

The Jacket: Making Sustainable Clothing Choices in Outdoor Education

Simon Beames, Jannicke Høyem, Imre van Kraalingen, Jørgen Eriksen, Thomas Vold, Kristian Abelsen, Axel Rosenberg, & Trond Augestad, Norwegian School of Sport Sciences, Institute for Teacher Education and Outdoor Studies, Norway

Abstract

Amidst a vast jungle of products, brands, materials, labels, and systems of global trade and production, it has become increasingly challenging to make consumption choices that may be considered “sustainable”. This inquiry examines the decision-making process of a team of university outdoor environmental educators, as they puzzled over the most appropriate shell jacket to purchase for their outdoor teaching. The project’s first aim was to determine the team’s most important features of sustainability with regard to clothing procurement, while the second was to interrogate these features in relation to germane literature and guidance. Driven by a practitioner inquiry approach, the team of eight interrogated their own beliefs, assumptions, and knowledge about outdoor clothing over seven months. Data were generated through four group discussions, where the content from each was thematically analyzed and then used as a platform for the following meeting. Ultimately, four factors emerged as central to informing their outdoor clothing purchases: (1) durability, (2) assurances of ecologically friendly production, (3) assurances of fair labour conditions, and (4) underlying socio-political motivators. Navigating the varied and shifting ground of eco-labels and certifications in relation to environmental sustainability and fair labour conditions is highlighted as a central challenge to making nature- and human-friendly purchases. Interrogating the drivers and surrounding information around material consumption is positioned as a valuable pedagogical enterprise in itself.

Keywords: outdoor education; outdoor recreation; clothing; sustainability; eco-labels; practitioner inquiry

It is not unusual for people with some amount of privilege and conscience to be making consumer choices based on what they consider to be “sustainable.” The trouble is, of course, that these choices are often rooted in “wicked problems,” which feature intertwined parts that are complex, fluid, and not entirely known or understood (Rittel & Webber, 1973). This is the story of how the staff at one university outdoor environmental education program in Norway tried to come to a decision about what kind of team jacket they wanted to purchase for their professional outdoor work.

The physiological strains and risk of being harmed associated with many outdoor activities make choices regarding outdoor clothing highly important (Morrisey & Mossi, 2013). A shell jacket is a solid outer layer that protects the wearer from wind and moisture and can be used in a various landscapes and weather conditions. While the particular characteristics of a jacket (i.e. size, shape, colour) may differ across individuals, the first concern was to find a product possessing the high levels of functionality that our work demands. Of course, health and safety are important factors in our decision-making, but, ultimately, we want to be comfortable and able to teach well in natural settings, in a variety of weather conditions, for sustained periods of time.

Technological advances have brought about lighter clothing that allows for more unrestricted movement, features certain accessories such as a phone pocket, and provides more comfort and protection on the highest peaks and the wettest days. It may be, however, that the specificity of a jacket’s function may limit its applicability in a variety of

contexts, hence resulting in it seeing limited use (Klepp & Tobiassen, 2020b). Some might argue that responsible adventurers should let the properties of sustainable textiles determine what activities are possible in which kinds of environments. While it may be that non-sustainable, petroleum-based textiles have afforded humans unprecedented protection from the elements, many consumers perceive “sustainable” clothing (e.g., fair trade and organic clothing) to be less durable (Jacobs et. al., 2018). More recently, however, it has been argued that the same protective properties of a textile can be achieved in different, and more sustainable, ways (Klepp & Tobiasson, 2020b).

In our positions as outdoor educators, we set examples—not just by our practices, but also by our choices of gear and clothing. Concerned with the current state of the planet and debates on sustainability, we agreed that it was crucial to consider the values we wanted to represent as a team through our consumption choices. It was agreed that functionality would be a given and thus we embarked on a thorough methodology of reflecting on our own consumption practices and educating ourselves on the evidence-based arguments surrounding sustainability in outdoor clothing.

In our work in the field of outdoor environmental education, living sustainably demands the kinds of critical thinking that permits us to thoroughly interrogate the information “surrounding the consumer activity that is an inescapable part of our adventure practices” (Beames, Mackie & Atencio, 2019, p. 178). While framing a set of practical considerations regarding sustainability was expected to be straightforward, our initial dialogue turned into extended and heated discussions about identity, values, durability, textiles, eco-labels, environmental care, labour conditions, personal integrity, and fiscal responsibility—all of which are collectively described by some researchers as technical and social qualities of clothing (Klepp & Tobiassen, 2020b). The pursuit of selecting a sustainable shell jacket became highly challenging.

One’s ecological footprint is also a matter of how often we replace clothing (Klepp et al., 2020), and we unanimously agreed that one should repair jackets (and other equipment) until they are no longer serviceable. When it comes time to replacing them, however, the results of this inquiry will guide our purchasing strategy. As university outdoor environmental educators, this knowledge also has pedagogical implications in our everyday work, by offering an educational platform upon which critical reflection, discussions and debates with our students can take place.

We invite readers to join our journey which attempts to negotiate the jungle of advice on sustainable consumerism. This journey features four research questions. First, what did our staff team determine to be the key factors of sustainable consumption when purchasing an outdoor jacket? Second, how does the available guidance literature relate to our factors? Third, how can these factors contribute to developing clearer guidelines for buying outdoor clothing and equipment, more generally? And, fourth, how can this knowledge actively shape approaches to teaching and learning in the fields of outdoor education and recreation?

This paper next outlines the literature we reviewed and then describes the methodology. The section after that explicates the four findings yielded by our discussions. Thereafter, we interpret these findings with germane literature. Finally, the paper highlights key suggestions for generalizing the findings to related practices.

Sustainability and Outdoor Clothing

Much new, technical clothing on the market is made of plastics and chemicals. Fletcher (2019) states that we lock ourselves within layer upon layer of plastic to enjoy nature, and claims that this increases the distance between humans and the planet that sustains them. Yet, debates on exactly *how* to be sustainable are ongoing, and a seemingly simple act such as choosing outdoor clothing exemplifies the multiple layers of complexity that feature in our everyday practices and choices. This section explores the issues around sustainability and examines existing guidelines from the textile industry that aim to inform consumers about their purchases.

Most outdoor garment manufacturer websites lack detailed information about the degree to which their practices are sustainable. Thus, to find the guidance required to make informed and enlightened purchases, consumers are often faced with the overwhelmingly difficult and time-consuming task of gathering manufacturing details for each product that is being considered or choosing among a dizzying array of eco-labels that may have incomplete (Turunen & Halme, 2021), inaccurate or misleading information (Klepp & Tobiasson, 2020). Indeed, consuming with a conscience has the capacity to become an exhausting endeavour.

Sustainability became a global buzzword when Norwegian prime minister Gro Harlem Brundtland introduced the report *Our Common Future* in 1987 (UN, 1987). The report described sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (1987, p. 37). The concept of sustainable development has been criticized for promoting the principle of economic growth, which many claim is incompatible with the idea of a sustainable world (Sinnes & Straume, 2017). The term sustainability itself has been characterized as complex, contested and under constant negotiation (Ramos et al., 2020). Further, scholars have claimed that the “ambiguity and lack of clarity about the concept of sustainability is a recurring obstacle to sustainability research” (Salas-Zapata & Ortiz-Muñoz, 2019, p. 153). Our inquiry follows Salas-Zapata and Ortiz-Muñoz’ (2019) view that, while sustainability can be seen as an overall goal for humankind, it can be more usefully defined as “a set of guiding criteria for human action” (p. 157). These actions can include, for example, “utilizing renewable resources, enhancing human well-being, avoiding ecosystem degradation, and generating social and cultural benefits” (Rosenberg et al., 2021, p. 3).

The Sustainable Development Goals (SDGs) from the United Nations provide a global policy “backdrop” to our inquiry, and it is appropriate to briefly outline how our investigation is located within them. Adopted in 2015, the SDGs set global aspirations and priorities to combat social, economic, and environmental challenges (UN General Assembly, 2015). Henninger and colleagues (2016) note that sustainability debates were initially not concerned with the production and distribution of clothing and garments. However, the role played by the resource- and labour-intensive clothing and textile industry in contributing to the degradation and pollution of natural systems has been increasingly acknowledged (Carrone, 2020; Fletcher & Tham, 2014; Joy & Peña, 2017).

The SDGs that are especially relevant to our inquiry are: i) SDG12, responsible consumption and production, ii) SDG13, climate action, and iii) SDG15, life on land: protect, restore and promote sustainable use of terrestrial ecosystems. Translated to the context of

outdoor clothing, these three goals ask humans to reflect on production and consumption practices (e.g., labour conditions, traceability, the quality and quantity of our purchases); carbon footprints (e.g., carbon emissions from transportation and “production proximity” (Nordås, 2008)); and the impact of our clothing on ecosystems (e.g., presence of petroleum/perfluorinated compounds (PFCs), waste management).

While the SDGs provide useful over-arching guidelines, they remain arguably vague. More specific guidelines associated with sustainable clothing are brand certifications, eco-labels, membership networks and rating systems. First, there are various regulations that outline the certification requirements of all brands imported in the European Economic Area (EEA) and aim to protect consumers through providing information about potentially hazardous chemicals in their clothing (Claudio, 2007). Some examples of such regulations are the Biocidal Products Regulation (BPR), Personal Protective Equipment (PPE), and the General Product Safety Directive (GPSD) (OTEXA, 2020).

Second, there has been a rise in “eco-fashion” certifications that respond to the conventional fashion industry (see Clancy et al., 2015). The International Standards Organization (ISO) defines eco-fashion as “identifying the general environmental performance of a product within a product group based on its whole life cycle in order to contribute to improvements in key environmental measures and to support sustainable consumption patterns” (Claudio, 2007, p. 453). Reports such as *An Overview of Ecolabels and Sustainability Certifications in the Global Marketplace* (Golden et al., 2017), have attempted to de-mystify the often bewildering landscape of consumer guidance, by charting the various eco-labels and certifications.

Eco-labelling is still not widespread when it comes to clothing, and most labels only communicate the production country and materials used. For the textile and apparel industry, there are at least 60 labels that could apply. Further, the communicated information varies in specificity. While there are some overlaps between different labels, they largely focus on different areas of sustainability. Thus, there is not one label that covers the full spectrum of sustainability information (Turunen & Halme, 2021). Besides, clothing companies are not required to comply with any eco-labels or certifications and may only do so as a matter of business strategy (Davidson, 2019).

Crucially, however, eco-labels and certifications require regular third-party verification to ensure corporate accountability, which increases the reliability of these labels. The Global Organic Textile Standard (GOTS) is the world’s leading textile processing standard for organic fibers (Global Standard, 2016), while the Nordic Swan Ecolabel is the official ecolabel in all the Nordic countries, the EU Ecolabel is the official eco-label in the EU / EEA.

Other indicators of credibility come in the form of membership networks and rating systems, which largely rely on self-reporting and are thus regarded as less trustworthy (Davidson, 2019). Some companies use social media channels to convey pro-sustainability information about their products, but this may serve to confuse, rather than educate, potential consumers (Turunen & Halme, 2021). Turunen & Halme assert that neither certifications nor free-form communication entirely respond “to the need for actionable sustainability information for purposes of consumer decision-making” (p. 3). Lack of transparency, then, remains a barrier to making well-considered consumer choices.

Carrone (2020) argues that, within SDG 12, target 12.8 specifically highlights the importance of people having relevant information about the origin, production and

composition of products so they may develop more sustainable lifestyles. Traceability and transparency across the supply chain systems are essential to ensuring that products meet the sustainability-minded consumers, and the accessibility and clarity of this information plays a central role in translating sustainability guidelines into action (Carrone, 2020; Joy & Peña, 2017). Although changes must happen on more macro and political levels, individuals should be recognized and engaged as agents of change and influence (O'Brien, 2018) who can develop the competences necessary to contribute to sustainability through pro-environmental actions (Sinnes, 2020). Yet, in the absence of over-arching, universal standards, it is challenging for consumers to make sustainable choices when buying outdoor clothing.

In response to the above problems, both governmental institutions dealing with consumer rights and information, and organizations concerned with environmental issues, provide a wide range of guidelines. However, these are usually quite broad and ambiguous—not unlike the SDGs described earlier. For example, some advice includes using clothing for a long time, buying clothing of high quality, trying “care and repair”, buying from companies that commit to fair working conditions, and looking for eco-labels (Forbrukerrådet, 2017; O'Malley, 2019; WRAP, 2017; Webb, 2016). Surprisingly, few agencies suggest buying less or not at all (Future in Our Hands, 2020).

In short, on the one hand, global interest in sustainability has led to the development of a set of wide-ranging standards, regulations and certifications. On the other hand, the quantity and diversity of these can make it difficult for consumers to distinguish between which certifications are the most comprehensive and trustworthy, and which are not (Gustafsson & Hallström, 2013). The lack of traceability, transparency and practical guidelines pose a barrier to the consumer's ability to make well-considered purchasing choices (Joy & Peña, 2017).

Some scholars assert that outdoor education, in particular, can be linked to increases in environmental consciousness or with more environmentally responsible behavior (Martin, 2004; Williams & Chawla, 2015). Nevertheless, Høyem (2020) asserts that pro-environmental behavior is driven by reflection on the relationship between humans and nature, and that outdoor recreation alone does not necessarily promote this reflection. As professional outdoor educators, it is important to be sensitive to the kinds of values we communicate through our practices, as we are often regarded as role models for our students and for the members of the public we encounter (Eriksen, 2019). Through this inquiry, we aim to outline a set of principles that can help guide ourselves, our students, outdoor recreation providers, environmental education programs, and other outdoor enthusiasts, with making more informed sustainable purchases in the future.

Methodology

The Outdoor Studies team's jacket buying discussions started in the late autumn of 2017. After more than two years of this being raised as an item at staff meetings, we had yet to arrive at a decision. In November of 2019, after a discussion on why certain jackets were suitable and others were not, we accepted that we were at an impasse. We didn't just want

a shiny new shell jacket; we aspired to buy a functional garment that could be considered sustainable in several senses of the word.

We wanted to use our debates around our own values and assumptions around purchasing material goods as data. These data and the way they were interpreted would then be more easily scrutinized by ourselves and by others. After all, it should be possible for any consumer in the public domain to make highly informed, ethical choices about how they spend their money. Findings extracted from these debates would not, however, be an end in themselves; rather key themes would enable us to enter more enlightened and focused discussions which would directly inform material purchases of all kinds that we make as individuals and as an organization.

It was decided to employ a practitioner inquiry research design. Menter and colleagues (2011) explain how a practitioner inquiry (PI) is undertaken within the practitioner's context and allows educators to become agents of their own learning by investigating practice within their institutions. Cochran-Smith and Lytle's (1993) description of the "systematic, intentional study" (p. 23) of one's own practice would become our project's central tenet. While practitioner inquiry is commonly associated with teachers working in schools (see Cochran-Smith & Lytle, 1993; Anderson et al., 1994), Hall (Sage, n.d) explains that this methodology is "about the practitioner, whether they're a teacher, a lawyer, a doctor, or a social worker, thinking about their work in a curious, but also a very systematic way" (0.29s - 0.38s). Our literature searches did not reveal other studies in the fields of environmental education and outdoor recreation that had employed a PI research design to explore issues of sustainability; this study thus enters novel methodological ground in these fields.

Galosy (2014) notes that it takes a certain "courage and humility to ask, 'What's going on here?', rather than jump immediately to judgment or action" (para 7), and we have attempted to embrace that rather tricky terrain of researching ourselves as we tackled a topic that does not admit clarity, nor well-defined boundaries. Central to practitioner inquiry is that participants critically and methodically question their own work as a means of improving practice. This involves gathering data related to these practices, analyzing them, and sharing findings with others (Dana & Yendol-Hoppey, 2014). Within PI, practitioners are viewed as "knower and agent for educational and social change" (Cochran-Smith & Lytle, 2009, p. 37). Following Levitt and colleagues (2018), our inquiry was situated in both the "context of the investigators" (our relation to the topic) and the "context within which a phenomenon or study topic is being construed" (the specific time and place) (p. 29).

The PI approach harkens back to Denzin and Lincoln's (2000) notion of the *bricoleur*, who uses whatever materials, strategies, and methods are at hand to piece together a representation of a complex situation. Following Miles and Huberman (1994), our inquiry became more of a "craft" than the "slavish adherence to methodological rules" (p. 5) that might limit our capacity as inquirers. What is clear is that this study is firmly positioned within an interpretivist / constructivist philosophical paradigm, as it seeks to understand, interpret and describe (Lincoln et al., 2011; Merriam & Tisdell, 2016).

In their 2009 book, Cochran-Smith and Lytle outline eight features that underpin practitioner inquiry, and here we briefly highlight them, as they resonate so strongly with our investigation. First, the practitioners—in this case, us authors, who work in a university

setting—simultaneously take on the role of researchers. Second, collaboration is central as “inquiry communities” work together to “interrogate the assumptions and values that underlie their practices” (p. 41). Third, all participants in the inquiry are regarded as knowers and learners. Fourth, the workplace (or professional context) is the principal site of the inquiry, and it is the problems within that context that become the root of it. The fifth feature is closely related to the first, in that the boundaries between the inquiry and practice are somewhat blurred. Sixth is systematicity, and this refers to the way data is gathered from a variety of sources to permit multiple perspectives to be understood, and to possibly reveal how these perspectives may have shifted over time. Seventh is sharing findings with others and being open to critique from them. The final feature has to do with validity and generalizability and is discussed below.

Like any methodology, practitioner inquiry, is not without its weaknesses. Practitioner inquiry has been accused of being “consequential but invisible, except to its immediate participants” (Cochran-Smith & Lytle, 1993, p. 7); this bleeds into the principal critique that PI research is so idiosyncratic that it does not permit generalization and application to other contexts (Wilson et al., 2001). We have the opposite in mind, however, as we aim to arrive at guidelines for purchasing the most sustainable jacket as possible, which organizations and individuals can adopt and adapt for themselves.

Methods for Data Collection And Analysis

It is not possible to separate explanations of data collection and data analysis, as there was not a period of one followed by the other. There were multiple instances of data collection and analysis, and these ended up forming a kind of cycle, where the findings from one set of data would directly inform the next round of data that was generated through our discussions and written tasks. This cycle resonates strongly with the “hermeneutic circle” (Bontekoe, 1996), that “involves repeatedly and cyclically moving between the parts or aspects of the phenomenon and the whole, with the objective of gaining a growing understanding of the phenomenon” (Paterson & Higgs, 2005, p. 345).

Practitioner inquiry is an extension of action research (Reason & Brandbury, 2001), and our process has similarities with the circular dimension of the action research spiral (Coghlan & Brannick, 2005). Applied systematically, this helped us move deliberately through four cycles of data generation and analysis. Experience with this cyclical work has shown that it is important to refine questions and acquire and develop knowledge for each round (Høyem, 2012).

This iterative process featured data collected from four group discussions, the thematic analysis conducted on each discussion, and the findings used to inform the subsequent discussion. These meetings were audio-recorded and uploaded to a shared site on our local server. One document was created for each recorded discussion, where all eight researchers could write down their reflections on the recordings and ongoing interpretations of them.

During the first meeting, we tried to recapitulate the last two years of discussion (2017–2019). Three members then performed a thematic analysis of this session, which informed the second discussion. During this meeting we discussed what unspoken messages our choices of outdoor clothing send to students, other colleagues, and members of the public.

Discussion three took place a month later. Even though three of the eight staff were missing, everyone was able to read the notes and listen to the audio recordings from that meeting. These notes featured our first attempts to categorize features of a jacket that were important to us. Ecological and human factors were two categories and another was kept open, where members could add factors that had not been raised in earlier meetings, while also adding written arguments for and against each factor, based on theoretical and practical knowledge. Six out of eight staff members completed this last task. During the fourth meeting, we discussed the categories and themes within the table we had created. It was at this meeting, where the final four factors were decided-upon.

Data Verification

All members of the Outdoor Studies team had opportunities to read and comment on drafts throughout the process, thus increasing the trustworthiness, credibility, and dependability (Denzin & Lincoln, 2000) of our findings. Cochran-Smith & Lytle (2009) follow this qualitative, interpretive tradition and posit that “validity rests on concrete examples (or ‘exemplars’) of actual practice presented in enough detail that the relevant community can judge trustworthiness and usefulness” (p. 43).

Two members of the team took the lead through the cyclical stages of data generation, analysis, and management. To highlight points that might have been missed in earlier stages, the same two listened to all the recordings again and read through all of the meeting notes (and the comments on them). This kind of peer review arrangement afforded the process a certain consistency and built-in investigator triangulation, in terms of agreeing on key themes that had arisen (Merriam & Tisdell, 2016). Indeed, the iterative nature of the data generation and analysis spiral permitted us to arrive at findings which we have deemed to be trustworthy.

Ethics

There are eight authors of this paper. All members had access to the data and to this manuscript. The project was informed by guidelines from the British Educational Research Association (2011) and paid particular attention to ensuring that individuals were not identifiable through the manuscript; data were kept securely on a OneDrive folder that was only accessible to the authors; and contributors had the right to withdraw at any time, without penalty. Since the data was collected solely by and on the eight co-authors themselves, ethical approval from The Norwegian Centre for Research Data was not sought.

Generalizability

Stake (2000) argues that most academic researchers expect a certain degree of generalizability to other cases. Further, it has been argued that the key to generalization rests with the reader of the research report and not the researcher (Kennedy, 1979; Taber, 2010). In this sense, the onus is on the reader to extract points that they judge to be useful

to their own practice and “permit readers to draw the necessary comparisons to their own contexts of interest” (American Educational Research Association, 2006, p. 39). It is our firm hope that readers will be able to use our findings to inform their practices around outdoor clothing and equipment procurement specifically, and their individual and organizational ethos’, more generally.

Findings

The analysis of data yielded four principal sustainability-related factors that would inform our purchasing: durability, ecologically friendly production practices, fair labour conditions, and associated social and political reasons. They are presented in order of their relative dominance, in terms of how often they were mentioned in the data. These four factors, which can inform what one buys, assume, of course, that one requires a jacket in the first place. Ultimately, we wanted our guidelines to help us make decisions about purchasing outdoor clothing and equipment more generally – but crucially, only if and when specific items were needed.

Before turning to the four factors, it is important to highlight a key underlying assumption within our discussions: function. Indeed, the importance of the garment’s function was nearly over-looked in our early discussions. We were initially so pre-occupied with the ecological and socio-cultural influences of jacket manufacturing, that we failed to consider what type of jacket would serve the purpose, in terms of fit, features, and waterproofness, and so on. Ultimately, we decided there was no point in discussing the sustainability features of a jacket that we would never buy because it was not fit for purpose. Function will be elaborated on in the Discussion section.

Durability and Repairability

The first and most important factor identified by the staff team is the extent to which the material is durable and repairable. This can be considered in three ways. First, the material itself needs to be strong enough that it does not tear or puncture too easily from foreseeable wear on the trail or in camp. Second, the material needs to be renewable, in the sense that it can be re-treated to regain its waterproofness. We did not want a jacket that beaded water for the first year and then lost its capacity to protect the wearer as time went on. And third, we wanted a jacket made from material that could be repaired in a way that did not lessen its integrity as a waterproof and breathable layer, and which enabled it to have as long a working life as possible. Some manufacturers of outdoor clothing guarantee the longevity of the garment, and repair clothes that break at no extra cost. Perhaps self-evidently, durable items do not have to be replaced as often.

Physical durability can, in a technical sense, be described as the physical lifespan of garments; it includes both its strength and how it is cared for. *Social durability* refers to garments that can be used over a long period of time and still be appreciated or valued in social circles (Klepp et. al., 2020). Thus, designing for durability seeks to “improve physical and technical robustness of garments in addition to addressing the emotional and expressive qualities they can provide for consumers” (Laitala & Boks, 2012, p. 127), while

leading to extended use and longer functioning cycle. Laitala & Klepp (2013) assert that almost no clothing includes information about lifespan expectancy, and hence consumers base their evaluation of durability mainly on clues that do not directly reflect it, such as price or brand name. Perceived quality is also guided by personal experience and independent consumer reports (Aakko & Niinimäki, 2021).

Ecologically Friendly Production

In our early discussions on environmental sustainability, we found it challenging to subdivide this category into more specific indicators, as we lacked the knowledge to separate the overlapping features they shared. We initially identified seven indicators under the umbrella term of ‘environmental sustainability’: first, carbon emissions from transporting materials – either as a part of, or after the, manufacturing process and all the way to the users; second, the degree to which recyclable and reusable materials are used in the manufacturing process; third, pollution and carbon emissions from extracting raw materials, and from manufacturing and packaging the product; fourth, the amount of petroleum, PFCs (per- and poly-fluorinated chemicals), other chemicals and microplastics in the materials; fifth, the influence on habitat and biodiversity in the extraction and manufacturing stages; sixth, the type and amount of energy used in the production; and finally, waste management. These indicators are inseparable as a basis for making practical choices, and so must be considered as a whole.

It is near impossible for an average consumer to access and then collate the information about the above seven indicators: the amount of time, investigative work, and data synthesis skills required is enormous. Thus, what becomes most important are the externally-conferred assurances of environmental sustainability that companies provide consumers. Examples of these assurances are the Global Organic Textile Standard (GOTS) (Global Standard, 2016), which defines environmental criteria along the entire supply chain; the Bluesign (2020), which is an eco-label for the sustainable production of textiles with strict requirements for chemical use and emissions throughout the production chain; and the EU Eco-label (“the flower”), which is awarded to products and services meeting high environmental standards throughout their life cycle (European Commission, 2020). Other labels may show that the raw material production is certified, but they cannot do the same for the entire production process.

Fair Labour Conditions

Labour conditions at factories and sites of extraction is listed as the third feature to inform our purchasing. This theme can be described as “what life looks like” in the factory, who is working there, and what wages they earn in relation to the cost of living. More broadly, these factors encompass the degree to which production of the goods contributes towards a balanced economy and stabilized communities, the factory's influence on local culture, and the preservation of human rights in the production country. As with the above theme of environmental sustainability, consumers need to rely on third part certifications of socially just conditions of manufacturing. Again, the Global Organic Textile Standard (2016)

demands compliance with the criterion of social sustainability as described above, and Bluesign (2020) provides assurances of care being taken to minimize the impact of the production chain on the well-being of the local people through, among other things, focusing on occupational health and safety of workers.

Socio-Political Reasons

For our staff team, the fourth and final factor when considering which jacket to buy has to do with the social and political reasons that might influence why we choose to buy—or not buy—from a certain company. This could involve indirectly supporting or rejecting specific communities or political interests. Examples of this might be wanting to support a smaller, start-up enterprise from an economically-deprived area, or giving our business to a company that donates a percentage of its profits to a political cause we deem important.

Finally, the theme of the cost of the jacket is perhaps notable by its absence. A final decision will depend on the classic “price versus values” duality, and our willingness to pay for function, durability and sustainability. Overall, the team’s shared sentiment was that we would initially focus on determining the best jacket to buy, as informed by the research on ourselves and the information available in the public domain.

Discussion of Findings

Dennis Soron (2010) claims that our habits of consumption are intertwined with our identities, values, emotions, and social influences. This view is not lost on our staff team, as the jacket we choose will ultimately be a kind of public ethical statement. Our initial meeting revealed themes that were strongly related to identity, as what we buy sends certain messages about who we are – or at least who we want others to think we are (Goffman, 1959; Gomez et al., 2015). For instance, “buying used gear may be a way of signaling oneself as an ethical consumer” (Nagle & Vidon, 2021, p. 1263). These meetings also led to discussions about values, which may be very personal and diverse within a group of people. As the inquiry progressed, we came to see that our debates on identity and values needed to be more grounded in science, and how this knowledge was “managed” and explained to consumers in the Northern leisure market.

Critics might accuse us of green consumption, as we look to purchase “conscience soothing” apparel. This is partly fair, as we do possess the affluence needed to make choices about what we buy. Indeed, the UN’s Sustainable Development Goal 12 (2015) encourages us to use our “old” products until they absolutely must be replaced, rather than accumulating more products that have been deemed “environmentally friendly”. This ethos resonates strongly with the Outdoor Studies team’s most important feature of a jacket: durability and reparability.

Turunen & Halme (2021) suggest a “Shades of Green instrument” (SoG) to assist consumers with their decision-making by “providing a set of key sustainability issues over the product’s life cycle” (p. 1), but this needs to be further developed and has yet to be researched. Scales such as the SoG might better speak to our need for assurances on environmental sustainability and fair labour conditions, and perhaps to some underlying socio-political motivators, as well. Klepp and colleagues (2020) recommend comparing the

environmental impact of apparel through a method called “life cycle analysis” (LCA), which features clearer indicators of a garment’s actual lifespan that are derived from “key data relating actual garment use”, and from information about its fibre content (Laitala, Klepp & Henry, 2017). It is also paradoxical that the promotion of sustainability through labelling is often used to sell more (Sinnes, 2020). For instance, some companies selling outdoor gear claim to fight for the environment by using durability as a marketing strategy; this, of course, only encourages more consumption (Nagle & Vidon, 2021).

A large revelation of the seven-month data generation and analysis process came in the fourth and final group meeting. During a debate about the relative importance of various factors under the umbrella of environmental sustainability (e.g., loss of habitat vs. using petroleum-based products), we realized that, as members of the public, we could never come remotely close to adequately investigating and understanding the extent to which these elements featured in the manufacture of a given jacket. It was at this point that we saw that what consumers needed was assurances that certain measures were being taken by the company to, for example, only use recycled materials and have their factory workers paid a fair wage. This assurance of ecologically friendly manufacturing was, however, linked very closely to our third factor, which was assurances of fair labour conditions.

Realizing how incomplete our knowledge will ever be when it comes to understanding all aspects influencing the sustainability of an outdoor shell jacket – or anything else – we arrived at the concept of *supply chain transparency* as a way of explaining the processes at work. Mol (2015) describes how transparency comes in different forms and has the aim of providing “information on the sustainability of production processes and product characteristics is disclosed in the wider public domain” (p. 156). An example of this is the Fashion Transparency Index (Fashion Revolution, 2020).

We somewhat naively believed that supply chain transparency could be an objective guide to our choices regarding the reductionist categories of environmental and human factors influencing what can be considered sustainable. Indeed, Mol (2015) warns that supply chain transparency in practice has many shortcomings, such as how the information is used and by whom. It follows that existing eco-labels, like the ones presented earlier, may also not be enough to enable consumers to make sustainable choices when buying an outdoor mountain jacket. This aligns with a recent paper outlining the pitfalls of relying exclusively on eco-labels which asserts that accountable and verifiable data are seldom available (Klepp & Tobiasson, 2020). In addition, Turunen & Halme (2021) explain how most eco-labels are based on a binary logic, and thus offer no scale to differentiate between the relative sustainability of products. The authors also highlight how brands, not products, are the units of evaluation in eco-labelling, and hence are difficult to incorporate into actual consumer choices. However imperfect they may be, eco-labels, like GOTS, the EU eco-label and Bluesign, do bring a certain degree of useful information with them. Still, this information is limited in its usefulness.

Our fourth factor of socio-political motivators features a multitude of key factors that may cause consumers to choose articles with similar durability and eco-certifications over one another. While a certain amount of this may be subjective, the literature highlights a number of factors that can be considered. The list of arguments for choosing to directly support certain companies that very publicly locate their businesses within a larger social improvement enterprise, includes the positive relationship between smaller, local firms

and, a) lower wage inequality (Mueller et al., 2015); b) recirculating money into the local economy (Civic Economics, 2013); maintaining a higher proportion of their employees during economic downturns (Moscarini & Postel-Vinay, 2012); d) higher income growth and lower levels of poverty (Fleming & Goetz, 2011), and e) increased social capital, civic engagement, and well-being (Blanchard et al., 2011). Issues of social justice are playing an increasingly important role in all our consumption choices.

As outdoor professionals, we believe we have an elevated awareness of our own motivations for outdoor experiences, along with a high degree of reflection on our own relationships with nature. It follows that we have a certain potential to develop intentions to act in environmentally responsible ways (Høyem, 2020). However, knowledge of a problem does not necessarily lead to that problem being addressed (Stoknes, 2014; Ojala, 2017), and intentions do not necessarily lead to actions (Stern, 2000). This difference between what people say and what they do has been labelled the *attitude-behaviour gap* (Tilley, 1999) and is increasingly being used to explain people's inadequate adoption of more pro-environmental behaviour (Juvan & Dolnicar, 2014). While this may seem straightforward, actions to live more sustainability are often limited by people (usually of privilege) who are unwilling to let go of their patterns of consumption (Soron, 2010).

Soron (2010) explains that the reason for consumption patterns being so hard to change is that they are located within non-rational values, emotions, and socio-cultural influences. Still, there are arguments for deliberately making visible the measures that are taken to solve the challenges we face (Chawla & Derr, 2012; Ojala, 2017), both to provide hope that action is being taken and to give examples of what one can do oneself. This text can stand as an example of trying to make actions visible. In line with this position, we call for clearer, more transparent, and more accessible guidelines for consumers to be able to make better-informed purchases.

Conclusions and Implications

This inquiry posed four research questions. First, what did our staff team determine to be the key factors of sustainable consumption when purchasing an outdoor jacket? Second, how does the available guidance literature relate to our factors? Third, how can these factors contribute to developing clearer guidelines for buying outdoor clothing and equipment more generally? And fourth, how can this knowledge actively shape approaches to teaching and learning in the fields of outdoor education and recreation?

Beames, Mackie and Atencio (2019) remind us to consider the “environmental and humanitarian impacts” (p. 184) of our adventure practices, but this is much easier said than done. What initially seemed like a simple task of choosing a mountain jacket for the university outdoor studies staff team, became a long journey into a complex rabbit hole, from which we are emerging after three years of discussions. While research reports are often presented in a linear, logical fashion, the reality is usually the opposite. Indeed, our journey featured winding roads, bumpy sections and dead ends. Choosing a jacket became a first world problem, due to the privilege inherent in us having the means to buy the jacket we desired and by this conundrum being regarded a problem in the first place.

We recognize that outdoor practices are “part of an economic system that includes global chains of production and consumption with social and ecological consequences” (Simon & Alagona, 2009, p. 19), and accept the duty that comes with being visible leaders in the sector. The four considerations at which we arrived are admittedly imperfect and will continue to evolve over time, as the eco-labelling processes become more rigorous, and we educate ourselves further.

Judging how sustainable a product is can be a complex and time-consuming process (Sinnes, 2020). The certification schemes are made to help consumers, but we have found their differences in focus, scope and demands to the supply chain, as challenging to interpret and employ as we attempt to make informed choices. In and of themselves, the eco-labels and certifications do not provide enough information for most consumers to use with any kind of ease: their data sources vary greatly; they do not offer adequately nuanced degrees of sustainability for the products they endorse; they overlap greatly; are not completely comprehensive; and there are too many of them. It is also paradoxical that the promotion of sustainability through labelling is often used to sell more (Sinnes, 2020). For instance, some companies selling outdoor gear claim to fight for the environment by using durability as a marketing strategy to encourage even more consumption (Nagle & Vidon, 2021). Klepp and Tobiasson (2020) further explain that there remains “a terribly annoying fly in this soup” (para 18), which is the poor, outdated, and unverifiable data that is used in many green clothing indexes. This leaves consumers like our outdoor studies team with a challenge that becomes increasingly centered around which eco-labels to trust, rather than which jacket to choose.

A conversation that began rather naively turned into an extended series of discussions that exposed the difficulties associated with making “nature friendly” and “human friendly” choices about buying material goods of all kinds. Ultimately, the process that we went through was much more than deciding on what shiny new outdoor jacket we should buy. The jacket discussion was a way into the sustainability matrix: it represented a simple, fixed marker in a world full of sustainability ambiguity – a concrete foil against which we could test our beliefs, values, and assumptions, and through which we would increase our individual and collective knowledge about how we can make consumer choices in a more responsible manner.

Since the eight authors of this paper teach university students, this study also yields a central implication for practice that is pedagogical. We regard the literature review, the eco-label research, the PI process, and the four factors at which we arrived, to be vital discussion points with students. Teaching and learning that is grounded in authentic learning contexts can be highly engaging and powerful (Beames & Brown, 2016). Thus, critical reflection, discussion and debate with our students – whether in class, online or outdoors – about how we can be more deliberate in our re-using, re-making and purchasing practices will be deliberately incorporated into our teaching. The ground is also laid for further conversations in our coursework to encourage students to become leaders within their own communities. They can then join a growing body of educators and guides who are advocating for increasing the transparency of environmental sustainability and fair labour practices within the domains of outdoor clothing and equipment manufacturing, while strengthening the clarity and validity of eco-labelling schemes.

This inquiry adopted what could be termed an applied view of sustainability, as it focused on developing “a set of guiding criteria for human action” (Salas-Zapata, & Ortiz-Muñoz, 2019, p. 153) that is located within a larger social-ecological system (p. 155). These guiding criteria were arrived at through a “systematic process by which we know more about something than we did before engaging in the process” (Merriam & Tisdell, 2016, p. 5). While our findings may not be especially surprising to readers, it is important to remember that they were arrived at through a systematic and rigorous process. Further, these findings represent a contribution to a body of knowledge on sustainability education practices that is short on empirically-driven pedagogical guidance.

While practitioner inquiry has a history in educational studies, this approach to conducting in outdoor education and recreation has seen little attention. We would argue that the fields of environmental education and outdoor recreation are already full of the kinds of rich “inquiry communities” that are so integral to PI. It may be that these communities need to become more formalized in ways that better equip them to “foster deep intellectual discourse about critical issues” and thus “function as grist for new insights and new ways to theorize practice” (Cochran-Smith & Lytle, 2009, p. 37). Viewed this way, this paper’s contribution to the field is methodological, as well as practical and conceptual.

After asking ourselves whether or not we need to buy a given piece of technical clothing or equipment, if the answer is “yes”, we have four aspects to consider: the item’s durability, the assurance of sound ecological practices, the assurance of fair human / labour practices, and relevant socio-political factors. These four considerations can be used to guide an outdoor organization’s procurement of clothing and equipment, while at the same time assist individual consumers in making more informed purchases – or perhaps not purchasing at all. In most cases, eco-labels and certifications are the simplest ways for consumers to be assured of ecologically and socially practices used by clothing companies. This then shifts the conversation to determining which are the most trustworthy eco-labels, which, as we have seen, is complicated. Even the most credible eco-label, however, will not help us when it comes to determining an item’s durability or associated socio-political factors. We encourage others to adapt, develop and refine these four considerations for their own application, and to ask friends, colleagues, and inquiry communities, tough, pointed questions about their consumption habits.

We plan to share the ongoing story of our journey towards becoming more responsible consumers of outdoor products, and more sustainability-minded outdoor course providers, through forthcoming knowledge exchange events. Visit the Outdoor Studies Forum webpages at the Norwegian School of Sport Sciences for more information: <https://www.nih.no/en/research/about/departments/teacher-education-and-outdoor-studies/outdoor-studies-forum/>

References

Aakko, M., & Niinimäki, K. (2021). Quality matters: reviewing the connections between perceived quality and clothing use time. *Journal of Fashion Marketing and Management*.

- American Educational Research Association. (2006). Standards for reporting on empirical social science research in AERA publications. *Educational Researcher*, 35(6), 33–40. https://www.aera.net/Portals/38/docs/12ERv35n6_Standard4Report%20.pdf
- Anderson, G.L., Herr, K., & Nilhen, A. (1994). *Studying your own school: An educator's guide to qualitative practitioner research*. Corwin.
- Blanchard, T.C., Tolbert, C., & Mencken, C. (2012). The health and wealth of US counties: how the small business environment impacts alternative measures of development. *Cambridge Journal of Regions, Economy & Society*, 5(1).
- Bontekoe, R. (1996). *Dimensions of the hermeneutic circle*. Humanities Press.
- Brundtland, G. (1987). Report of the world commission on environment and development: Our common future. United Nations General Assembly document, A/42/427.
- Carrone, N.P. (2020). Traceability and transparency: A way forward for SDG 12 in the textile and clothing industry. In *The UN Sustainable Development Goals for the textile and fashion industry* (pp. 1-19). Springer.
- Chawla, L., & Derr, V. (2012). The development of conservation behaviors in childhood and youth. In S.D. Clayton (Ed.), *The Oxford handbook of environmental and conservation psychology*. Oxford University Press.
- Civic Economics. (2013). *Independent BC: Small business and the British Columbia economy*. [https://ccednet-rcdec.ca/sites/ccednet-rcdec.ca/files/ccednet/pdfs/independant bc small and the british colombia economy .pdf](https://ccednet-rcdec.ca/sites/ccednet-rcdec.ca/files/ccednet/pdfs/independant_bc_small_and_the_british_colombia_economy.pdf)
- Clancy, G., Fröling, M., & Peters, G. (2015). Ecolabels as drivers of clothing design. *Journal of Cleaner Production*, 99, 345-353.
- Claudio, L. (2007). *Waste couture: Environmental impact of the clothing industry*. *Environmental Health Perspectives*, 115(9), 448-454.
- Cochran-Smith, M., & Lytle, S.L. (Eds.). (1993). *Inside/outside: Teacher research and knowledge*. Teachers College Press.
- Cochran-Smith, M. & Lytle, S.L. (2009). *Inquiry as stance: Practitioner research for the next generation*. New York: Teachers College Press.
- Creswell, J.W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Sage.
- Dana, N.F., & Yendol-Hoppey (2014). *The reflective educators guide to classroom research* (3rd ed). Corwin Press.
- Davidson, A. (2019). *Is there a sustainable certification for clothing? [Your guide to eco-friendly and ethical labels]*. <https://ecocult.com/eco-friendly-ethical-sustainable-labels-certifications-clothing-fashion/>
- Denzin, N. K., & Lincoln, Y. S. (2000). Introduction: The discipline and practice of qualitative research. In N. K. Denzin, & Y. S. Lincoln (Eds.), *The handbook of qualitative research* (2nd ed., pp. 1–28). Sage.
- Eriksen, J.W. (2019). Urbanes Friluftsliv. *Betrifft Sport: Praxis für den Schulsport* (pp. 32-33). Meyer & Meyer.
- European Commission. (2020). *EU Ecolabel*. <https://ec.europa.eu/environment/ecolabel/>

- Fashion Revolution. (2020). *The Fashion Transparency Index 2020*.
<https://www.fashionrevolution.org/about/transparency/>
- Fleming, D.A. & Goetz, S.J. (2011). Does local firm ownership matter? *Economic Development Quarterly*, 25(3), 277-281.
- Fletcher, K. (2019). *Wild dress. Clothing and the natural world*. Uniformbooks.
- Fletcher, K. & Tham, M. (Eds.). (2014). *Routledge handbook of sustainability and fashion*. Routledge.
- Forbrukerrådet. (2017). *Grønnere klesforbruk*.
<https://www.forbrukerradet.no/side/gronnere-klesforbruk/>
- Future in Our Hands. (2020). *Grønne og etiske klær*. <https://www.framtiden.no/gronne-tips/klar/>
- Galosy, J. (2014). *Why practitioner inquiry?* Knowles Teacher Initiative.
<https://knowlesteachers.org/blog/why-practitioner-inquiry>
- Global Standard (2016). *Global Organic Textile Standard*. <https://www.global-standard.org/the-standard.html>
- Goffman, E. (1959). *The presentation of self in everyday life*. Anchor.
- Gomez, I.G., Littlewood, D. & Money, K. (2015). *Understanding the identity and motivations of sustainable consumers: A conceptual framework*. British Academy of Management. Conference Proceedings, Portsmouth.
https://www.researchgate.net/publication/281645358_Understanding_the_Identity_and_Motivations_of_Sustainable_Consumers
- Golden, J.S., Vermeer, D. & Clemen, B. (2010). An overview of ecolabels and sustainability certifications in the global marketplace. *Nicholas Institute for Environmental Policy Solutions. Duke University. Interim Report Document*, 10-1.
- Gustafsson, I. & Hallström, K.T. (2013). The certification paradox: Monitoring as a solution and a problem. In M. Reuter, F. Wijkström, & B. Kristensson Uggla (Eds.), *Trust and Organizations* (pp. 91-109). Palgrave Macmillan: New York.
- Hall, E. (n.d). *What is practitioner inquiry?* <https://methods.sagepub.com/video/what-is-practitioner-inquiry>
- Henninger, C., Alevizou, P.J., Oates, C.J., & Cheng, R. (2016). *Communicating sustainability: The case of slow-fashion micro-organizations*. In A. Genus (Ed.), *Sustainable consumption: Design, innovation and practice* (pp. 83-96). Springer International.
- Høyem, J. (2012). *Friluftslivsfag, undervisning og læring – med voksne fleksible studenter i natur*. [Professional Doctorate thesis]. Norwegian School of Sports Sciences.
- Høyem, J. (2020). Outdoor recreation and environmentally responsible behavior. *Journal of Outdoor Recreation and Tourism*. <https://doi.org/10.1016/j.jort.2020.100317>.
- International Organization for Standardization. (2016). ISO 14021:2016(en) *Environmental labels and declarations – Self declared environmental claims (Type II Environmental labelling)*. <https://www.iso.org/standard/66652.html>
- Jacobs, K., Petersen, L., Hörisch, J., & Battenfeld, D. (2018). Green thinking but thoughtless buying? An empirical extension of the value-attitude-behaviour hierarchy in sustainable clothing *J. Clean. Prod.*, 203 (2018), pp. 1155-1169.
<https://doi.org/10.1016/j.jclepro.2018.07.320>

- Joy, A., & Peña, C. (2017). Sustainability and the fashion industry: Conceptualizing nature and traceability. In *Sustainability in fashion* (pp. 31-54). Palgrave Macmillan.
- Juvan, E. & Dolnicar, S. (2014). The attitude-behaviour gap in sustainable tourism. *Annals of Tourism Research*, 48, 76-95.
- Kennedy, M. M. (1979). Generalizing from single case studies. *Evaluation Quarterly*, 3(4), 661-666.
- Klepp, I. G., Laitala, K., & Wiedemann, S. (2020). Clothing Lifespans: What Should Be Measured and How. *Sustainability*, 12 (15), 1-21. DOI: [10.3390/su12156219](https://doi.org/10.3390/su12156219)
- Klepp, I.G., & Tobiasson, T.S. (2020). Ecolabelling of clothes has catastrophic consequences for the environment. *Science Norway*. <https://sciencenorway.no/clothing-fashion-opinion/ecolabelling-of-clothes-has-catastrophic-consequences-for-the-environment/1768590>
- Klepp, I.G., & Tobiasson, T.S. (2020b). *Lettkledd. Velkledd med lite miljøbelastning*. Solum Bokvennen.
- Laitala, K., Klepp, I.G., & Henry, B. (2017). Use phase of wool apparel: a literature review for improving LCA. In: Bakker C, Mugge. *PLATE: Product Lifetimes And The Environment*. IOS Press (p. 202-207). <https://hdl.handle.net/10642/5501>
- Laitala, K., & Klepp, I. G. (2013). Environmental and ethical perceptions related to clothing labels among Norwegian consumers. *Research Journal of Textile and Apparel*, 17(1), 50-58.
- Levitt, H. M., Creswell, J. W., Josselson, R., Bamberg, M., Frost, D. M., & Suárez-Orozco, C. (2018). Journal article reporting standards for qualitative primary, qualitative meta-analytic, and mixed methods research in psychology: The APA Publications and Communications Board Task Force report. *American Psychologist*, 73(1), 26-46. <https://doi.org/10.1037/amp0000151>
- Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2011). Paradigmatic controversies, contradictions, and emerging confluences, revisited. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (4th ed., pp. 97-128). Sage.
- Martin, P. (2004). Outdoor adventure in promoting relationships with nature. *Australian Journal of Outdoor Education*, 8(1), 20-28.
- Menter, I., Elliot, D., Hulme, M., Lewin, J., & Lowden, K. (2011). *A guide to practitioner research in education*. Sage.
- Merriam, S.B., & Tisdell, E.J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass
- Mol, A.P.J. (2015). Transparency and value chain sustainability. *Journal of Cleaner Production*. 107, 154-161.
- Morrissey, M.P., & Rossi, R.M. (2013). Clothing systems for outdoor activities. *Textile Progress*, 45(2-3), 145-181.
- Moscarini, G., & Postel-Vinay, F. (2012). The contribution of large and small employers to job creation in times of high and low unemployment. *American Economic Review*, 102(6), 2509-39.
- Mueller, H. M., Ouimet, P. P., & Simintzi, E. (2017). Wage inequality and firm growth. *American Economic Review*, 107(5), 379-83.

- Nagle, D. S., & Vidon, E. S. (2021) Purchasing protection: outdoor companies and the authentication of technology use in nature-based tourism. *Journal of Sustainable Tourism*, 29:8, 1253-1269, DOI: 10.1080/09669582.2020.1828432
- O'Brien, K. (2018). Is the 1.5°C target possible? Exploring the three spheres of transformation. *Current Opinion in Sustainability*, 31, 153-160.
- O'Malley, K. (2019). How to shop sustainably in 7 simple ways. *The Independent*. <https://www.independent.co.uk/life-style/fashion/sustainable-fashion-tips-how-shop-environment-fast-niomi-smart-a8941796.html>
- Office of Textiles and Apparel (OTEXA). (2020). *Market reports: Textiles, apparel, footwear and travel goods*. https://otexa.trade.gov/overseas_mkts/Norway.pdf
- Ojala, M. (2017). Hope and anticipation in education for sustainable future. *Futures*, 94, 76-84.
- Ramos, T.B., Caeiro, S., Disterheft, A., Mascarenhas, A., Deutz, P., Spangenberg, J.H., Montaña, M., Olayide, O., & Sohal, H. (2020): Rethinking sustainability: Questioning old perspectives and developing new ones. *Journal of Cleaner Production*, 258. <https://doi.org/10.1016/j.jclepro.2020.120769>
- Rosenberg, A., Lynch, P.M., & Radmann, A. (2021). Sustainability comes to life: Nature-based adventure tourism in Norway. *Frontiers in Sports and Active Living*, 3(686459). doi: 10.3389/fspor.2021.686459
- Reason, P., & Brandbury, H. (2001). *Handbook of action research: Participatory inquiry and practice*. London: Sage.
- Rittel, H., & Webber, M. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, 4, 155-169.
- Sinnes, A. (2020). *Action, takk. Hva kan skolen lære av unge menneskers handlinger for bærekraftig utvikling?* Gyldendal.
- Sinnes, A.T., & Straume, I.S. (2017). Bærekraftig utvikling, tverrfaglighet og dybdeløring: fra big ideas til store spørsmål. *Acta Didactica Norge*, 11(3), Art. 7, 1-22.
- Salas-Zapata, W.A., & Ortiz-Muñoz, S.M. (2019). Analysis of meanings of the concept of sustainability. *Sustainable Development*, 27, 153–161.
- Soron, D. (2010). Sustainability, self-identity and the sociology of consumption. *Sustainable Development*, 18, 172–181.
- Stern, P. (2000). Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 5(3), 407–424.
- Stake, R. E. (2000). Case studies. In Y. S. Lincoln & N. K. Denzin (Eds.), *Handbook of qualitative research* (pp. 435-454). Sage.
- Stoknes, P.E. (2014). Rethinking climate communications and the 'psychological climate paradox'. *Energy Research & Social Science*, 1, 161-170.
- Taber, K.S. (2010). Constructivism and direct instruction as competing instructional paradigms: An essay review of Tobias and Duffy's constructivist instruction: Success or failure? *Education Review*, 13(8), 1-45.
- Tilley, F. (1999). The gap between the environmental attitudes and the environmental behaviour of small firms. *Business Strategy and the Environment*, 8(4), 238-248.
- Turunen, L.L.M., & Halme, M. (2021). Communicating actionable sustainability information to consumers: The Shades of Green instrument for fashion. *Journal of Cleaner Production*, 297. <https://doi.org/10.1016/j.jclepro.2021.126605> .

- UNA Norway. (2017). *Bærekraftig utvikling*. United Nations Association of Norway.
<https://www.fn.no/tema/fattigdom/Baerekraftig-utvikling>
- Webb, H. (2016). *Ethical Sportswear*. Ethical consumer.
<https://www.ethicalconsumer.org/fashion-clothing/shopping-guide/ethical-sportswear>
- Williams, C.C. & Chawla, L. (2015). Environmental identity formation in nonformal environmental education programs. *Environmental Education Research*, 22(7), 978–1001.
- Wilson, S., Floden, R., & Ferrini-Mundy, J. (2001). *Teacher preparation research: Current knowledge, gaps, and recommendations*. Center for the Study of Teaching and Policy.
- WRAP (2017). *Start loving your clothes*. The Waste and Resources Action Programme.
https://www.loveyourclothes.org.uk/?_ga=2.211383901.911690916.1624616202-238026689.1624616202
- United Nations Alliance for Sustainable Fashion. (n.d.). *What is the UN Alliance for Sustainable Fashion?* <https://unfashionalliance.org>