

Sustainable anti-consumption of clothing: A systematic literature review

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ABSTRACT

The fashion system constitutes one of the most unsustainable industries. In response, the majority of the sustainability research has concentrated on finding ways to boost acquisition of greener products, whereas more recent research has regarded anti-consumption as the pathway to sustainable consumption. However, there appears to be a conceptual ambiguity in the relationship between the constructs of sustainable consumption and anti-consumption. In addition, it is unclear which phases of consumption – acquisition, usage and/or disposal – are to be opposed when one opposes consumption. To clarify these ambiguities, a systematic literature review of the concepts relating to *sustainable anti-consumption of clothing* is conducted. In the review, 58 papers are identified and analysed to construct a relational framework of the concepts manifesting anti-consumption of clothing from an environmental sustainability perspective, and with respect to the cycle of consumption. The analysis shows that the multitude of overlapping concepts aim at decreasing either acquisition or disposal, but are not against usage. On the contrary, the analysis emphasises how by intensifying and prolonging the usage, it is possible to decrease acquiring and disposing of clothing, and slow down the cycle of fashion. In this way, the current research constructs conceptual and societal contributions that highlight clearer guidelines for consumers to redirect their behaviour and to companies to develop their business models in a way that releases usage from the negative connotations of consumption.

1. Introduction

The current fashion system constitutes one of the most unsustainable industries, accounting for around 10% of global carbon emissions (Unece, 2018). Although Peters et al. (2021) report that the eco-efficiency of the fashion industry has improved, its output has doubled this century, with a 30% rise in carbon emissions by 2015. Furthermore, the fashion industry is the most polluting industry due to all the procedures – like bleaching, rinsing, dyeing and mercerising – needed in textile production (Anguelov, 2015). What is particularly troubling about the fashion industry are the disposability problems of used garments and overstock (Ozdamar Ertekin & Atik, 2015). Globally, 1.7 kg of garments per capita are wasted post-production every year (Kirchain et al., 2015). Textile waste is considered to pose one of the primary challenges of the industry (Armstrong et al., 2015), as clothing's life cycle has shortened significantly during the last decades while consumption has simultaneously increased (Ozdamar Ertekin, 2016). As to social sustainability, the accelerating fashion cycle causes stress, uncertainty and exhaustion in every step of the supply chain (Ozdamar Ertekin, 2016) and the working conditions at low-cost production facilities could even be described as slavery (Oosterhoff et al., 2018).

To tackle these problems, a majority of the sustainable fashion research has concentrated on finding ways to boost acquisition of greener or recycled products and sustainable disposal, such as recycling (see Mukendi et al., 2020). However, the problem involves not only the sustainability of the production and materials, but also simply the amount produced and their over-consumption (Ozdamar Ertekin, 2016; Ozdamar Ertekin & Atik, 2015). While recycling products might help to reduce the negative effects of waste, it does not prevent it from being generated in the first place (Fletcher and Grose, 2012: 63–64). In brief, it does not question unsustainable buying behaviour and production volume (Fletcher and Grose, 2012: 63–64).

Another, more recent line of research that regards anti-consumption as the pathway to sustainable consumption emerged at the beginning of the 21st century (Black and Cherrier, 2010; Makri et al., 2020). Anti-consumption appears to be a promising way to achieve sustainable goals, as for example Mukendi et al. (2020) regard anti-consumption as one of the radical approaches to sustainable consumption of clothing. Yet, although the general notion of anti-consumption defines it simply as the practices of rejecting, reduction and reuse (Black and Cherrier, 2010), its conceptual connection to sustainable consumption is far more ambiguous.

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First, anti-consumption may refer to any resistance towards marketed products, including boycotting of particular products or companies, and thus does not necessarily have anything to do with sustainability (Izberk-Bilgin, 2010; Lee and Fernandez, 2006; Makri et al., 2020). On the other hand, Lee et al. (2011: 1681) define anti-consumption as being against every phase of the cycle of consumption – acquisition, usage and disposal – in the way consumption is generally understood in consumer research (e.g. Arnould et al., 2002:5-6; Bagozzi et al., 2002:1). However, if we look at clothing consumption from a sustainability perspective, is it really the whole cycle of consumption from desire to acquisition, usage and disposal that should be resisted? If useable pieces of clothing end up in waste (Ozdamar Ertekin & Atik, 2015), does this not mean that they are not (fully) used, but only acquired and discarded?

To answer these questions, we analyse conceptually what *sustainable anti-consumption of clothing* entails. Through a systematic literature review, we identify 58 studies that examine anti-consumption of clothing from the sustainability perspective, focusing on the environmental dimension of sustainability. Our analysis reveals a high number of related and overlapping concepts manifesting sustainable anti-consumption of clothing. We aim to clarify this conceptual ambiguity by constructing a relational framework. Our paper provides a theoretical contribution by elaborating on their shared core aspect: the meaning of consumption. In this way, we are able to propose a clarification of the concept of sustainable anti-consumption of clothing, as in all of the analysed papers, it does not mean simply being against all phases of consumption, but rather being *anti-acquisition*, *anti-disposal* and *pro-usage*.

Thereby, through this systematic literature review, we aim to yield societal implications by providing ideas for understanding sustainable anti-consumption practices in which anti-consumption slows down the personal cycle of consumption of individual consumers, as the focus is on acquiring fewer products and using them longer. In this, we respond to Fischer et al.'s (2021) call to improve effectiveness in sustainable consumption communication by including other phases of consumption (usage, disposal) in addition to purchase. As the term “sustainable clothing consumption” has been found to be ambiguous among consumers (Bly et al., 2015; Harris et al., 2016), the use of more tangible vocabulary could support consumers' ability and willingness to adopt anti-consumption practices of clothing. Sandin and Peters (2018) showed that in terms of environmental impact, it is more beneficial to reuse textiles rather than recycle. We agree with their analysis by providing conceptual support to approaching various actors in the markets. Thus, by producing a clearer guideline for consumers to redirect their behaviour and to companies in the industry to develop their business models, it is possible to release the usage phase of the cycle of consumption from

the negative connotations of consumption.

Our paper proceeds as follows. In section two, we present the methods used in the systematic literature review. In section three, the results are shown in two parts. First, we construct a relational framework displaying the concepts manifesting anti-consumption of clothing in relation to 1) their perception on reduction of consumption, 2) in relation to each other, and 3) in relation to the level of abstraction. Second, we reflect on how the phases of consumption appear in each of the concepts. In section four, we discuss the significance of the results. In section five, we highlight managerial and societal implications as well as future research ideas in relation to consumers, new business models, societal consequences and systemic change. In the sixth section, we provide the conclusions of our study.

2. Method

To clarify the concept of sustainable anti-consumption of clothing, the present study adopts a systematic literature review (SLR) approach. A systematic literature review aims at systematically and comprehensively examining all relevant research while carefully describing and justifying this procedure to enable reproducibility (Fink, 2020:16). Our SLR procedure followed the guidelines of Fink (2020), which can be summarised to consist of three phases: 1. planning, 2. searching and screening and 3. collecting data and synthesising the results.

In the planning phase, we first defined our aim and research questions (Fink, 2020: 20–21). The research questions then guided the selection of bibliographic databases and keywords used in the online search for literature. The aim and research questions are as follows:

AIM: To clarify the meaning of the concept of sustainable anti-consumption of clothing from the environmental perspective.

RQ1: What *concepts* are used in the literature to describe sustainable anti-consumption of clothing?

RQ2: What is *meant by consumption* in these concepts of sustainable anti-consumption of clothing?

As research related to sustainable consumption and clothing consumption is published in a variety of journals, several major databases were used to ensure coverage and to allow the selected databases to complement the weaknesses of each other (Mohamed Shaffril et al., 2021). Thus, ABI/INFORM Collection, Science Direct, Business Source Premier, Academic Search Elite and Google Scholar were searched for all relevant articles available until June 2020. Articles were selected if the used search terms appeared in the topic section of the database or in the keywords, title or abstract of the article under consideration. The following search terms were used:

consum* OR behavio* OR lifestyle* OR shopping OR purchas* OR buy*

AND

sustain* OR green* OR ecolog* OR environment* OR ethic* OR natur*

AND

sufficien* OR reduc* OR conscious* OR mindful* OR frugal* OR anti*consum* OR slow*

OR simpli* OR down*shift* OR ethical OR responsible

AND

cloth* OR garment* OR fashion OR textile* OR apparel

As usual, after the first searches, new keywords were found, especially as the topic is new and the terminology and concepts are used inconsistently and not necessarily in the headings of the papers as such (Fink, 2020: 28). In this stage, the concepts of *adaptable apparel, clothes swapping, mending, collaborative consumption, disposal, second-hand, product-service systems, reuse, circular garment, circular clothing, decluttering* and *minimalism* were added to the search terms.

Once all relevant articles were identified, they went through an initial screening at the title and abstract level (Fink, 2020: 53). We decided to focus on peer-reviewed journal articles and chapters of books from high-quality publishers (e.g. Routledge, Springer) in English including both conceptual work and empirical studies. Grey literature, dissertations and chapters in universities' own publication series were left out. To follow a very systematic method and enable reproducibility, also books were excluded (Fink, 2020: 84). No timeframe criterion was needed, as the amount of literature was still limited.

Next, the articles went through a content screening by both authors. The content-related criteria to include/exclude an article were as follows and summarised in Table 1:

1. The definition of anti-consumption by Lee et al. (2011) served as the basis for the criteria. According to them, anti-consumption is defined as intentionally rejecting, restricting or reclaiming particular products or consumption as a whole. Therefore, literature in which anti-consumption is perceived as unintentional or non-voluntary (e.g. when anti-consumption is practised in poverty, and therefore not completely by choice [Leipämaa-Leskinen et al., 2016]) was excluded.
2. As we were interested in anti-consumption as a way of consuming in an environmentally sustainable way, we followed the more detailed classification proposed by Makri et al. (2020) to narrow down our criteria. We included only studies that fell in the categories of 1. Green/sustainable consumption or ethical/moral consumption, alternative consumption, or 3. Voluntary simplicity, as they characterise behaviour that aims at consuming in a sustainable manner.

Table 1
Criteria for sample inclusion and exclusion.

Criteria	Include	Exclude
1. Definition of sustainable anti-consumption 1	Studies that concern action that intentionally and voluntarily reduces consumption	Studies that concern unintentional or non-voluntary anti-consumption
2. Definition of sustainable anti-consumption 2	Studies that concern: -Green/sustainable consumption -Ethical/moral consumption -Alternative consumption -Voluntary simplicity	Studies that concern: - Consumer resistance in general - Symbolic consumption - Brand/product avoidance
3. Definition of sustainable anti-consumption 3	Studies that concern reduction of personal consumption	Studies that concern choosing "greener" products
4. Angle of the study	Studies that look at consumption from a consumer or industry perspective, but in a form that supports anti-consumption as sustainable consumer behaviour	Studies looking at how businesses can avoid or fight anti-consumption
5. Context	Papers looking at the context of clothing	Other context or anti-consumption in general
Type of literature	Peer-reviewed journal articles and book chapters	Grey literature, dissertations, chapters in universities' own publications, books
Language of the literature	English	Other languages
Study type	Conceptual work and empirical studies	Other
Timeframe	No timeframe needed	

Categories where the opposition is directed towards certain brands or products, for instance due to their symbolic meanings, but where the aim is not to reduce the amount of personal consumption per se (i.e. 2. Consumer resistance, 4. Boycotts/consumer activism, 5. Symbolic consumption or 6. Brand/product avoidance) (Makri et al., 2020) were excluded.

3. To be included, articles had to deal with concepts that aim at the reduction of personal consumption levels. Therefore, articles that described concepts in which anti-consumption is perceived as a choice of "greener" product option were excluded as they are more closely related to other forms of sustainable consumption. By consumption we refer to consuming products from the perspective of an individual consumer. From this perspective, a distinction can be made between 1. consuming greener products, where the consumption of raw materials might be reduced from the global perspective, but the amount of the products consumed remains the same from the consumer's perspective; 2. circular consumption, where, again, the consumption of raw materials might be reduced but the amount of products going through the personal consumption loop of an individual consumer stays the same; and finally, 3. sustainable anti-consumption, where the amount of products going through the individual consumption loop is reduced.

The first three criteria, defining sustainable anti-consumption as the common ground between sustainable consumption and anti-consumption, are illustrated in Fig. 1.

4. Studies had to look at anti-consumption from the consumer perspective, or from the industrial perspective but in a form that supports anti-consumption as sustainable consumer behaviour. Hence, studies looking at how businesses can avoid or fight anti-consumption were not included. Also, publications on anti-consumerist communication were left out.
5. Studies had to look at sustainable anti-consumption specifically in the context of clothing consumption.

During the content screening phase, we decided to exclude concepts such as *circular garment* and *clothing, second-hand, minimalism* and *decluttering* from the analysis, as the literature showed that these concepts do not meet the criteria presented above. The purchase of *second-hand* clothing and *circular garments/clothing*, referring to reused garments or garments made from recycled textiles (Pretner et al., 2021; Vehmas et al., 2018), might lead to a decline in the amount of raw materials used in production, but they do not reduce the amount of products that are consumed from the perspective of an individual consumer.

As to the concepts of *minimalism* and *decluttering*, the literature on consumption referred to the ideology of Marie Kondo, in which garments that no longer "spark joy" are discarded (Eike et al., 2021; Sandlin and Wallin, 2021). Thus, these concepts seem to refer to increased disposal, rather than downscaling the product flow (Eike et al., 2021; Mellander and Petersson McIntyre, 2021; Sandlin and Wallin, 2021), and do not meet our criteria. According to Eike et al. (2021), these "decluttered" items are often replaced with new ones at an unfortunate speed, which underlines the unfitness of these concepts in relation to the given criteria. The exclusion of these concepts can also be justified by the difference between anti-materialism and anti-consumption. While anti-materialism focuses on the rejection of material possessions as a way of pursuing happiness, anti-consumption is about being against consumption, not necessarily possessions (Lee and Ahn, 2016).

The rest of the articles on minimalism discussed minimalistic aesthetics and design and did not mention consumption behaviour at all (e.g. Eladwi and Kotb, 2015; Park and Yim, 2013).

Finally, "bread crumbing" and "pearl growing" were used to identify further relevant publications. This means that we searched through the reference lists of the most relevant articles as well as the articles that had cited the most relevant articles (Fink, 2020: 29). This iterative process of

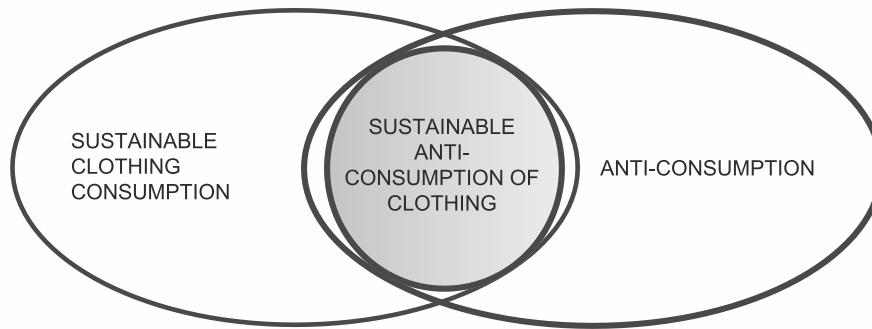


Fig. 1. Sustainable anti-consumption as the common ground between sustainable consumption and anti-consumption.

identifying new publications and new keywords continued as long as no new relevant research or keywords were found. At this stage, the preliminary sample went through final screening, where the full texts were checked for the content criteria in detail and discussed by the researchers.

The final sample consists of 58 articles (see Appendix A). Of these, 11 are conceptual, two literature reviews and 45 empirical studies. Of the empirical papers, 22 are quantitative and 18 qualitative, while five employ mixed methods. The articles come from 27 different journals and books representing different study fields.

In the data collection phase, we extracted data from the articles in terms of the concepts related to anti-consumerist behaviour and the definitions of the concepts. This information was then synthesised and analysed at the content level, seeking to identify relationships among constructs and to clarify which phase(s) of the cycle of consumption are referred to. The analysis was conducted in a systematic and controlled way by using qualitative content analysis (Mayring, 2004). In particular, the reviewed material was manually coded based on a category system that enables reproducibility (Mayring, 2014). The coding framework is based on both deductive categories that were built based on previous theory, such as cycle of consumption, and inductive categories that were built based on the material itself (Mayring, 2014).

3. Results

The results of our systematic literature review are organised as follows. First, we discuss the concepts that manifest the sustainable anti-consumption of clothing. We present a relational framework that displays the concepts in relation to reduction of consumption, in relation to each other, and in relation to the level of abstraction (see Fig. 2). In the second part, we analyse the concepts of sustainable anti-consumption of clothing with respect to the cycle of consumption.

3.1. Concepts manifesting sustainable anti-consumption of clothing

In this section, we present the relational framework (Fig. 2) showing the concepts that manifest the sustainable anti-consumption of clothing. In the framework, the concepts are organised according to their level of abstraction into two categories: 1. ideologies and 2. strategies. The category of ideologies contains concepts that refer to a way of thinking or a lifestyle, while strategies refer to the ways in which anti-consumerist ideologies manifest in practice.

Sustainable clothing consumption can be divided into two main categories of *sustainable acquisition* and *sustainable anti-consumption of clothing*. As their division is not always clear, the framework illustrates their interrelations. By *sustainable clothing consumption*, we refer to attempts of any kind to reduce the harmful effects of clothing consumption, such as buying higher-quality products, buying ethically and/or

ecologically produced clothing, buying second-hand as well as mending and simply buying less (Diddi et al., 2019). By *sustainable acquisition*, we refer to acquiring products that are sustainable in terms of locality, transparency, traceability, environment and/or social aspects (Berberyan et al., 2018; Carey and Cervellon, 2014; Henninger et al., 2016; Joergens, 2006). As these practices indicate those of choosing a “greener” option, sustainable acquisition is excluded from further analysis and highlighted in grey in the framework. Finally, by *sustainable anti-consumption of clothing*, we refer to ideologies and strategies aiming at reducing the personal consumption of clothing.

The concepts and terminology used in the sustainable anti-consumption of clothing path of research are discussed in detail below by presenting each concept proceeding from top to bottom, i.e. from ideologies to strategies. As anticipated, the conceptual ambiguity did emerge during the analysis and several concepts had different definitions and meanings in different articles. The definitions of each concept are summarised in Appendix B.

3.1.1. Anti-consumerist clothing consumption ideologies

In regard to anti-consumerist **ideologies**, several concepts emerge, some of which adhere more tightly to the logic of sustainable anti-consumption and some more loosely.

Slow fashion is one of the ideological concepts that was defined in a variety of ways (Cataldi et al., 2017; Clark, 2008; Fletcher, 2010; Jung and Jin, 2014, 2015, 2016a, 2016b; Pal, 2017; Pal and Gander, 2018; Pookulangara and Shephard, 2013; Reimers et al., 2016; Şener et al., 2019; Sobreira et al., 2020; Štefko and Steffek, 2018; Tama et al., 2017; Zarley Watson & Yan, 2013). Depending on the angle of the article, the definitions ranged from producing seasonless clothing (Zarley Watson & Yan, 2013) to fair labour, regional production, high quality, small lines and consumers thinking about the origins of the garment and engaging in long-term use of high-quality products (Pookulangara and Shephard, 2013).

Despite the varying interpretations, most of the chosen articles base their understanding on either Fletcher's (2007, 2010) conceptualisation of slow fashion or the scale of Jung and Jin (2014) built upon Fletcher's concept. Originating from the slow food movement, Fletcher's conceptualisation refers not only to durable products, but to challenging existing hierarchical business models (Clark, 2008; Fletcher, 2007, 2010) by favouring distributed economies with less intermediation between producer and consumer, transparent production and local resources (Fletcher, 2007, 2010). Jung and Jin (2014) further encapsulated the concept in five dimensions – equity, localism, authenticity, exclusivity and functionality. They refer to caring for producers and local communities, valuing the craftsmanship behind the products, adding diversity and individuality to fashion, as well as prolonging product lifespan. Therefore, while concentrating on slowing down the production process, the concept of slow fashion combines characteristics from both sustainable acquisition and sustainable anti-consumption (and is therefore

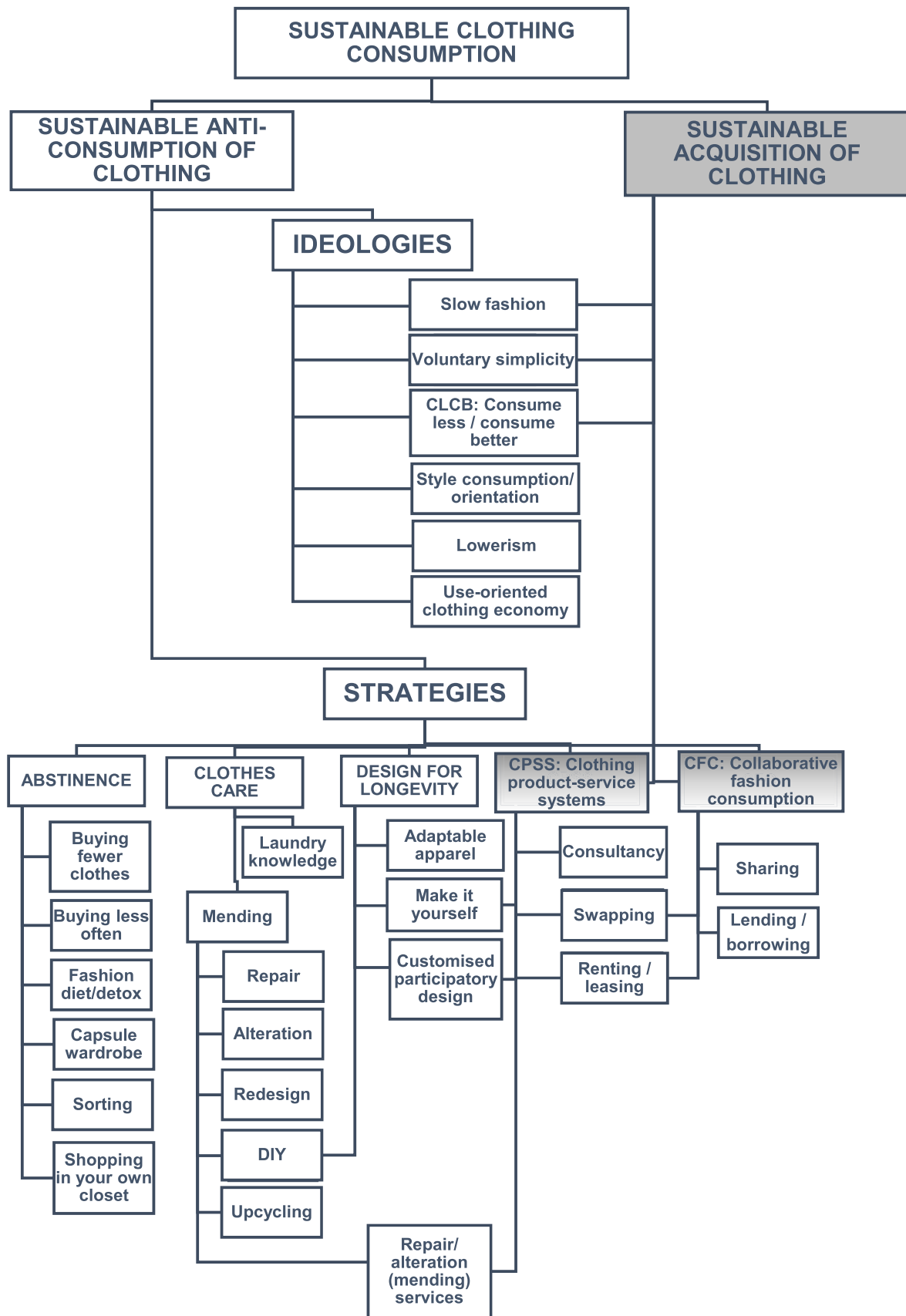


Fig. 2. The framework of sustainable anti-consumption of clothing.

connected to both categories in Fig. 2). Also, while it implicitly promotes the idea of buying less but better quality garments (Magnuson et al., 2017), in many of the articles, it does not explicitly take a stand on the reduction of consumption from the consumers' point of view.

Another ideological concept that has multiple definitions is *voluntary simplicity*. While Wu et al. (2013) look at voluntary simplicity purely as reduction of material consumption, according to Taljaard and Sonnenberg (2019), voluntary simplicity of clothing includes also choosing local brands and unique handcrafted clothing as well as ethically and environmentally sustainable brands. Their definition resembles the concept of slow fashion and is likewise a hybrid, conjoining acquiring sustainable products and reducing consumption.

A third group similar to voluntary simplifiers and slow fashion consumers are the “consume less, consume better” (CLCB) consumers (Bly et al., 2015). These consumers, when they do shop, strive to buy sustainable options, but above all, they concentrate on buying less but higher quality items from small and trustworthy producers (Bly et al., 2015). In addition to just concentrating on quality, CLCB consumers use personal style as a means to combine the contradictory concepts of sustainability and fashion. By pursuing individual style that reflects wearers' long-term identities instead of trends that change over time (Cho et al., 2015; Gupta et al., 2019), these consumers are able to wear their clothes for a long time and thereby reduce the frequency of their clothing purchases. This is also the core idea of *style consumption*, which is proposed as a sustainable substitute to fashion consumption (Cho et al., 2015; Gupta et al., 2019). The logic of buying less but better is also the core of *Low-erism*, which refers to a critical approach to consumption that includes prudent acquisitions of new garments (Todeschini et al., 2017).

Finally, from the industry's point of view, in addition to producing durable and individual clothing (Freudenreich and Schaltegger, 2020), sustainable anti-consumption can be supported by moving the emphasis from material consumption to usage. This is referred to as *use-oriented clothing economy* and can be pursued for example through supplementing and replacing products with services (Armstrong et al., 2016). While use-oriented clothing economy as an ideology reflects well the characteristics of sustainable anti-consumption of clothing, the same is not always true of the strategies for pursuing it. This issue is discussed in more detail in the next section.

3.1.2. Strategies to follow anti-consumerist ideologies

In this section, we discuss the concepts that operate at the level of **strategies**, i.e. how to follow the anti-consumerist ideologies in practice.

The easiest way to follow the ideology is through **abstinence**. This can simply mean *buying fewer clothes* or *buying clothes less often* (e.g. Diddi et al., 2019; Joanes, 2019), but also taking part in *fashion diet* or *fashion detox* (Armstrong et al., 2016; Ruppert-Stroescu et al., 2015; Wu et al., 2013). These concepts refer to abstaining from routine purchasing behaviour for apparel for a certain period of time (Armstrong et al., 2016; Ruppert-Stroescu et al., 2015; Wu et al., 2013). A similar concept to fashion diet is *capsule wardrobe*, which refers to making a commitment to own and use only a limited amount of clothes for a fixed period of time (e.g. a season or a year) (Todeschini et al., 2017).

While refraining from acquisition, the desire to consume and craving for novelty can be redirected into *sorting*, which refers to organising and reviewing clothes within the consumer's own wardrobe (Twigger Holroyd, 2016). It is sometimes conceptualised as “*shopping in your own closet*”, meaning rediscovering and recombining pieces you already own (Bly et al., 2015). According to studies (Bly et al., 2015; Ruppert-Stroescu et al., 2015), reducing acquisition of clothing seems to increase creativity as well as interest in, and consciousness and confidence about, one's own style (Bly et al., 2015). However, in cases where sorting is conceptualised more as choosing pieces for disposal or second-hand sale to make space for new items (Twigger Holroyd, 2016), it clearly increases rather than decreases consumption (Laitala, 2014) and should not be categorised as sustainable anti-consumption.

Another way to avoid acquiring and disposing of clothing is by

prolonging the life of a garment through **clothes care** (Norum, 2013). This refers to *laundry knowledge*, i.e. knowledge about right water temperatures, detergents, frequency of washing and line drying, but also *mending skills* including *repairing*, *altering* or *redesigning* (Diddi et al., 2019; Diddi and Yan, 2019; Durrani, 2018; Janigo and Wu, 2015; Laitala and Klepp, 2018; Lang et al., 2016; Lapolla and Sanders, 2015; Middleton, 2015; Norum, 2013; Pal, 2016; Twigger Holroyd, 2016). Mending can mean for example replacing a zipper or a seam, altering the size of a garment or making something completely new from old clothing. Mending can be done privately or in a workshop that provides space, materials and tutoring as well as a social dimension to promote the skill of mending (Durrani, 2018). Mending can even be offered as a service, either added to the price of the product or as a separate option (Durrani, 2018; Freudenreich and Schaltegger, 2020). According to Laitala & Klepp (2018), mending enables prolonging the lifecycle of garments, but can also help consumers to understand quality when buying new products and appreciate clothes more.

Frugal or simplistic consumption behaviour often results in *DIY* behaviour (Bly et al., 2015; Laitala and Klepp, 2018; Twigger Holroyd, 2016). Making your own clothes might serve as a way of resisting the market, but whether this reduces consumption or not depends on the consumer and whether new fabrics are used. If new garments are made from old ones, the behaviour is more like *upcycling*, where one repurposes and remakes old items (Bhatt et al., 2019), and is a manifestation of sustainable anti-consumption of clothing. If new clothes are made from new fabrics, the same amount of fabric has to be produced as with ready-made clothes and this should be seen as being comparable to buying new apparel. That said, self-made garments can be more valuable to the owner than ready-made garments and can therefore be worn longer (Niinimäki and Armstrong, 2013).

This kind of longevity thinking can be taken to an industrial context and is then called **design for longevity**. This notion refers to design that aims at enhancing person-product attachment and thereby the lifecycle of the product through for example simplicity, modularity or incremental improvements to existing garments (Niinimäki and Armstrong, 2013; Pal and Gander, 2018). Longevity and attachment can also be pursued through adaptability (Becker-Leifhold and Iran, 2018; Cao et al., 2014). *Adaptable apparel* items, in addition to often being environmentally friendly, are easily changeable in terms of function, fit and style (Becker-Leifhold and Iran, 2018; Cao et al., 2014). However, whether these design strategies truly prolong the life cycle of the garments and reduce consumption is very much dependent on the preferences and behaviour of consumers.

Other concepts that represent the category of design for longevity are *Make it Yourself* toolkits, referring to kits containing materials and tools to make and personalise a garment, as well as *customised*, *participatory design*, referring to building a garment by selecting clothing components or working with a designer to create a one-of-a-kind garment (Armstrong et al., 2015). These two strategies can also be seen as **product-service systems (PSS)** (Armstrong et al., 2015; Armstrong et al., 2016; Lang and Armstrong, 2018b; Pal, 2016, 2017; Pal and Gander, 2018; Strähle and Erhardt, 2017; Stål and Jansson, 2017). By combining products with services, PSS aim at making the products more valuable to the consumer, extending garments' lifespan and thereby reducing consumption (Armstrong et al., 2015). These business models can be classified into: 1. use-oriented service systems, such as *consultancy*, *clothing swaps* and *renting*, 2. product-oriented systems, such as *repair*, *redesign*, *take-back* and *customised* or *participatory design* and 3. result-oriented services that offer a complete look (Armstrong et al., 2015).

However, only a part of the PSS business models are included in our framework. *Swapping*, *renting* and *repair/alteration services*, as well as *style consultancy services* (Adam et al., 2018; Armstrong et al., 2015; Armstrong et al., 2016; Lang and Armstrong, 2018b; Lang, 2018; Lang et al., 2016; Rathinamoorthy et al., 2018) manifest the sustainable anti-consumerist ideology, as they reduce the need for consumers to acquire clothing. Here, style consultancy services refer to advice on how to continue to

wear existing clothes and to create new and different looks with them (Armstrong et al., 2015). As for the case of the *take-back* of used clothing in exchange for a coupon for new purchases and selling *redesigned clothing* made out of this old clothing (Armstrong et al., 2015), only the product changes, not the amount of products acquired and disposed of. Thus, these strategies are not included in sustainable anti-consumption. Also, as not all PSS follow the ideology of sustainable anti-consumption (see e.g. Tukker's [2004] PSS typology), PSS is marked with gradient grey in the framework.

Some of the above-mentioned forms of product-service systems may also be seen as forms of *collaborative fashion consumption (CFC)* (Becker-Leifhold and Iran, 2018; Iran and Schrader, 2017; Johnson et al., 2016; Lang and Armstrong, 2018a; Pal, 2017; Pal and Gander, 2018; Park and Armstrong, 2017; Pedersen and Netter, 2015; Strähle and Erhardt, 2017; Zamani et al., 2017). In CFC, pieces of clothing that would normally be discarded due to boredom, bad fit or lack of storage space are given to other users with the intention of increasing the number of uses per garment and enabling the satisfaction of consumption needs with fewer products (Iran and Schrader, 2017). CFC can be followed by either acquiring individual ownership through *second-hand purchases*, *gifting* or *swapping* or by acquiring a temporary right to use a garment owned by others through *sharing*, *lending*, *renting* or *leasing* (Iran and Schrader, 2017). Furthermore, CFC can be organised in a peer-to-peer manner, with or without the facilitation of a company, or in a business-to-customer manner (Becker-Leifhold and Iran, 2018; Henninger et al., 2019; Iran and Schrader, 2017). A very traditional example of peer-to-peer sharing is *inheriting*, referring to children inheriting items from their siblings or other relatives (Klepp and Laitala, 2018).

However, from the point of view of sustainable anti-consumption, CFC, like PSS, appears to be a borderline case (and is thus marked with gradient grey in the framework). Second-hand clothing was decided to be left out of the analysis already in the data screening phase, as it does not meet our criteria for reducing the amount of products that go through the consumption loop of an individual consumer. Similarly, inheriting or gifting are basically just different types of acquisition and disposal methods, just like buying and selling second-hand, and thus do not meet the criteria of reducing personal consumption, whether second-hand or new.

When it comes to other forms of CFC, sharing, lending, renting and swapping match the theoretical inclusion criteria and are taken into the analysis. In these cases, the consumption is genuinely collaborative and changes the consumption paradigm of acquiring and disposing. In swapping, for example, the number of pieces that one can bring to a swapping event is generally limited, with a preference for quality over quantity, and as the participants swap items on a piece for piece basis, the consumption loop remains closed and the amount of clothing does not increase.

3.2. Phases of consumption in the concepts of sustainable anti-consumption

In this section, we present the results on the meaning of consumption in the concepts of sustainable anti-consumption of clothing. Although we included only those concepts that approach anti-consumption of clothing in terms of reducing consumption, it became evident that the conceptual boundaries are nevertheless not that clear-cut. Therefore, to clarify what exactly is opposed when sustainably opposing consumption, we analysed the concepts in relation to the cycle of consumption. We analysed whether each type of anti-consumption behaviour increases or decreases **acquisition**, **use** and **disposal** of clothing, and further classified the acquire phase into four more detailed categories: **acquisition of products**, **strategic acquisition**, **acquisition of services**, and **sustainable acquisition**. By strategic acquisition, we refer to acquisition decisions that are made in such a manner that the acquisition optimally contributes to the functionality of one's wardrobe and style in the long run (Armstrong and Lang, 2018). Similarly, the use phase was classified into two categories: **use more** and **use longer**. The meaning of consumption in

the concepts of sustainable anti-consumption of clothing is illustrated in Table 2. The meaning of consumption was either explicitly mentioned or could be implicitly understood from the articles.

In the purchase phase, many concepts contained characteristics from both sustainable anti-consumption and **sustainable acquisition**. In addition to acquiring sustainable products, anti-consumerist behaviours often include or lead to **acquisition of services** or **strategic acquisition**. As to the usage phase, most of the concepts aim at either **intensifying or prolonging the usage** of the garments. Finally, around half of the identified concepts aim at **reducing disposal of clothing**.

The feature that characterises all of the concepts is that by **increasing product use** and **prolonging the life cycle** as well as through **acquiring services** and **strategic acquiring**, these concepts all aim at **decreasing the need for acquisition (i.e. purchasing products)**. Moreover, while opposing acquisition, sustainable anti-consumption of clothing in fact involves very active usage. This was previously noted also by Craig-Lees and Hill (2002) who, while studying anti-consumers, found that they seem to own more things than non-anti-consumers or at least display these things more actively. It is therefore clear that while anti-consumers do not **acquire** and **dispose** of things as much as others do, they still **consume** their clothes in one way or another.

This raises the question of whether anti-consumption is actually the most appropriate term to describe this behaviour or whether we should be talking more precisely about anti-acquisition and anti-disposal accompanied with pro-usage. Not opposing the whole cycle of consumption, but focusing on anti-acquisition, pro-usage and anti-disposal, would be a much clearer guideline for consumers to redirect their behaviour and to companies in the industry to develop their business models towards a genuinely use-oriented clothing economy. While opposing acquisition and disposal, the usage phase of the cycle of consumption would be released from the negative connotations of consumption. As more and more garments are thrown away, often almost unused (Finnish Textile and Fashion, 2017; Ozdamar Ertekin & Atik, 2015), it is not over-usage but over-acquisition that is the problem. To highlight this argument, we show the connecting role of phases of the cycle of consumption between sustainable consumption and anti-consumption in Fig. 3. The figure illustrates how the phases of the cycle of consumption are interrelated and how behaviours in one phase have implications for other phases of the cycle, as anti-acquisition inevitably intensifies and/or prolongs usage and eventually diminishes disposal and vice versa.

4. Discussion

In this paper, we systematically reviewed the concepts relating to sustainable anti-consumption of clothing. Our attention was drawn to the concept of consumption, and what exactly is opposed when one opposes consumption from the sustainability viewpoint. Based on our analysis, we suggest the conceptual development of moving from anti-consumption to *anti-disposal*, *anti-acquisition* and *pro-usage*, to advocate the sustainable manifestation of anti-consumption.

We argue that instead of just opposing consumption in general – which seems to be an abstract concept that has strong cultural and religious connotations (Azevedo, 2020; Wilk, 2004; Witkowski, 2010) – we have to offer consumers and the industry simpler and more concrete guidelines on what to actually oppose to be sustainable. To answer this need, we propose the guideline of avoiding disposal and acquisition of both new and second-hand clothing, while increasing and intensifying the usage of clothing.

It becomes evident that the most powerful actor is the user, who decides when and what to buy, how long to use a piece, and when and how to get rid of it (Fletcher, 2016: 211). Products are most commonly discarded not due to physical durability, but due to psychological obsolescence, meaning that either the aesthetics no longer please the user, they do not fit with societal preferences, new technological inventions make the old ones look dated, or the economic structures encourage

Table 2
Sustainable anti-consumption of clothing in relation to phases of consumption.

CONCEPT	LEVEL	ACQUISITION OF PRODUCTS	SUSTAINABLE ACQUISITION	ACQUISITION OF SERVICES	STRATEGIC ACQUISITION	USE	DISPOSAL	Papers on this concept
Slow fashion	Ideology	LESS	MORE		MORE	MORE LONGER	LESS	Cataldi et al., 2017; Clark, 2008; Fletcher, 2010; Jung & Jin, 2014, 2015, 2016a, 2016b; Pal, 2017; Pal & Gander, 2018; Pookularanga & Shephard, 2013; Şener et al., 2019; Sobreira et al., 2020; Štefko & Štefko, 2018; Ståhl & Jansson, 2017; Tama et al., 2017; Zarley Watson & Yan, 2013
Voluntary simplicity	Ideology	LESS	MORE		MORE	MORE LONGER	LESS	Taljaard & Sonnenberg, 2019; Wu et al. 2013
Consume less/consume better (CLCB)	Ideology	LESS	MORE			MORE		Bly et al. 2015
Style consumption/orientation	Ideology	LESS			MORE	MORE LONGER		Cho et al., 2015; Gupta et al., 2019
Lowerism	Ideology	LESS						Todeschini et al., 2017
Use-oriented clothing economy	Ideology	LESS		MORE	MORE	MORE LONGER		Armstrong, Niinimäki et al., 2016
Buying fewer clothes	Strategy	LESS						Didi et al., 2019; Joanes, 2019
Buying clothes less often	Strategy	LESS						Didi et al., 2019
Fashion diet/detox	Strategy	LESS				MORE		Armstrong, Connell et al., 2016; Ruppert-Stroescu et al., 2015; Wu et al., 2013
Capsule wardrobe	Strategy	LESS				MORE		Todeschini et al., 2017
Sorting	Strategy	LESS				MORE	MORE	Twigger Holroyd, 2016
Shopping in your own closet	Strategy	LESS				MORE LONGER		Bly et al., 2015
Clothes care	Strategy	LESS				LONGER	LESS	Norum, 2013
Laundry knowledge	Strategy	LESS				LONGER	LESS	Norum, 2013
Mending: repair, alteration, redesign	Strategy	LESS		MORE		LONGER	LESS	Didi & Yan, 2019; Diddi et al., 2019; Durrani, 2018; Janigo & Wu, 2015; Laitala & Klepp, 2018; Lang et al., 2016; Lapolla & Sanders, 2015; Middleton, 2015; Norum, 2013; Pal, 2016; Twigger Holroyd, 2016
Repair/alteration/redesign services	Strategy	LESS		MORE		LONGER	LESS	Armstrong et al., 2015; Diddi et al., 2019; Lang & Armstrong, 2018b
DIY	Strategy	LESS				LONGER	LESS	Bly et al., 2015; Freudenreich & Schaltegger, 2020; Laitala & Klepp, 2018; Twigger Holroyd, 2016
Upcycling	Strategy	LESS				LONGER	LESS	Bhatt et al., 2019
Design for longevity	Strategy	LESS				MORE LONGER		Freudenreich & Schaltegger, 2020; Niinimäki & Armstrong, 2013; Pal & Gander, 2018
Adaptable apparel	Strategy	LESS				MORE LONGER		Becker-Leifhold & Iran, 2018; Cao et al., 2014
Make it yourself	Strategy	LESS				LONGER		Armstrong et al., 2015
Customised, participatory design	Strategy	LESS				LONGER		Armstrong et al., 2015
Clothing product-service systems	Strategy	LESS	MORE	MORE		MORE LONGER	LESS	Armstrong et al., 2015; Armstrong, Niinimäki et al., 2016; Lang & Armstrong, 2018b; Pal, 2016; Pal, 2017; Pal & Gander, 2018; Strähle & Erhardt, 2017; Stål & Jansson, 2017
Clothing consultancy	Strategy	LESS		MORE	MORE	MORE LONGER		Armstrong et al., 2015; Armstrong, Niinimäki et al., 2016; Lang & Armstrong, 2018b; Lang et al., 2016
Swapping	Strategy	LESS		MORE		MORE LONGER	LESS	Armstrong et al., 2015; Armstrong, Niinimäki et al., 2016; Becker-Leifhold & Iran, 2018; Henninger et al., 2019; Iran & Schrader, 2017; Lang & Armstrong, 2018b; Lang et al., 2016; Pal, 2016; Pal & Gander, 2018; Rathinamoorthy et al., 2018
Renting/leasing	Strategy	LESS		MORE		MORE	LESS	Adam et al., 2018; Armstrong et al., 2015; Armstrong, Niinimäki et al., 2016; Becker-Leifhold & Iran, 2018; Iran & Schrader, 2017; Klepp & Laitala, 2018; Lang, 2018; Lang & Armstrong, 2018b; Lang et al., 2016; Pal, 2016; Pal & Gander, 2018
Collaborative fashion consumption (CFC)	Strategy	LESS	MORE	MORE		MORE	LESS	Becker-Leifhold & Iran, 2018; Iran & Schrader, 2017; Johnson et al., 2016; Lang & Armstrong, 2018a; Pal, 2017; Pal & Gander, 2018; Park & Armstrong, 2017; Pedersen & Netter, 2015; Strähle & Erhardt, 2017; Zamani et al., 2017
Sharing	Strategy	LESS		MORE		MORE		Becker-Leifhold & Iran, 2018; Iran & Schrader, 2017; Pal & Gander, 2018; Pedersen & Netter, 2015
Lending/borrowing	Strategy	LESS		MORE		MORE		Becker-Leifhold & Iran, 2018; Iran & Schrader, 2017; Klepp & Laitala, 2018

replacement over maintenance (Burns, 2016). This means that even if the designer aims at creating so-called “emotionally durable design” (Fletcher, 2016: 209) it is not up to the designer to decide how long a

garment will last; instead, this depends on the customer (Fletcher, 2016: 197, 211). As Fletcher (2016: 197) puts it, “Making a garment last is very different to making a long-lasting garment.”

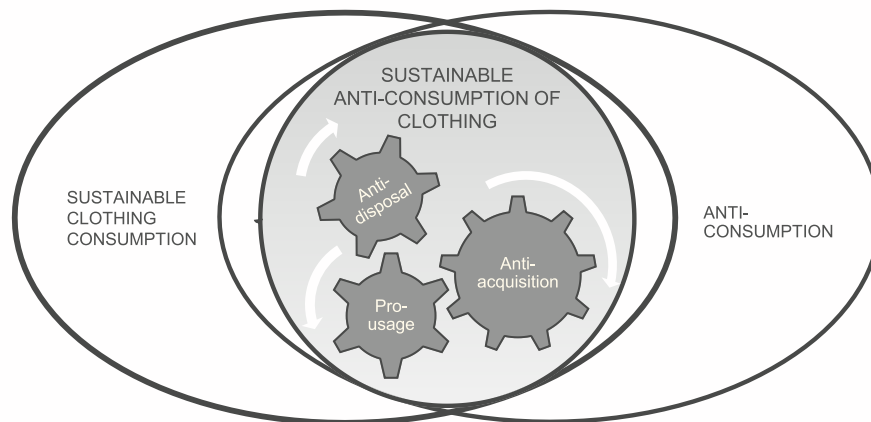


Fig. 3. Anti-acquisition, pro-usage and anti-disposal as connectors between sustainable consumption and anti-consumption.

This is why we have to take into consideration the divergence of consumers and their differing relationships to clothing and discuss different possibilities for realising sustainable anti-consumption of clothing. For those who take an active interest in clothing, sustainable anti-consumption offers numerous possibilities to actively *use* clothing and to be stylish while avoiding acquisition and disposal, as described in section three. On the other hand, if a consumer is not interested in fashion, style or crafting, sustainable anti-consumption does not require any special knowledge. As the most sustainable garment is the one that a consumer uses over and over again, it is the personal needs and preferences that become focal. While the focus of sustainable anti-consumption of clothing should not be on acquiring and disposing, but on usage instead, when a consumer needs a new piece of garment, the choice of clothing should be guided by what they really like and need in the long run. This should be a more natural path for consumers, as choosing sustainably produced clothing seems to cause confusion and anxiety to consumers (Bly et al., 2015; Harris et al., 2016), but personal needs and style are criteria that consumers already follow when choosing clothing (Joergens, 2006).

5. Implications and suggestions for future research

Building on our findings, we now discuss managerial and societal implications to provide suggestions for future research. We outline ideas to support and further explore consumer-driven change, novel business models, systemic transformation as well as the social consequences of reduced clothing consumption.

5.1. Consumer responses and drivers to (sustainable) anti-consumption of clothing

First, we invite researchers to further explore the practical usability of the concept of sustainable anti-consumption, referring to anti-acquisition, pro-usage and anti-disposal. The connotations that it evokes among consumers compared to resisting consumption in general should be empirically examined. Moreover, we call for future research on sustainable consumption to focus on usage, as so far the use-oriented clothing economy has been seen mostly from the point of view of the industry and not the consumer. In this way, it would be possible to shed light on how we can foster intensification of usage of clothing.

Besides knowing how we should behave, we need knowledge on how to change behaviour into this direction. Motivations to consume green options have been studied for decades but this review gives indications that consuming, for example, slow fashion – which decreases the need for future purchases – is motivated by different attributes than the ones that motivate green consumption (Jung and Jin, 2016a; Zarley Watson & Yan,

2013). In addition, unlike drivers of green consumption, the drivers of anti-consumerist behaviour in the clothing context may be purely self-oriented. According to Bly et al. (2015), instead of just avoiding consumption for sustainability's sake, style consumers pursue their own style to seek uniqueness and freedom, which gives them a feeling of personal growth, self-fulfilment and well-being. Therefore, we call for research that looks at the drivers for reduction of consumption separately from green consumption. Furthermore, we call for research on the connection of individuality, well-being and usage of garments, and the possibilities of using these drivers in the promotion of sustainable anti-consumption of clothing.

Although this paper concentrated on looking at solving the problem of over-consumption in the context of clothing, clothing consumption may be seen as a pronounced example of problems that concern other kinds of material consumption. For instance, Fischer et al.'s (2021) analysis revealed that the domains of housing and information technology have gained less attention, and would thereby provide fruitful contexts for sustainability research. We, thus, invite additional research to apply the concept of sustainable anti-consumption – defined as anti-acquisition, pro-usage and anti-disposal – to other fields of consumption to develop the concept further.

5.2. Novel business models based on sustainable anti-consumption of clothing

While the transition from over-acquisition of fashion towards sustainable anti-consumption means a radical change for the industry, it offers numerous possibilities for new and renewed business models that could even have bigger profit margins than the fast fashion industry. As this study has shown, there are already a multitude of strategies and practices that businesses and consumers can adopt to follow the ideology of sustainable anti-consumption. Yet, great potential remains untapped. To illustrate, as the ideology is based on the idea of extending and slowing down the lifecycle of clothing (Ozdamar Ertekin, 2016), the industry has to prepare itself for the production of high quality and durable garments. For the consumer to be able to assess garment durability, some standards and guarantees are needed. Therefore, research is required to explore whether these kinds of standards or guarantees would have an effect on purchase behaviour to ensure profitable business.

From the consumers' point of view, acquiring less but loving your clothes more means you have to know yourself better to follow your own style, and not the fast fashion cycle (Cho et al., 2015). This offers business possibilities for psychologists and consultants in helping consumers build better self-knowledge and self-esteem, and find their own style. Thus, research on how one finds their own style and how this can be supported by services is needed. Also, research is needed on how these style

searching services are perceived.

With prolonging the life cycle of garments comes the craft of mending, which likewise offers business possibilities not only for professional dressmakers and re-makers but for specialists in crafting skills in the form of courses and workshops to teach mending for consumers (e.g. Durrani, 2018). Repair services are of course a very old business model, but research is needed on how these services can be supported, promoted and made profitable, as many of them are currently struggling because the fast fashion cycle presses the prices of new garments so low that repairing is not economically sensible.

In the literature, clothes care and laundry practices were mostly seen as a way of reducing energy consumption and pollution (e.g. Dombek-Keith and Loker, 2011; Jack, 2013), but not as a way of prolonging the life cycle of garments and thereby reducing acquisition. Still, there are indications that consumers' interest in clothes care and laundry practices as a way of prolonging the lifespan of their favourite clothes is increasing. This trend can be seen in for example the growing popularity of Facebook groups, like *Pyykkimäia*, which offer tips and advice for clothes care to interested consumers. This growing interest implies opportunities for similar businesses. We suggest that in addition to the research on clothes care as a way of reducing energy consumption and pollution, clothes care as a strategy and a business to prolong the usage of clothing should be explored more thoroughly.

5.3. The social consequences of anti-consumption

Even though this review has concentrated on the environmental perspective of sustainability issues in the clothing industry, one should not forget the social issues attached to it. In particular, slowing down the clothing industry will have effects on employment (Schröder, 2020). While business models that are based on quality and durability over quantity could contribute to creating more decent jobs in terms of wages, freedom and work safety, slowing down the industry simultaneously reduces jobs in different places, with these job losses affecting women in particular (Stevenson et al., 2021). This issue should be taken into consideration by governments and businesses when planning and executing actions to support reduction of clothing consumption.

From the companies' perspective, this involves for example the following steps: 1. acquiring knowledge and understanding on how the transition affects current and future employees, in particular women; 2. making decisions in a holistic manner by taking into consideration both the emission reduction and impact on jobs; 3. ensuring that women have access to the training they need, when jobs are transformed and when old jobs are lost and new ones emerge; and 4. using power through procurement policies that acknowledge equal gender representation in the supply chain (Barrientos and Pallangyo, 2018; Stevenson et al., 2021).

From the governance perspective, the transition can be supported for example by incentives for businesses to conduct gender analysis, partnerships between government and civil society to create measures for social protection in areas threatened by significant job loss, industrial strategy for identifying alternatives for job creation and required upskilling in high-risk job loss areas, as well as legislation to require companies to pay living wages and ensure freedom and work safety for employees (Barrientos and Pallangyo, 2018; Schröder, 2020; Stevenson et al., 2021).

5.4. Systemic transformation via anti-consumption of clothing

Increasing clothing utilisation is in the core of the vision of the circular economy-based new textiles economy (Green strategy, 2016). Still, the focus is on sustainable acquisition and recycling. This approach to sustainability in the clothing industry is failing, because it tries to operate inside the dominant social paradigm (DSP) and the established business logic, while consumption behaviour of acquisition and disposal is not questioned (Kleinhüchelkotten and Neitzke, 2019; Pedersen and Andersen, 2015). Therefore, radical approaches like anti-consumption that

operate outside this paradigm (Mukendi et al., 2020) are needed. Moreover, as the problems of the clothing industry are heavily systemic and cultural, promoting change in the industry requires actions from all stakeholders (Pedersen and Andersen, 2015). In the current study, we have seen strategies and practices that businesses, designers and consumers can apply to adopt and foster the sustainable anti-consumerist way of thinking. We invite further research to look into how these practices and strategies presented previously can be supported by policies and NGOs.

6. Conclusion

As our systematic literature review shows, sustainable anti-consumption ideologies, behaviours and business models in the clothing context are described with a multitude of overlapping concepts. Many of these concepts have features from both sustainable acquisition (i.e. acquiring sustainable products) as well as sustainable anti-consumption (e.g. reducing consumption). Our analysis highlights that while reducing acquisition and disposal of clothing, sustainable anti-consumption of clothing is actually very active usage, and therefore constitutes intensive consumption. Thereby, we suggest that the definition of sustainable anti-consumption should be clarified to entail not only anti-acquisition and anti-disposal but also pro-usage, in order to characterise the behaviour that is needed to foster systemic change in the industry and consumer culture to make it sustainable. We claim that while sustainable clothing consumption is a vague and polysemous term, *sustainable anti-consumption*, consisting of anti-acquisition, pro-usage and anti-disposal, communicates a clearer message to follow. Finally, we argue that while sustainable clothing consumption, which now refers mostly to acquiring sustainable products, allows the vicious cycle of acquisition and disposal to carry on at the expense of natural resources, sustainable anti-consumption of clothing, i.e. anti-acquisition, pro-usage and anti-disposal, is the only way we can break this cycle, i.e. sustainable clothing consumption in real terms. In fact, one could replace both of the terms, *sustainable clothing consumption* and *sustainable anti-consumption of clothing*, with the three terms of *anti-acquisition*, *pro-usage* and *anti-disposal of clothing*.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendices A and B. Supplementary data

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