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**Sustainable clothing: challenges, barriers and interventions for encouraging
more sustainable consumer behaviour**

Short title: Sustainable clothing

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Sustainable clothing: challenges, barriers and interventions for encouraging more sustainable consumer behaviour

Key words

Sustainability, clothing, consumers and behaviour change.

Abstract

Research with consumers has revealed limited awareness of the sustainability impact of clothing (Goworek et al., 2012). Semi-structured interviews conducted with a range of experts in sustainable clothing to increase understanding of the challenges for sustainable clothing revealed that a focus on sustainability alone will not drive the necessary changes in consumers' clothing purchase, care and disposal behaviour for three reasons: (i) clothing sustainability is too complex; (ii) consumers are too diverse in their ethical concerns; and (iii) clothing is not an altruistic purchase. The findings identify the challenges that need to be addressed and the associated barriers for sustainable clothing. Interventions targeting consumers, suppliers, buyers and retailers are proposed that encourage more sustainable clothing production, purchase, care and disposal behaviour. These interventions range from normalising the design of sustainable clothing and increasing the ease of purchase, to shifting clothes washing norms and increasing upcycling, recycling and repair.

Introduction

Sustainable clothing has been described as “*clothing which incorporates one or more aspects of social and environmental sustainability, such as Fair Trade manufacturing or fabric containing organically-grown raw material*” (Goworek et al., 2012: 938), but how consumers subsequently care for and dispose of clothing also contributes to its environmental impact. Up to 82% of the energy consumption associated with an item of clothing is attributable to its post-purchase laundering (Fletcher, 2008), £30 billion worth of UK consumers' clothes are unworn and a third of clothing goes to landfill in the UK (WRAP, 2012). Yet even consumers committed to sustainable clothing lack awareness of the sustainability issues in clothing care, with their interpretation of sustainable clothing limited to purchasing (Bly et al., 2015).

This paper, in contrast to previous research with consumers, contributes to the literature by harnessing the experience of expert researchers, consultants and practitioners from the clothing industry to propose ways forward to encourage more sustainable consumer clothing behaviour. The aims are: (i) to identify the challenges that need to be addressed and the associated barriers for sustainable clothing; and (ii) to propose interventions to encourage more sustainable

consumer behaviour in the purchase, care and disposal of clothing. The paper draws on ideas from both commercial and *social marketing*, applying marketing techniques for social as well as commercial ends to achieve behaviour change (Hastings and Domegan, 2014).

Literature Review

Consumers can have a considerable impact in improving clothing sustainability (Claudio, 2007). Trends that involve more sustainable purchase behaviour include: vintage shopping among teenagers (Hardy, 2013), DIY fashion (i.e. self-sewn fashion) (Walliker, 2006) and “trashion – fashion made out of trash” (Claudio, 2006). Another trend is ‘slow fashion’ (a term reportedly coined by the fashion writer Angela Murrills), which references local cultural traditions in the modern search for authenticity, provides greater transparency in production and engenders emotional as well as economic investment (Clark, 2008). Cutting back on shopping has also been noted, as a response to disillusionment with seeking happiness through consumption (McNay, 2010). Finally, consumers who focus on stylishness (enduring but individual style) rather than fashion are significantly more likely to purchase environmental clothing and dispose of their clothing sustainably (Cho et al., 2015).

The care phase of the clothing lifecycle has the largest overall negative impact on the environment (Fletcher, 2008). Consumers can increase the sustainability of their clothing by: washing at lower temperatures with appropriate detergents; laundering less frequently; ensuring the washing machine is fully loaded (WRAP., 2012); extending the life of their clothes, buying fewer but longer-lasting clothes; and recycling clothing (Claudio, 2007). Increasing consumers’ awareness of the clothing lifecycle and its impacts has been described as “the best hope for sustainability in the fashion industry” (Claudio (2007: A454). Indeed, raising consumers’ awareness about clothing sustainability issues can subsequently alter their behaviour, with laundering behaviour more amenable to change than purchasing behaviour (Goworek et al., 2012).

The manner of clothing disposal also impacts on its sustainability. A substantial amount of ‘latent waste’ results from consumers hoarding clothes that they do not wear (e.g., Morley et al., 2006). While cheap fashionable clothes are not kept long (either because they are low quality, become unfashionable or were bought for a one-off occasion), more expensive items tend to be kept longer, even if they are not worn (Birtwistle and Moore, 2007). A study of young female consumers revealed that most disposed of wearable items through charity shops, with the rest consigned to landfill (Birtwistle and Moore, 2007; Morgan and Birtwistle, 2009); they lacked awareness of clothing recycling options and raising awareness to encourage recycling was recommended. However, in a study of female textile and apparel students in the USA, Joung and Park-Poaps (2013) found that even when aware of clothing recycling options, young consumers might still choose to discard their unwanted clothes. They concluded that recycling behaviour needed to be established as family norms during early childhood. However, reuse is preferable to recycling in terms of carbon dioxide impacts, partly because the application of treatments to the base textiles and decorative embellishments can make recycling difficult (Morely et al., 2006).

In the sections that follow the factors affecting sustainable clothing behaviour and barriers to more sustainable consumer behaviour identified in previous research are reviewed, concluding with some interventions suggested in the literature for addressing these.

Factors affecting sustainable clothing behaviour

While clothing has been classified as a basic human need (Maslow, 1943), for many people clothing choices are motivated by their need for identity (Max-Neef, 1992) and esteem (Maslow, 1943). Consumers construct their social definition through the meanings encoded in their clothing choices (Dodd et al., 2000). This has been reported across different age groups. For teenagers, clothing is “an essential social tool” that provides a means of self-expression, source of confidence and a key to judging other people they encounter (Piacentini and Mailer, 2004: 251). Among a broader age spectrum of consumers, clothing plays a key role in self-expression and is an important lifestyle product (Michaelidou and Dibb, 2006). Changes in technology have fuelled ‘fast fashion’ – the feeding of trend data into production to enable rapid and frequent turnover of affordable fashion, with refreshed styles and shelf-life reduced in some cases to only a few weeks (Sull and Turconi, 2008). The short availability of clothing items elicits a loss aversion reaction in consumers and stimulates buying (Byun and Sternquist, 2012). Fast fashion has also shifted the ‘quality versus quantity’ trade-off. Young consumers prefer making multiple cheaper purchases to buying one more expensive item (Morgan and Birtwistle, 2009).

Rising affluence and lower prices has also fuelled clothing consumption (Morley et al., 2006), including in emerging economies like India, where global fashions are beginning to replace traditional dress and clothes shopping increasingly is seen as a pleasurable activity and an ingredient of self-identity (Rajput et al., 2012). The media also stimulates the desire for new fashions (Claudio, 2006). Alongside celebrities fashion media heavily influence the fashion purchasing behaviour of fashion innovator consumers, who buy impulsively and seek self-gratification through shopping (Birtwistle and Moore, 2006).

Clothing purchases are mainly influenced by price, quality and style, with price being considered more important than ethical issues by 30% of shoppers despite awareness of child labour (Iwanow et al., 2005). Among American consumers, intentions to purchase environmentally friendly apparel are strongly influenced by social pressure and concern for the environment and moderately influenced by guilt and knowledge about environmentally friendly apparel (Cowan and Kinley, 2014). Even among environmentally-aware consumers, clothing purchases are largely determined by economic and personal considerations, while disposal behaviours are driven primarily by habits and routines (Goworek et al., 2012). In another study, Bly et al. (2015) reported that sustainable fashion adherents’ behaviour was motivated by both positive desires such as Szmigin and Carrigan’s (2005) notion of ‘ethical hedonism’ and negative emotions like the mistrust and scepticism of large corporate brands reported by Kozinets and Handelman (2004).

Barriers

Hiller Connell (2010) reported a scarcity of research about the barriers to sustainable clothing consumption, categorising previously identified barriers in her review as either internal or external. Internal barriers – those relating to consumers themselves - included a lack of concern for the environment among consumers (based on Stephens, 1985; Shim, 1995; Hustvedt and Dickson, 2009); limited knowledge about clothing consumption's impact on the environment (Stephens, 1985; Kim and Damhorst, 1998); negative attitudes towards sustainable clothing (based on Hustvedt and Dickson, 2009); and demographic characteristics, such as age and education (based on Stephens, 1985). Other barriers she noted, which might also be categorised as internal were motivation (based on Lipsey, 1977), values (based on Axelrod, 1994; Grunert and Juhl, 1995; Blake, 2001) locus of control (based on Tanner, 1977) and perceived time and effort (based on Lipsey, 1977 and Ellen, 1994). External barriers – those independent of consumers – included the price of sustainable clothing (based on Hustvedt and Dickson, 2009 and Hines and Swinker, 1996) and also a lack of infrastructure (based on Lipsey, 1977). Other barriers identified in Hiller Connell's (2010) review were social and cultural norms (based on Hines et al., 1986-1987). Taken together, this body of literature suggests that interventions are needed at not only the level of individual consumers, but also at the social and cultural level and within the clothing industry.

Hiller Connell's (2010) own research with male and female consumers identified the following internal barriers: a lack of knowledge and/or miscomprehension about the environmental effects of production and different fibres; and negative perceptions of sustainable clothing as less stylish, less well-fitting and less comfortable. The external barriers she identified included: limited availability of sustainable clothing outlets; restricted styles (in particular a lack of business wear and footwear), sizes and fit; lack of financial resources to buy more expensive sustainable clothing; poor presentation of clothing in second-hand shops; and social expectations regarding conventions of dress for different professions (Hiller Connell, 2010). This is consistent with the view of sustainable clothing or ethical fashion consisting almost exclusively of casualwear such as T-shirts and not reflecting broader choices for other lifestyles, such as formalwear (Beard, 2009).

More recent research supports Hiller Connell's analysis. Similar findings were reported by McNeill and Moore (2015), with 'self'-oriented consumers being preoccupied with price and time-limited availability of items, 'social'-oriented consumers deterred by lack of awareness, a perceived lack of social acceptability and high price and 'sacrifice'-oriented consumers being sceptical of industry motives. Others have also found that sustainability has to compete against other powerful motivations, which influence disposal behaviour. Examples include concern for saving money motivating the resale or reuse of clothing and convenience motivating discarding of clothing (Joung and Park-Poaps, 2013).

Consumer uncertainty about knowledge, evaluation and choice has been found to contribute to ethical compromises among ethical consumers when purchasing clothing (Hassan et al., 2012). While information is widely available online about how to extend the life of clothing, it is arguably more difficult for consumers to assess the quality and durability of clothing at the point

of purchase. Goworek et al. (2012) reported that consumers tended to gauge clothing quality by its feel and the brand.

Fast fashion poses two forms of barriers to the longevity of clothing. Firstly, obsolescence is built into fast fashion clothing (Claudio, cited in an interview by Ahearn, 2011), limiting its usable life. Secondly, fast fashion as well as generating less durable clothes, diminishes the viability of the second-hand clothing market, by reducing the price gap between new and old garments (Morley et al., 2006). Limited choice and fashionability have also been implicated in the low association between the Ethical Consumer magazine subscribers' intention and behaviour for sweatshop-free clothing purchase (Hassan et al., in press). Clothing needs to be fit for use; for consumers to not only choose but also wear clothing items, sustainable offerings must meet their needs for different types of clothes, fulfil various uses and offer appropriate features.

A number of suggestions have been put forward for overcoming such barriers, including: better information about the sustainable clothing and their availability (Markkula and Moisander, 2012), compulsory eco-labelling and improved design and marketing to meet consumers' needs (Hiller Connell, 2010). However, the evidence suggests that labelling may offer a supplementary, rather than leading communication mechanism for sustainability information. In Scotland 39% of shoppers did not look at the label at all when buying clothes and a further 50% looked only infrequently (Iwanow et al., 2005). In Finland mature female consumers examined the care labels carefully, but primarily to avoid garments that required dry-cleaning, although they were also occasionally influenced by the country of origin, as Finnish brands were considered safer and more ethical (Holmlund et al., 2011). Clearly, action to encourage sustainability through a combination of interventions is likely to be needed.

In summary, factors that affect sustainable clothing behaviour include the role of clothing in self-expression, changes in technology, rising affluence and lower prices, while barriers include competing consumer motivations, lack of information, consumption and obsolescence pressures created by the clothing industry and the limited range of sustainable clothing on offer. Barriers were revealed at an individual level, at a social and cultural level and within the clothing industry. Stimulating environmentally responsible behaviour may therefore require changes in the dominant social paradigm (Kilbourne et al., 2002), defined as "the values, metaphysical beliefs, institutions, habits, etc. that collectively provide social lenses through which individuals and groups interpret their social world" (Milbrath, 1984: 7). While small segments of consumers may rebel against the dominant social paradigm, the majority may feel constrained in their clothing behaviours and need interventions to help them improve the sustainability of their behaviours. Our research acknowledges the necessity of tackling this paradigm and shows the potential for using behaviour change techniques such as social marketing. Drawing on interviews conducted with a range of experts in sustainable clothing, we identify the challenges¹ of what needs to be done and the associated barriers to doing it and propose potential interventions to help encourage more sustainable purchase, care and disposal behaviour.

¹ We use the term 'challenge' to denote "a demanding or difficult task" (Shorter Oxford English Dictionary, 2007).

Method

Ten semi-structured key informant interviews were conducted with a variety of experts in the field to reflect a range of stakeholder perspectives and integrated with previous research to derive interventions, adding to the internal validity of the study. An accepted and flexible exploratory research method was used (Silverman, 2009), allowing access to the experiences and insights of individuals who could describe their perspective on particular issues. A purposive sampling approach (Neuman, 2000) was used to identify the key informants. These consisted of five academics, two specialist consultants and three retailers. All had sustainable fashion expertise, either from involvement in seminal research or publications, or because their retailing or manufacturing activities involved innovative approaches to improve social and environmental sustainability. Although the sample size is small, it is comparable to other research in this niche area (see for example, Bly et al., 2015; McNeill and Moore, 2015) and complements the existing literature conducted with consumers. Characteristics of the key informants are indicated in Table 1.

[Insert Table 1 here]

The interview topic guide addressed key challenges and priorities in relation to sustainable clothing, industry awareness, the interests and power of different stakeholders, and consumer awareness and attitudes. Current measures to increase sustainability, including the use of materials, manufacturing processes, labelling, packaging and disposal were also considered, as was the role of policy, regulation and legislation. The interview guide is tabulated in the appendix.

Interview transcripts and notes were content-analysed and coded (Miles and Huberman, 1994) in order to identify themes in the data. The initial coding was carried out by one researcher then checked by two other members of the team. The analytic strategy involved an iterative approach (Corbin and Strauss, 2008), reflecting on each interview as it was undertaken through a process of gradual explanation building (Yin, 2009).

The reliability of qualitative research concerns whether the data are plausible, and the extent to which findings are consistent with “divergent” sources of information (Neuman, 1997: 368). Interviewing a range of informants with different perspectives helped such convergence to be achieved (Yin, 2009). Complementing the interview data with documentary evidence that included research project reports, press coverage, and government publications (Denzin and Lincoln, 1998) allowed a rich picture to be developed and enabled triangulation and verification of the results. The quotations used to illustrate the findings are anonymised and categorised by type of key informant, with a number assigned to each participant type to signify separate contributions.

Findings and Discussion

Although there are segments of consumers who are concerned about the social and environmental impact of their consumption practices, the interviews suggest that providing sustainable clothing options alone would not drive the necessary changes in consumers' clothing purchase, care and disposal behaviour. There are several reasons for this finding.

Firstly, clothing sustainability is very complex and consumers lack knowledge and understanding: *'If we wait for consumers to start raising issues about cotton or about polyester or about working conditions in a dye house, we could be waiting a very long time because they don't have a clear understanding of the textile industry'* (Retailer 2). A consultant explained: *'It's very hard for the consumer to think what is it that I'm purchasing, what does that mean, if I'm purchasing something that is cheaper, does that mean that then the farmer that collected the cotton is less well off, I'm actually harming him rather than anything else'* (Consultant 1).

Secondly, consumers are diverse in their concerns. It would be impracticable to try to engage all consumers in the wide range of sustainability issues involved in the clothing production and supply chain, owing to their differing preoccupations:

'Consumers will come at these things from different angles. Some will be very concerned about animal welfare and whether or not they'll use clothes that have leather or whatever. Others will be more into knowing that their clothes are sweatshop-free or child labour free, and others are concerned about the environment'. (Consultant 2).

Third, clothing is not an altruistic purchase. Sustainability was low down in consumers' purchase decision criteria. As a retailer remarked: *'You're going to have to do a lot of work on the consumer to change their mindset for that [sustainability] to come to the fore'* (Retailer 1). Instead, it seems that: *"The decision hierarchy in terms of purchasing and clothing is still about basically do I look good in it, not has it been produced in a good way or what's it made of.'* (Retailer 2).

These findings underpin the challenges for sustainable clothing. They also complement previous literature, which indicates that ethical purchases are primarily influenced by information about a company's CSR position and a customer's personal concern for CSR (Öberseder et al., 2011), consumers downplay the negative effects of their consumption behaviour (Kilbourne and Pickett, 2008) and that clothing purchasing behaviour is driven by economic and personal considerations and disposal behaviour by habits and routines (Goworek et al., 2012).

To encourage more sustainable clothing behaviour, both consumer-focused marketing and behaviour change approaches are needed. The first involves commercial marketing that exhibits 'a sound understanding of customer needs, buying behaviour and the issues influencing the purchasing choices of customers' (Dibb et al., 2012: 7). The second involves social marketing, which as noted previously, applies marketing techniques to social problems rather than commercial ends. Sustainable clothing needs additionally to fulfil the core roles that clothing plays and satisfy consumers' clothing needs. In doing so, some reshaping of consumer behaviour and social norms may be required to protect the environment and the well-being of those employed in the supply chain. Drawing on the insights from our expert informants, we advance

the field by identifying both the *challenges* of what needs to be done, the associated *barriers* to doing it and suggest *interventions* for achieving it. A summary of our findings and proposals is provided in Table 2 and discussed in the subsequent sub-sections.

[Insert Table 2 here]

Challenges, barriers and proposed interventions

Consistent with Table 2, the sections that follow are organised by clothing stage (purchase, care and disposal). Within these stages, the challenges are sub-headed and then discussed with reference to the associated barriers identified and each subsection concludes by discussing the interventions proposed to address the challenges and barriers.

Clothing purchasing

Reducing the focus on cost

Clothing has become cheaper and more readily available with both upstream and downstream consequences. Upstream, retailers strive to reduce costs and improve margins. The result is that buyers will change suppliers ‘... *just purely because of price...*’ (Retailer 1), without necessarily considering the environmental or ethical implications. These practices are perhaps not surprising when research with consumers highlights their unwillingness to pay more for ethical or sustainable options and the reward packages for buyers are based on finding the cheapest rather than the most ethical or sustainable option. A suggested intervention is to align rewards with ethical and sustainability objectives. All three types of expert informants suggested that legislation might also be required to implement sector-wide ethics and sustainability action and reduce the barrier of cost. Trying to act alone could put individual retailers at a disadvantage, as a consultant explained: ‘*There’s only so much one brand, working on its own can do if nobody else does the same and sells their T-shirts at a fraction of the price because they’re not paying their workers very well*’ (Consultant 2). Downstream, cheaper clothes mean they are not valued and are seen as disposable.

Interventions are needed to reduce consumers’ focus on cost, accentuating other benefits that increase the value of clothes, such as with branded clothing. A brand-focused mindset might encourage consumers to value clothing that embeds sustainability within its branding and values. Previous research has found that clothing purchases are determined primarily by price, quality and style (Iwanow et al., 2005). Increasing the quality and style aspects may compensate for higher price. Additional research would need to be conducted to establish the effects of such interventions. Conversely, research could focus on understanding why consumers are prepared to pay higher prices for brands and value these items more, even though they are made in the same places as high street fashion.

Mainstreaming sustainable clothing

Another key challenge is mainstreaming sustainable clothing: moving it out of its niche and on to the high street, what one academic described as *‘The bigger prize for me is the larger market on the high street rather than the niche ethical fashion’* (Academic 2). However, key barriers to the mainstreaming of sustainable clothing are the stigma and stereotypes associated with its design. Unfortunately, *‘people still have the perception of ethical clothing as not looking like normal fashion’* or looking *‘hippyish’* (Academic 3), and *“There’s still this hemp sack kind of fashion being ethical...”* (Academic 1). Just being environmentally friendly will not make people buy sustainable clothing, because *‘that’s not a primary purchasing motivation’* (Consultant 1). Motivations focus on the consumer wanting to *‘feel good in the product’* (Retailer 1), the product being the right fit, hand feel and colour, not that it is green:

‘People are going to buy a product because they want it, they’re not going to buy a product because it’s got a green message. If you’ve got a shirt that isn’t the right colour or isn’t the right fit or hasn’t got the right hand feel, people aren’t going to buy it, no matter how green it is.’ (Retailer 2).

Normalising the design of sustainable clothing and making it easier for consumers to buy it would help to mainstream sustainable clothing and tackle the stigma and stereotypes that hinder its uptake. This is consistent with reported negative perceptions and limitations of sustainable clothing in the literature (Beard, 2009; Hiller Connell, 2010) and the role of clothing as a means of self-expression among both the young and more mature consumers (Holmlund et al., 2011; Michaelidou and Dibb, 2006; Piacentini and Mailer, 2004). The prevalence of high street fashion (Woodwood, 2009) underlines the need to normalise sustainable clothing design.

These findings reinforce the need for eco-fashion to include formalwear, rather than being almost exclusively casualwear in nature (Beard, 2009). Designers’ and buyers’ misconceptions about sustainable clothing also need to be addressed, because it is not just consumers who have stereotypes about sustainable clothing. Although buyers ultimately make the decisions, designers can marginalise organic or fair trade clothing through the designs, such as *‘putting trees on it’* (Retailer 3), making it hard to mainstream organic or fair trade clothes.

Involving designers and buyers in sustainable strategy is needed to fire consumers’ imagination and overcome both designers’ and consumers’ misconceptions about sustainable clothing. While high profile designers such as Katherine Hamnett, Stella McCartney and Vivienne Westwood are known for their ethical stances, our research revealed that more typically designers are constrained by the demands placed on them and are susceptible to the same stereotypes as consumers. Interventions based on ethical sourcing across a retailer’s range would encourage designers and buyers to normalise sustainable clothing design and manufacture and edit the choices available to consumers. Such initiatives are widely used in food, with Marks and Spencer only using free range eggs in all of their products and Sainsbury only selling Fair Trade bananas. Interventions in clothing could take the form of making all cotton either Fair Trade or from the Better Cotton Initiative. The Swedish clothing retailer H&M has already made a pledge to use only sustainably grown cotton by 2020 (Thomasson, 2014).

Engaging with consumers effectively

Engaging with consumers effectively is another challenge. Even where retailers had successfully improved the sustainability of their clothing, they were struggling to communicate these improvements to the customers. One retailer described how they hadn't '*made that connection with the consumer*' (Retailer 2). The key barriers were identified as: the complexity of sustainability in clothing, the lack of transparency in the supply chain and consumer scepticism.

As a retailer explained, '*you can't just say in one sentence what sustainability is*' (Retailer 2). '*Carbon footprint, embedded water, embedded energy, all of those things, social projects and how much time does the consumer have to actually deal with these things*' (Retailer 2).

Explaining these issues to consumers is complex, particularly determining how to describe the multifaceted sustainability benefits of the purchase and identifying which communication media to use.

A second barrier is a lack of transparency and the complexity in the supply chain. Retailers will know the supplier or the primary cutting and sewing factory, but they are unlikely to know every aspect of the supply chain, for example where accessories, such as buttons or motifs are made or sewn on. Even with all the checks that are put in place, the complexity of the supply chain makes it hard for retailers to be completely confident that every stage of the production process is 'squeaky clean': '*you cannot put your hand on heart, be absolutely cast iron guaranteed that it's squeaky clean because somebody may be sub-contracting*' (Retailer 1).

A third barrier is scepticism about retailers' sustainability claims, with consumers doubting both the veracity of these claims and the motives of those making them, some regarding them as '*just another way of selling us stuff*' (Academic 5). Both academics and retailers highlight the importance of trust, which has implications for the way in which interventions emphasise this issue. As one academic explained: '*I think that ultimately you put your trust, you've got to put your trust in the retailer to have done all that for you [taken care of the ethics]*' (Academic 2).

Improving the transparency of the supply chain and earning consumers' trust were seen as ways of engaging effectively with consumers to address the barrier of complexity in sustainability and clothing supply. This resonates with one of the tenets of slow fashion: greater transparency in production (Clark, 2008).

Clothing purchasing, care and disposal

Changing consumers' mindsets

Improving sustainable behaviour involves changing consumers' mindsets away from following fashion and buying lots of new clothes, to investing in clothes that will suit them and will last. Academics and consultants recognised that reducing consumption was necessary; '*The overarching priority is around consumption: the fact that we buy a lot of clothes.*' (Consultant 2). A retailer explained the challenge: '*As societies develop and people get more disposable income, they do want to buy more products which ultimately do become disposable*' (Retailer 1).

This mindset of over consumption and disposability has led to a more transitory relationship with clothing, with perfectly good clothes disposed of before they are worn out, because clothes can be more easily and conveniently replaced than repaired or modified. The skills for repairing

clothes are also disappearing, and even when consumers have these skills, there was a sense that *'we don't have to do that anymore'* (Academic 5). Pockets of resistance to these attitudes and decline in sewing skills were acknowledged but described as 'sub-cultures'.

However, for some consumers, there is a desire to be able to form a longer term relationship with their clothing, but clothes nowadays are of lower quality making it difficult to acquire items that will last.

'... even more so with things like fast fashion, you can't have the same long-term relationship you have to clothing because things fall apart; you wash them, you spend £5 for a top from [a budget retailer] and it falls apart within a couple of washes ... a lot of people say, well I wish I could have had that for longer, and they're annoyed almost that it ... it is a kind of paradox...' (Academic 3).

This suggests that some consumers may be prepared to invest in more expensive clothes, for which *'effort is made to take care of the product, and repairs are considered as well'* (Consultant 1), but attempting to extend the life of everyday clothes and fashionable items is much less likely.

Overconsumption is also driven by social pressures perpetuated by the fashion industry and in the media for consumers to update and vary their wardrobe and not be seen re-wearing the same clothes.

'And the thing that we see in the press where such and such was wearing the same dress that she was wearing last week is terrible, it's that approach and ... social pressures that are floating around ... that just makes it really difficult for consumers to say, I did wear these trousers yesterday and the day before but I really like them. They fit me and I'm quite happy with that' (Retailer 2).

The implications of these barriers are that ways of making re-wearing and repairing clothes socially acceptable and achievable are needed. Potential interventions include social marketing campaigns designed to challenge and shift social norms (e.g. by involving opinion formers or highlighting the value of investing in clothes) and including textile skills and recycling in the school curriculum. The former would be consistent with the role of the media and celebrities in shaping attitudes towards socially and environmentally sustainable clothing (cf Birtwistle and Moore, 2006) and in providing ethical information (Carrigan and Attala, 2001). Building on Cho et al.'s (2015) reported association between a focus on style, sustainable purchase and disposal behaviour, consumers could also be provided with tools and assistance to help them understand their preferred style and cuts that would suit their body shapes, so that they feel confident in their clothes and value them as a result. This might persuade consumers to invest in better quality clothes and to wear, care and keep them longer and balance out the perceived financial, social and psychological risks of clothing purchase. Where consumers lack textile skills themselves, interventions might include repairing and recycling clothes, leasing or hiring clothes *'if somebody came up – like a major brand or a new emerging brand, came up with a way of making acceptable for British consumers to lease and hire clothing rather than to buy it.'* (Consultant 2).

Changing consumers' habits

There are challenges in changing consumers' habits as well as their mindsets. Consumers need to alter their habits to reduce the frequency, temperature and size of washing loads. Although *'companies are beginning to realise that influencing their consumers on how they wash their clothes can have a big impact on the energy use'* (Consultant 2) a retailer acknowledged that consumers were unlikely to wash at lower temperatures just because they were told to by the retailer.

Social norms represent a major barrier to changing behaviour. A prevailing norm is the belief clothes have to be washed frequently at high temperatures. Some retailers such as Levi discourage frequent washing in heated water to preserve the colour and fit (Levi, 2014). Nevertheless, one retailer accepted that even though the washing machine and detergent technologies existed to wash clothes in cold water, persuading consumers of this was not easy. A retailer observed: *'those things are never going to change until you have to pay for the amount of water that you use and the cost of energy goes up to the at point where it has a real impact'* (Retailer 2). While increasing utility bills may not be a viable intervention, emphasising the time, money and labour savings of reduced frequency and temperature of washing clothes might be. Smart meters might also increase consumers' awareness of the energy used by household items.

An intervention to change consumers' clothing disposal habits that was proposed was upcycling to prolong the life of clothes:

'The idea upcycling, so changing clothes that you have into something else. ... I think the idea of giving clothes a modern twist and making them updated rather than getting rid of them and replacing them could be something that could be a way in to change habits.'
(Consultant 1).

Interventions to increase re-cycling are needed upstream as well; going beyond the consumer level to deliver sector-wide action requires government intervention. This could be achieved, for example, through legislation to drive clothing and textile recycling in the same ways as in other areas, such as paper, glass and plastics. One retailer accepted that it has *'taken years and years to get to where we've got to'* (Retailer 2) in other areas of recycling, but with the right incentives from government and markets for the recycled products, textile recycling could also become part of normal recycling behaviour.

Communicating the savings (of time, money and labour) of reducing the frequency and temperature of washing clothes and upcycling were proposed as ways of addressing the challenge of changing consumers' habits and overcoming social norms relating to consumption, affluence and cleanliness. For example, more prominent washing care swing labels advising that clothes can be washed at 30 degrees or recommended washing policies such as that all clothes may be washed at 30 degrees unless otherwise stated would help to bring care issues to consumers' attention and normalise more sustainable practices. Consumers themselves have a big impact on the sustainability of their clothing post-purchase (Fletcher, 2008) and previous research suggests that disposal behaviour is motivated by concern for saving money (by reselling saleable items), convenience and charity consideration (Joung and Park-Poaps, 2013).

Government intervention might also be needed to drive clothing recycling, especially as research in the USA found no relationship between the awareness of other disposal options and clothing discarding behaviour (Joung and Park-Poaps, 2013). Local authorities might encourage textile recycling by providing monthly doorstep textile collections, which would also help them to reduce the landfill tax they pay.

Conclusions

In this paper we have looked at consumer behaviour from the perspective of experts in the field: retailers, academics and consultants. This was to understand the key challenges and barriers to changing consumer behaviour and to suggest some interventions to help overcome these and shift the dominant social paradigm towards greater sustainability. In spite of the encouraging developments in sustainable clothing, our research makes it clear that a focus on sustainability alone will not drive the necessary changes in consumers' clothing purchase, care and disposal behaviour. Markkula and Moisander (2012) called for policymakers to move from focusing on informing and educating consumers to actions that address not only individual consumer perceptions, knowledge and attitudes, but also the wider cultural and social contexts of consumers' lives. Drawing on the combined expertise and experience of a variety of experts in the field and integrating previous research, the range of potential interventions proposed in this paper answers this call for action and offers ways for sustainable clothing to move forward. There is no one simple answer to improving the sustainability of clothing, but what this paper has highlighted is that one of the key challenges is to improve the longevity of clothing. The suggested interventions require action from all parties in the clothing sector, including retailers, designers, policymakers and of course consumers. Although the proposed interventions will require testing, they provide opportunities and an agenda for future research.

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Table 1 Key informant characteristics

Interviewee type	Expertise	Organisation type
Academic	Sustainability and Design	University
Academic	Ethics and Social Sustainability	University
Academic	Materiality of clothes	University
Academic	Sustainability and Design	University
Academic	Ethics and design	University
Consultant	Sustainability impacts on the clothing industry	Research Consultancy
Consultant	Sustainability and consumer behaviour	Research Consultancy
Retailer	Ethics and Sustainability Manager	High Street Chain
Retailer	Ethics and Sustainability Manager	Supermarket chain
Retailer	Ethics and Sustainability Manager	High Street fashion retailer

Table 2 Sustainable clothing: challenges, barriers and interventions

<i>Challenges</i>	<i>Barriers</i>	<i>Interventions</i>
<i>Clothing purchasing</i>		
Reducing the focus on cost	Rewards based on cost Very cheap clothing	Align buyers' and suppliers' remuneration with sustainability objectives Accentuate benefits other than price to consumers to increase the value of their clothes
Mainstreaming sustainable clothing	Stigma and stereotypes of sustainable clothing Misconceptions of sustainable clothing	Normalise designs of sustainable clothing Make it easy for consumers to buy sustainable clothing Involve designers in sustainability strategy
Engaging with consumers effectively	Complexity of sustainability and lack of transparency in the supply chain	Improve transparency of supply chain Gain and maintain consumers' trust
<i>Clothing purchasing, care and disposal</i>		
Changing consumers' mindsets	Lack of consideration of durability Fast fashion Social pressure not to be seen re-wearing clothes Over-consumption Clothing seen as disposable	Social marketing campaigns Provide tools and assistance to help consumers understand their preferred style and cuts that suit their body shapes Include textile skills in the school curriculum Retailers provide repair and recycle services Leasing/hiring clothes
Changing consumers' habits	Social norms re: consumption and affluence, cleanliness and freshness	Communicating time, money and labour savings from reduced frequency & temperature of washing clothes

		Upcycling Legislate clothing recycling
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Appendix

Main interview topic	Questions
Progress and priorities in sustainable clothing	<ul style="list-style-type: none"> • What do you consider the main priorities to be? • What have been the key successes? • What are the biggest challenges? • What do you see as the main barriers?
Key players	<ul style="list-style-type: none"> • Who have been the key players at the institutional level in driving the issue forward? • Who have been the key retailers/brands driving the issue forward? • Is interest among manufacturers/retailers increasing? • Who are the key players within the manufacturers/retailers?
Awareness Industry	<ul style="list-style-type: none"> • How aware are the different stakeholders of sustainability issues? • Is the new intake straight out of college more aware than previous generations? • How well defined is the distinction between ethical and sustainable clothing in the industry? • To what extent does the industry perceive there is a need to improve the sustainability of clothing? • How aware are retailers/ manufacturers of methods to make clothing more sustainable?
Awareness consumers	<ul style="list-style-type: none"> • How are consumer attitudes to fashion changing and are they likely to change in the future? • How well defined is the distinction between ethical and sustainable clothing in consumers' minds? • What ethical issues concern them? • What sustainability issues concern them? • Which customers (segments) are most interested? • To what extent will consumers pay more for ethical/sustainable items? • Would eco-labelling affect their buying habits? • Are there any obvious barriers for consumers to buy sustainable fashion? • Is there any evidence of the life cycle of clothing changing? E.g. more re-cycling, less washing.
What options are considered when trying to increase sustainability	<ul style="list-style-type: none"> • Materials? Transport? Local production? Packaging? Production? Finishing/chemical treatment? Retailing? Design quality? End of life?
What are the main motivations to develop sustainable/ethical clothing?	<ul style="list-style-type: none"> • Regulation? Consumer pressure? Reputation/CSR? Cost savings? CDP?
Public policy	<ul style="list-style-type: none"> • What role do you think public policy could play in increasing sustainability? • Would you welcome legislation/fiscal incentives.