getting influenced, or inspired by spirituality in teaching sustainability, while considering themselves spiritual people to a great extent.

Table 2. The extent to which the respondents who get inspired or influenced by spirituality for teaching sustainability consider themselves spiritual people

		Do you consider yourself a spiritual person?			
		Yes, to a great extent	Yes, to a moderate extent	Yes, to a small extent	Not at all
Spirituality influences/inspires my teaching of sustainability	Strongly agree	77.4%	22.6%	0.0%	0.0%
	Agree	40.0%	45.0%	15.0%	0.0%
	Neither agree nor disagree	0.0%	62.5%	25.0%	12.5%
	Disagree	0.0%	40.0%	50.0%	10.0%
	Strongly disagree	0.0%	18.2%	18.2	63.6%
	Total	**40%**	**36%**	**15%**	**9%**

A set of statements in the questionnaire focused on discussing spirituality while teaching different about topics (items (m), (n), (o), and (p)). Environmental issues seem to be more informed by the spiritual practice in comparison to social and economic issues: forty to sixty percent of the sample agreed or strongly agreed to practice that while teaching about environmental issues (57%), social equity (49%), racism/discrimination (47%) and economic equity (40%).

The goal of Education for Sustainability (EfS), a transdisciplinary field, is to promote an environmental stewardship approach to life on Earth. However, EfS rarely includes a spiritual component that can ground students' experiences in a recasting of the I-It relationship with Nature into an I-Thou relationship (Smith 2009).

Almost half of the respondents (45%) viewed spirituality as a necessary element for sustainability, therefore this is applied in their teaching practice. Seventy-five percent of the participants pointed out that issues related to the purpose and meaning of life should be discussed in classroom settings. Over half of the respondents (55%) agreed, or strongly agreed that spirituality should influence the teaching of sustainability. Nevertheless, 69% agreed, or strongly agreed that there is a shortage of training programmes on spirituality in sustainability teaching (aligned with the results presented in Figure 6).

4.4 Spirituality and Sustainability Research

More than 70% agreed, or strongly agreed that the integration of spirituality in research can support transdisciplinary research and enhance stakeholders' engagement. Also, 64% of the respondents agreed, or strongly agreed that a due emphasis on spirituality in sustainability research can help humankind's need for spiritual growth (Figure 4, items (u) and (v)).

More than a half of the respondents (64%) agreed that the spiritual aspects of sustainability should factor into sustainability research agendas, regardless of discipline or background. Even so, 42% of the respondents admitted not including aspects of spirituality in their sustainability research (a slightly higher percentage in comparison to the teaching practice). The main point is that combining spirituality and sustainability is conducive to individual success (Burack, 1999). Since there is little research on the relationships between sustainability, spirituality, and individual achievement, there seems to be a need to create a conceptual framework from which to explore the proposed relationship between these constructs (Beehner 2019).

Overall, this study focused on the relation between two factors: spirituality and sustainability in the educational sector. It also undertook an enquire on whether spirituality informs the teaching and research of sustainability within higher education curricula. Unfortunately, the scope of the theme spirituality and its many variables does not cater for a linear -or a causal- relationship between spirituality and human behaviour. Spirituality goes far deeper than economics, technology, or social aspects. Departing from this reality, it is not possible to provide such a linear analysis.

In general, the data analysed suggest that there is a widespread awareness about the need for making connections between spirituality and sustainability. There is also an overall agreement about the usefulness of including spiritual aspects in sustainability teaching practices. However, there are some elements which hinder progress in this area. One of them is an apparent lack of training, to handle matters related to spirituality as part of teaching programmes, which certainly hinders progress in the research context as well.

5. Conclusions and Recommendations

Spirituality is a normative and ethical concept that entails greater conscience about the implications of our actions and the need to adjust them to reduce their harmful effect on people and the environment. The idea can significantly influence humanity towards more sustainable and ethical management and use of natural resources. However, the literature indicates a lack of consensus about operationalizing spirituality outside the management field and its connection with sustainability. The present study explored the links between sustainability and spirituality in teaching and research in universities worldwide. The outcomes indicate that participants recognize spirituality as instrumental in understanding the inseparable connectivity between the planet and all living things, including humans. Thus, there is a rationale that supports a spiritual dimension in our relationship with nature, as this is an important prerequisite to creating a sustainable future.

The research results have shown the value of spirituality and its usefulness in shaping a more sustainable future on the one hand, but also some of the obstacles which need to overcome, on the other. The main challenges associated with the current research include: a paucity of international literature which holistically examines the connections between sustainability and spirituality; the difficulties of obtaining field data; the logistics challenges associated with on-line survey and the natural limits posed in attempts to mobilise respondents to take part in the study.

But despite these challenges, the paper has succeeded in gathering sufficient information so as to allow a profile of the connections to be built.

Some of the key findings of the paper are:

a) spirituality is gradually being considered in teaching and research on matters of sustainable development at universities worldwide. High levels of agreement (>60%) were observed in statements associated with spirituality inspiring teaching of sustainability and climate change-related aspects, and being instrumental in understanding the connection between the planet and human beings. This is a positive development since the integration of these topics may ultimately support efforts towards a more sustainable and ethically correct world;

b) whereas spirituality is an issue concerning all matters related to sustainable development, its use if not as widely spread as it could -or should- be, so there is a need for more concerted efforts in this field. In comparison to teaching, research seems to receive less attention when it comes to incorporating spirituality into the sustainability practice (which is done by around 40% of the respondents). Additionally, in the teaching practice, connecting spirituality with sustainability tends to be slightly more common in the environmental area in contrast to economic and social contexts;

c) the positive attitude towards including spiritual aspects in sustainability teaching practices is somewhat undermined by an apparent lack of training – indicated by 70% of the respondents – which may help teaching staff to tackle such an issue. It is clear that more provisions for training are needed in this respect, as well as increased support for literature and research on that connection;

d) while the promotion of inclusive dialogue and ethics leading to change unsustainable habits are indicated as drivers for connecting spiritually and sustainability (indicated by over 60% of the respondents), issues of definition and scepticism represent important challenges for the practice (indicated by almost 90% of the respondents).

In order to promote a better integration of sustainability and spirituality on a more systematic basis at universities, some action is needed. This may include three main elements:

- A greater emphasis on matters related to sustainability, human well-being, and ethics, a part of initiatives on spirituality. Even though these elements are integrated into spirituality thinking, it makes sense to reiterate them and make them more prominent. A more prominent inclusion of aspects of spirituality, as part of sustainability initiatives, hence enriching them.
- Existing sustainability offices or units, as well as sustainability-related research teams, can cooperate with teaching staff and offer trainings dedicated to the connection between spirituality and sustainability. By bringing together different disciplines, this practice would also encourage further discussions on transdisciplinary.
- A closer interaction between these two closely associated elements may provide a long-needed impulse towards addressing current societal challenges, which vary from the aftermath of the COVID-19 pandemic to the war in Ukraine and its many consequences on social cohesion and food security. In this context, the involvement of key stakeholders at universities, and outside them, is essential.

The study has some limitations. The first one is the fact that the empirical part was undertaken over a short period of time. A further limitation is related to the fact that the sample was not as large as expected to allow more robust conclusions to be drawn. Nonetheless, the study provides represents a welcome contribution to the literature since it has analysed and documented trends related to sustainability and spirituality from a set of 25 countries. The geographical distribution of the sample under study offers a rough profile of how spirituality is perceived, hence helping to foster a broader understanding of the international implications of this important topic.

The implications of this paper to research and practice are two-fold. Firstly, it is a paper which sheds light on how matters related to spirituality related to sustainable development, an item not very often tackled in the literature. Secondly, it looks at matters related to ethics, which should really be an intrinsic part of activities associated with sustainable development. Moreover, an implication to practice is related to the fact that the paper contains useful insights which may support researchers and organisations concerned with, and interest to work towards a greater integration of spirituality in sustainable development related works.

Based on the evidence gathered in the paper, some policy-relevant recommendations may be made. For instance:

a) greater links between spirituality and ecology in primary and secondary education programmes;

b) more provisions for considerations to spirituality when drawing new legislation, especially those in the field of environment;

c) more emphasis to earth-care ethics in implementing urban and rural development projects.

In addition, there are various some opportunities for further studies. For instance, future research should investigate why some people are still skeptical about the contributions of spirituality in advancing sustainability, despite ample evidence that several traditional settlements have utilized the concept to preserve nature and live a sustainable lifestyle. In addition, future studies may also investigate the relationships between spirituality, individual achievements, and human sustainable behavior, and the skills scholars need to integrate spirituality into sustainability teaching and research effectively. Indeed, a focus on specific behaviour analysis may help in providing a better understanding of how sustainability and spirituality interact and may influence -and possibly steer- certain behaviours.

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