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# Field report Consumer Survey

by  
Kristian Steensen Nielsen and Wencke Gwozdz



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**Authors:** Kristian Steensen Nielsen and Wencke Gwozdz  
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© Kristian Steensen Nielsen and Wencke Gwozdz, 2017  
Copenhagen Business School  
Solbjerg Plads 3, DK-2000 Frederiksberg  
Phone: +45 3815 3815

[www.cbs.dk](http://www.cbs.dk)

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- reselling clothes online and traditional repair services were the most popular new business models with consumers reporting to be somewhat likely to use them in the future
- in relation to incentivized take back services (e.g. leaving clothing for recycling in exchange for a voucher or a buy-back program), fashion rental, swapping markets, and repair services in-store, consumers were more neutral concerning using them over the next three months
- across countries, consumers were unlikely (approaching very unlikely) to use clothing libraries and fashion leasing

## executive summary

The present report outlines the purpose, scope, and methodology of a recently conducted four-country consumer survey that explored sustainable clothing consumption. The report also presents a sample of the descriptive findings from the survey (see Gwozdz, Nielsen & Müller, 2017 for further results). The consumer survey was conducted in four countries (Germany, Poland, Sweden, and United States) with approximately 1,000 respondents per country. The purpose of the survey was to explore consumption and psychological differences across markets and cultures. The collected data represents the empirical foundation for upcoming deliverables relating to quality of life, acceptance of new business models, and consumer policy recommendations. The results presented in the report relate, specifically, to consumers' general clothing consumption patterns, acceptance of new business models, and environmental clothing consumption. One of the main results of the descriptive analyses was that the average consumer across all four countries purchased 5.74 clothing items worth €153.79 over a three-month period. Interestingly, country differences were observed in relation to consumption volume, spending, preferred purchasing outlets, and acceptance of new business models. Polish and American consumers purchased the most clothing items. Polish consumers also reported the lowest expenditures on clothing, whereas German consumers reported the highest expenditures. Only a limited proportion of consumers had previously used alternative business models and a general support for new and alternative business model was not observed. The descriptive findings provide an interesting starting point for further explorations in the upcoming deliverables.



## background

The present field report is part of the ‘User Theme’ under the Mistra Future Fashion project and seeks to provide a comprehensive account of the largescale consumer survey recently undertaken. The survey represents the empirical basis for the upcoming project deliverables that explore quality of life and sustainable clothing consumption, new clothing business models, consumer policy recommendations, and means to change consumer mindsets and behavior. The survey is a continuation of the previous survey conducted as part of Mistra Future Fashion Phase I. This survey will however, not only focus on young consumers, but on all consumers between the age of 18 and 65.

## purpose of the survey

Consumers are a central actor in the sustainable transition of the fashion industry. Without the consumers’ acceptance of new and innovative approaches to sustainable fashion even the most ambitious efforts will be unsuccessful. There is, as a result, an eminent need to understand what motivates consumers to acquire sustainable fashion products, how these motivations can be strengthened, and identify potential barriers that could hinder the enactment of their sustainable motives. This entails assessing consumers’ current attitudes, intentions, and goals relating to sustainable clothing consumption in order to identify critical intervention points. An important and supplementary objective of the survey is to provide an updated and comprehensive assessment of current clothing consumption patterns across countries. These research objectives will be investigated through the means of a four-country consumer survey (Germany, Poland, Sweden and United States). The international element is particularly important as contextual environments differ profoundly from country to country. Furthermore, consumers’ environmental attitudes, goals, and knowledge are expected to vary significantly both within and among countries.

## development of survey

The survey was developed through an extensive review of relevant literature combined with the experiences from Mistra Future Fashion Phase I. Most scales and instruments used in the survey have been validated by previous research. However, in one case it was necessary to develop a new scale due to a lack of existing research on the topic. In the scale development process, industry experts from H&M, Sveriges Konsumenter and Filippa K took an active role by providing valuable feedback and suggestions for improvement on selected measurements. Furthermore, three focus group interviews were undertaken in June 2016 to assess the current state of awareness of alternative business models within a small sample of consumers. The focus group interviews were similarly used to determine an appropriate recall period for the assessment of consumers’ past fashion behavior.

The survey was designed using a software provided by the market research company Qualtrics. They were also in charge of the data collection process and to ensure the compliance with the scope and quality requirements specified by CBS. The survey was supplemented with a similar undertaking in the EU-funded Trash-2-Cash project. The decision to link the two surveys was justified by the opportunity to ask for more information than would have been possible in one single survey and to obtain large scale, representative samples from multiple countries. Due to the length of the resulting survey, it was split into two parts, which were distributed to the same respondents with a two-week interval. This allowed for more data to be collected without compromising its quality through inducing response fatigue. The initial two-part version of the survey was pre-tested by a small group of individuals with different educational backgrounds in July 2016. The pre-test indicated a completion time of approximately 60 minutes in total, which was well beyond the intended 40-50 minutes. As a result, a comprehensive reprioritization process was undertaken to shorten the survey, which meant excluding peripheral scales and concepts.

## method

The target group of the survey was all consumers within the age range of 18-65 years. The requirement was to obtain a representative sample across age, gender, region, and education within four countries. The representative samples provide the opportunity to generalize within the countries, which is a unique feature of the project. The countries in which the survey was carried out were Sweden, Poland, Germany and the United States. The countries were selected in order to give a broad outlook of the fashion markets within the westernized world. Sweden was selected due to its modern and increasingly sustainability-oriented fashion market as well as being the country of origin of Mistra Future Fashion. Germany was included as it is the largest economy and one of the largest clothing markets in Europe. The United States was prioritized due to its cultural and political distinction from continental Europe as well as being a major fashion market. Lastly, Poland was selected due to their large acceptance of materialistic values and functioned as a representative of Eastern Europe.

## data collection

The data collection began in October 2016 and was terminated in January 2017. Qualtrics was responsible for carrying out the data collection, which included contacting potential respondents and collecting the data in collaboration with local panel providers. All participants were incentivized to participate in the study in the form of points that could be redeemed for various products (e.g. airline miles or gift cards). The questionnaire was developed in English and translated into German, Polish, and Swedish by trained and certified (ISO17100) translators. The translations were proofread by native speakers and ambiguities were settled with the translators prior to implementing the survey online. During the data collection process, certain representativeness quotas were deemed necessary to relax due to an infeasibility of obtaining the required amount of responses. This especially applied to age, gender, and education where young, low-educated males were particularly difficult to recruit especially in Poland and the United States. The final sample was, as a result, not fully representative.



# quality assurance

In order to ensure the quality of the responses, extensive measures were undertaken to screen out inattentive respondents. The strictest measures were the attention questions integrated into the survey. If respondents failed to pay attention to these questions, they were automatically screened out of the survey. An example of an attention question is “please select strongly agree”, which was included amongst other items. In total, there were four attention questions (two in each survey part). Respondents could also be screened out due to an insufficient use of time on filling out the survey. This applied to respondents who used less than one third of the mean completion time. In addition to the automatic screen-out questions, respondents were also scrutinized for their response quality. This process included four criteria that each could disqualify a response (see Table 1). The four criteria have been suggested by the scientific literature as means to safeguard against inattentive responses (Meade & Craig, 2011; DeSimone et al., 2015).

table 1. Disqualification Criteria

Criteria	Number of Respondents Disqualified
1. Failing two or more quality checks <ul style="list-style-type: none"><li>Please select very much like me<ul style="list-style-type: none"><li>(if like me or very much like me is not selected)</li></ul></li><li>I put enough effort towards this study<ul style="list-style-type: none"><li>(if disagree or strongly disagree is selected)</li></ul></li><li>I gave this study enough attention<ul style="list-style-type: none"><li>(if disagree or strongly disagree is selected)</li></ul></li><li>In your honest opinion, should we use your data in our analysis in this study?<ul style="list-style-type: none"><li>(if no is selected)</li></ul></li></ul>	N = 345
2. More than 10% missing values	N = 25
3. Answering in patterns <ul style="list-style-type: none"><li>Answering the highest category for all items in a scale; or</li><li>Participants that are in the first variance percentile for all three variables that are expected to vary significantly: life goals, goal commitment, and values (not highlighted in present report).</li></ul>	N = 187
4. Straight-lining <ul style="list-style-type: none"><li>All respondents that clicked the same answer category for all of the goal commitment items</li></ul>	N = 1,141

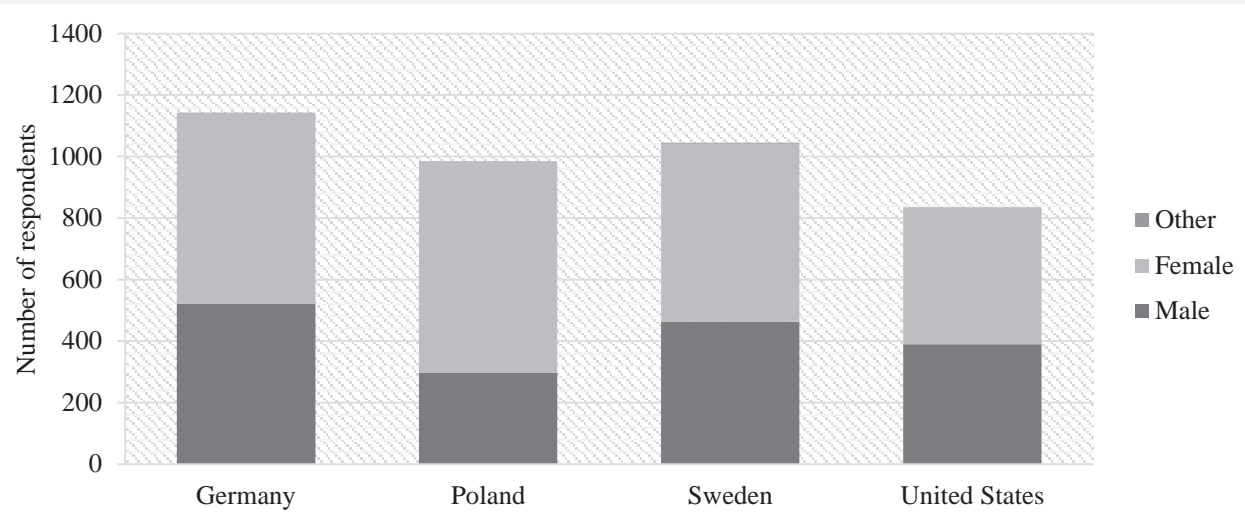




# the sample

The sample for the first part of the survey was representative in regard to age, gender, region, and education. The total sample size for the first survey part was N = 10,363 with 2,427 respondents from Germany, 2,485 from Poland, 2,316 from Sweden, and 3,135 respondents from the United States. Due to the re-contact survey format, we observed a self-selection of respondents who decided to participate in the second survey part. Nonetheless, we similarly strived for representativeness in the second part. The total re-contact rate was 40% and by country: Germany (47%), Poland (39,6%), Sweden (45,1%), and United States (26,7%). The final sample consisted of respondents participating in both survey part I and part II, which resulted in a sample of approximately 1,000 respondents per country (total sample N = 4,175). Respondents indicating that they never purchased clothing themselves (n = 166) were deleted from sample. This resulted in a final sample of 4,009 respondents, whereof 1,143 were from Germany, 985 from Poland, 1,045 from Sweden, and 836 from the United States (see Figure 1). Females were overrepresented in the sample with 58.19% and the average age was 43.16 years (standard deviation SD = 13.49).

Figure 1. Final Sample



# concepts and measurements

The following account presents the concepts and scales used in the survey. The first section describes the general measures applied across the different work tasks including background variables (e.g. age and gender) and behavioral measurements. The subsequent sections are sorted by task and outlines the specific constructs and scales relevant for each task. These sections also include detailed theoretical descriptions of certain key concepts relating to the tasks. The four tasks are related to: (i) quality of life; (ii) new business models; (iii) changing consumer mindsets and behavior; and (iv) consumer policy implications (see Appendix for detailed information on all scales).

# general measures

Some measures are related to multiple tasks. These measures are background variables and measurements of environmentally friendly fashion behavior. The background variables included in the survey are: country of residence; gender; age; region; education level; income; employment status; and marital status. In order to measure people's fashion behavior, we used the environmental apparel consumption (EAC) scale by Kim & Damhorst (1998). The scale assesses how frequently respondents bought recycled clothing or secondhand apparel, purposely selected apparel products that were energy efficient or less polluting, and avoided or purposely bought products because of environmental concerns. The EAC scale was also used in Mistra Future Fashion Phase I. In addition to the EAC scale, the survey included measurements of self-reported fashion consumption during the last three months and the acquisition mode.



## quality of life and sustainable fashion consumption (task 3.1.1)

It is often thought that the best way to understand a person is to understand his or her goals. The overarching goal of people's lives is commonly recognized as the goal of living a happy and satisfying life. A particularly interesting finding from Mistra Future Fashion phase I was the influence of fashion orientation on happiness and life satisfaction. Generally, people with a style orientation (i.e. people with a distinct mode of tailoring) were found to be happier and more satisfied with their life than people with a fashion orientation (i.e. people with the style prevailing at any given time). This novel finding will be further explored in the survey together with an investigation of the impact of other aspects of sustainable fashion consumption on subjective well-being.

### subjective well-being

In the scientific literature, subjective well-being is separated into two constructs: cognitive well-being (i.e. life satisfaction) and affective well-being (i.e. happiness) (Diener, 1984; Eid & Larsen, 2008). Cognitive well-being is the cognitive evaluation of a person's overall satisfaction with life (Diener et al., 2010). Put in other words, it concerns people's reflective judgment of their lives in comparison with what they want them to be. Thus, cognitive well-being reflects long-term well-being in a more global and abstract manner. In contrast, affective well-being involves the presence of pleasant affect and the absence of unpleasant affect or more simply, feeling good and not feeling bad (Diener et al., 1999). The affective component is comprised of moods and emotions, which represent people's experiential evaluations of the events they encounter in their lives (Larsen, 2000). Affective well-being is therefore expected to fluctuate across moments and situations. In summary, cognitive well-being is the retrospective evaluation of one's life, whereas affective well-being is the experience of life as it goes by. Both constructs of subjective well-being are interesting in relation to sustainable fashion consumption. This relationship has not been thoroughly explored in previous research. However, evidence from more general environmental studies have found a positive relationship between subjective well-being and environmentally friendly behaviors (e.g. Brown & Kasser, 2005). Whether this extends to fashion consumption is an intriguing question to be explored in the survey.

### style orientation

Style and fashion are often used interchangeably, but we argued in Mistra Future Fashion phase 1 that they have a significantly different meaning (Bly, Gwozdz, & Reisch, 2015). While fashion includes following trends, newness and fastness, style is somewhat slower. Style is rather a mean of communicating about yourself, it is perceived as more timeless and enduring than fashion. By freeing clothing consumption from following trends and underlying the pressure of seasonality, style makes it possible to bridge fashion consumption and sustainable consumption (Gwozdz, Gupta, & Gentry, 2017). In a recent study, we found different behaviors for style and fashion orientations, i.e. consumers with a high style orientation show more environmentally friendly behaviors (Gwozdz, Gupta, & Gentry, 2017). Whether this also leads to greater happiness is an interesting research question that we will investigate.

### materialism

Materialism is broadly defined as individual differences in people's long-term endorsement of values, goals, and associated beliefs that center on the importance of acquiring money and possessions that convey status. Much research has been conducted on the association between materialism and subjective well-being. Materialism has consistently been found to negatively influence subjective well-being (Boven & Gilovich, 2003; Dittmar et al., 2014). Thus, the focus on the acquisition of material goods is not a consistent source of happiness and life satisfaction. From a consumer perspective, the endorsement of materialism is traditionally associated with a high level of consumption and with a lack of attention paid to its social and environmental consequences. As a result, research has found a negative relationship between materialism and the performance of sustainable behaviors (Kilbourne & Pickett, 2008). Materialism is similarly found to be more prevalent in consumers with a fashion orientation. The influence of materialism on sustainable fashion behaviors, acceptance of new business models, and subjective well-being is further explored in the survey.

## cross-country comparison of new business models (Task 3.1.2)

The current form of the fashion system is vastly unsustainable. A successful transition of the current fashion system to one in better balance with social and environmental sustainability principles demands rethinking existing business models. Increasingly, new business models with a strong focus on sustainability are entering both local and global markets. While these new business models (e.g. clothing libraries or fashion leasing services) are intriguing, little is known about the consumers' perceptions and willingness to adopt them. In this survey, past experiences with eight of the most promising new business models (as identified by industry experts, focus groups, and research) are examined as well as an assessment of whether consumers would use the new business models in the future. To measure consumers' intention and use of new business model, we developed two new scales as little quantitative research has been conducted on the issue (see Appendix 9.3). To make the scales as valid as possible, industry experts from H&M, Sveriges Konsumenter and Filippa K were incorporated in the development process and provided valuable feedback and suggestions for improvement of the scales.

## changing consumer mindsets and behavior (task 3.2.1)

Consumers are a heterogeneous group consisting of people with different personalities, cultural backgrounds, goals, habits, and cognitive abilities. All these factors have important implications for interventions aiming to change consumer behavior towards sustainability. For example, some consumers might have adequate knowledge about sustainable fashion and are motivated to forego unsustainably-produced garments, but have a tendency to fall prey to the tempting prospects of buying low-priced garments on sale. Others might be able to avoid succumbing to temptations, but have insufficient knowledge about what constitutes sustainable fashion and are unfamiliar with the alternatives to conventional fashion products. In essence, to effectively change fashion consumption in a sustainable direction it is necessary to segment consumers into more homogeneous groups. This involves identifying groups of consumers with similar psychological and consumption-related characteristics. Based on the segmentation, interventions can be developed that specifically target facets in need of improvement (e.g. increasing knowledge of sustainable fashion or make the sustainable choice the easy choice). In the survey, much data is collected concerning the psychological and behavioral characteristics of consumers useful for undertaking a competent segmentation process and ensuing interventions.

### life goals and goal systems

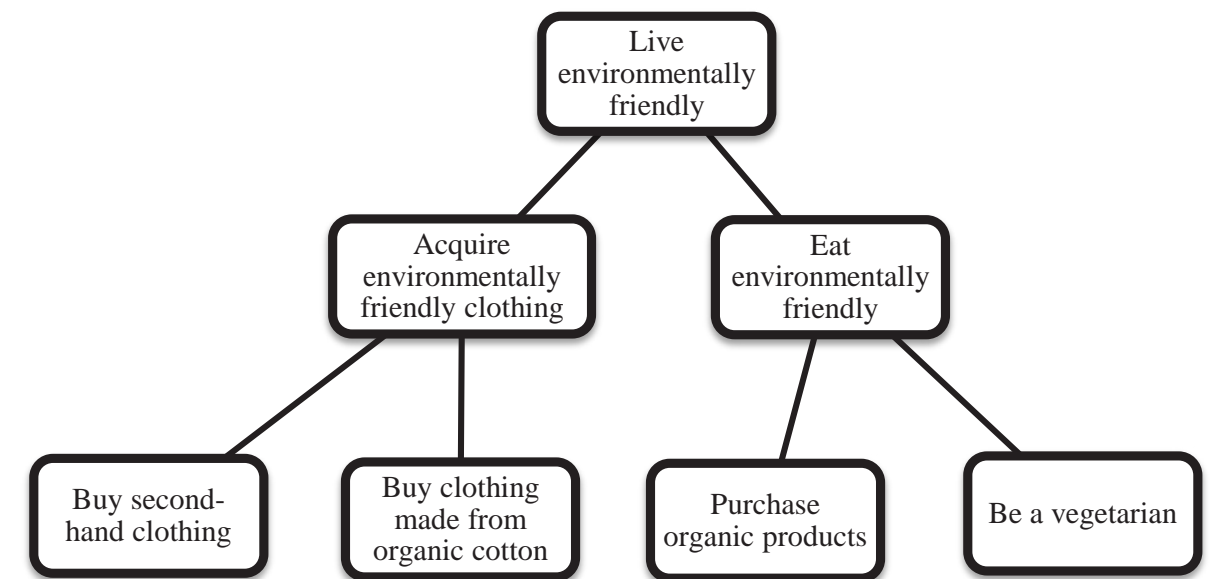
Humans are by nature goal-driven organisms (e.g. Ford, 1992). As a result, it is of particular interest to learn whether people hold personal goals related to sustainability and the degree of importance they attach to these goals. A person's goals are assumed to be represented in a hierarchical system of goals (Carver & Scheier, 1982). At the top of the system are higher-order goals (i.e. life goals) which are highly important to the person, spans over a long period of time, and are abstract and broadly defined (e.g. to live environmentally friendly). Higher-order goals are few in numbers. Due to the abstract nature of higher-order goals, they are organized into lower-order goals, which are more numerous, specific, and proximal (e.g. to acquire environmentally friendly clothing). The lower-order goals are defining of the higher-order goals they represent. Thus, the attainment of higher-order goals is predicated on the attainment of its underlying lower-order goals.





Lower-order goals can be attained through the performance of one or multiple behavior(s) (e.g. purchasing second-hand clothing or clothing made from organic cotton). Understanding the goal structure of consumers is of critical importance to assess the priority attached to sustainability goals, how the goals are defined and organized, and which behaviors they associate with the attainment of these sustainable goals. This knowledge provides a valuable basis for development of more adequately targeted interventions to maximize the effectiveness in changing consumer behavior.

figure 2. Example of a Goal Hierarchy



### evidence-based consumer policy implications (task 3.2.2)

Interventions aiming to change consumer behavior must be supplemented with facilitative policy instruments to boost its effectiveness. This requires revisiting existing consumer policies and their appropriateness in terms of encompassing new and sustainable business models and proposing novel recommendations to modernize policy areas currently acting as a barrier. The novel policy recommendations will be formulated based on the analytic findings in relation to the impacts of sustainable fashion on quality of life, consumers' acceptance of new business models, and the identified action areas from the consumer segmentation process.



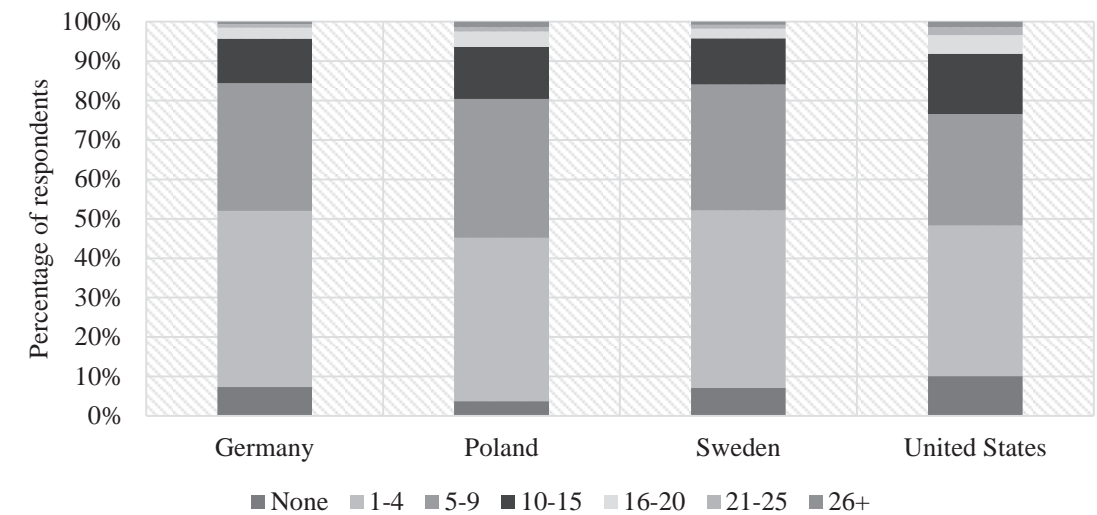
# descriptive findings

The following provides an account of different descriptive findings from the survey. The findings highlighted below relate to general fashion consumption, consumption of jeans and t-shirts, acquisition mode, and acceptance of new business models. To analyze statistical differences between countries, we ran independent t-tests, Kruskal-Wallis H tests, and ANOVAs with post-hoc tests. We do not report any p-values, but mention only differences that are statistically significant.

## general fashion consumption

One of the primary purposes of the survey was to obtain an up-to-date assessment of the general fashion consumption of consumers. In the survey, consumers reported how many clothing items they had acquired and how much money they spent on clothing in the previous three months. During this period, the average consumer acquired 5.74 clothing items worth €153.79. We did observe a large variability in the volume acquired and money spent between consumers. Similarly, notable differences were found between countries. Polish and American consumers acquired the highest number of clothing items and Swedish and German consumers the lowest (see Figure 3). As evident from Figure 3, the vast majority of consumers acquired less than 10 items per quarter, but certain consumers acquired considerably more.

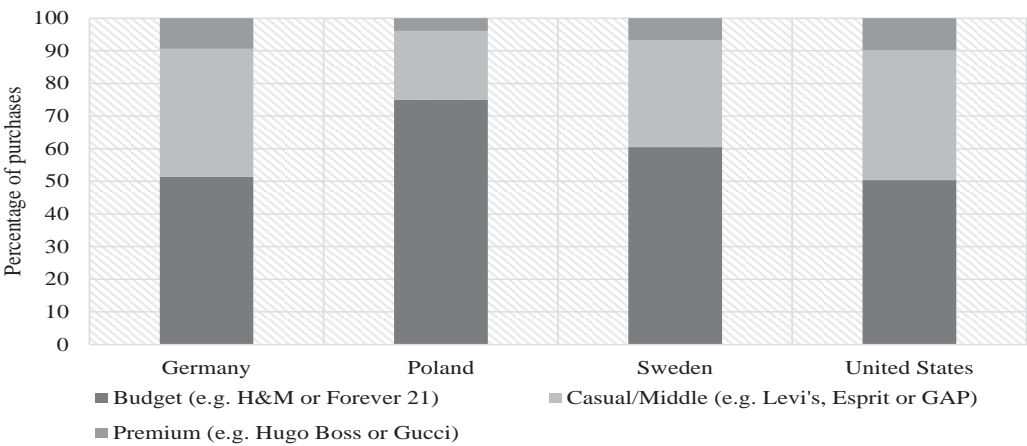
figure 3. Number of Clothing Items Acquired During the Last Three Months



Consumers from the four countries similarly differed in how much money they spent on clothing. Polish consumers reported having the lowest expenditures on clothing and German consumers the highest. The low expenditure of Polish consumers is interesting given their high reported consumption volume (we return to why that might be). A similar finding was observed between gender. Here we found that females reported having a lower expenditure on clothing than males across the four countries, but simultaneously acquiring more products than their male counterparts. These findings may reflect the shops in which consumers acquired their clothing. Specifically, we gathered information on where consumers usually acquired their clothing (see Figure 4): in budget stores (e.g. H&M or Forever 21), in casual/medium stores (e.g. Levi's, Esprit, or GAP); or premium stores (e.g. Hugo Boss or Gucci). German and American consumers acquired more of their clothing in premium and casual/medium stores than Swedish and Polish consumers.

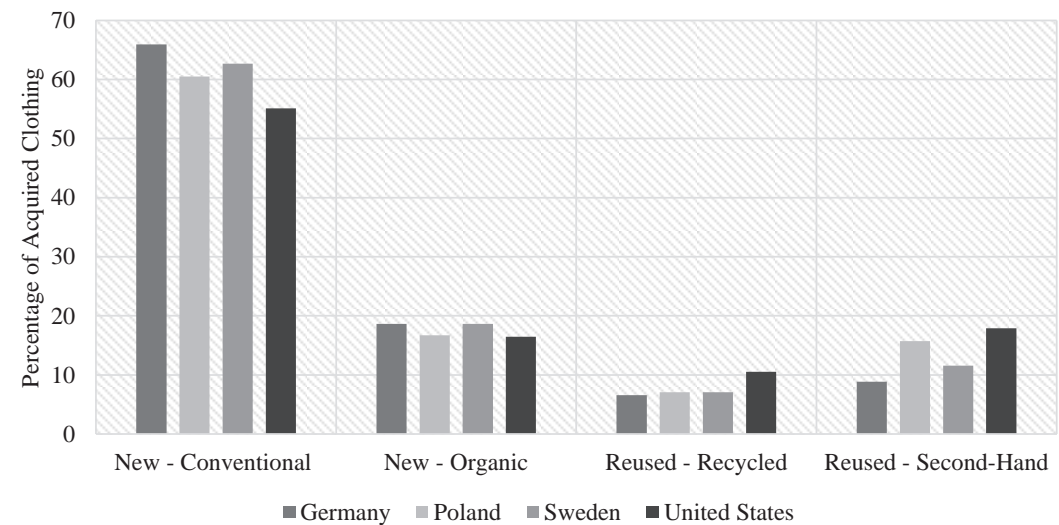
Polish consumers acquired most of their clothing in budget stores and also more than consumers from the other countries. This finding might explain why Polish consumers reported counter-directional consumption behavior in terms of amount of clothing acquired and the associated expenditure. Swedish consumers acquired more of their clothing in budget stores than German and American consumers, but less than Polish consumers.

figure 4. The distribution of acquired clothing across clothing stores



An important factor for the environmentally friendliness of clothing items is the material of the clothing. The consumers reported of which material their acquired clothing was typically made of (see Figure 5). Unsurprisingly, new conventional material was by far the most frequently acquired across the four countries. The most frequently preferred non-conventional material was new organic material. The least preferred material across countries was recycled material. While the limited popularity of non-conventional materials may reflect an absent consumer attraction, it could similarly be the result of a scarce availability of such materials. Unfortunately, the data collected in the present survey cannot determine the underlying causation. Significant differences were observed in the material composition of the acquired clothing between countries. The United States reported the lowest percentage of their clothing being made from new and conventional materials compared to the three other countries. American consumers also distinguished themselves from the rest by having a higher percentage of their clothing coming from recycled materials. Moreover, American and Polish consumers had a stronger preference in their clothing acquisition for second-hand clothing than Swedish and German consumers.

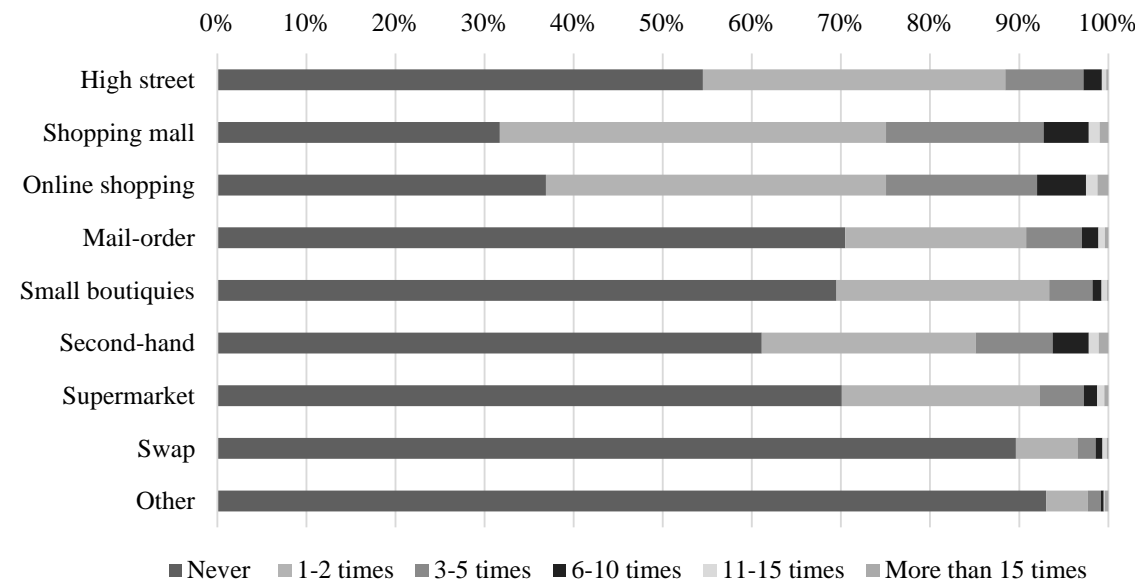
figure 5. The Material of Acquired Clothing



# acquisition mode

The fashion market is in continuous development and this is similarly mirrored in the outlets in which consumers prefer to acquire their clothing. In the survey, consumers reported their use of eight different modes of acquisition (plus an 'other' option) in the previous three months (Figure 6). Across the countries, shopping malls and online shopping were the most frequently used acquisition modes. Interestingly, second-hand stores were reported to be used more often than high street stores. This is somewhat unexpected given the rather limited percentage of clothing acquired of second-hand material. However, from an environmental perspective this is a promising finding due to the assumed lower environmental impact of second-hand clothing. The least frequently used modes of acquiring clothing were through swapping and small boutiques.

figure 6. Frequency of use in past three months



• across the countries, shopping malls and online shopping were the most frequently used acquisition modes. Interestingly, second-hand stores were reported to be used more often than high street stores





# acceptance of new business models

An intriguing exploration of the present survey was how frequently consumers used new and alternative means of acquiring clothing products. The adoption of untraditional modes of acquiring clothing is deemed an essential component of the transition to a sustainable fashion industry. Following the integration of insights from industry experts, eight different new business models were identified. Consumers reported whether they had previously used any of these business models and whether they could imagine using them in the future. The results are illustrated in Figure 7. The most widely used new business models across countries were reselling clothes online (e.g. Ebay) and traditional repair services (e.g. mending clothes yourself or using a tailor). This finding was expected following the widespread popularity of platforms such as Ebay and the fact that traditional repair services have been prevalent in families for generations. The new business models of clothing libraries and fashion leasing had the lowest reported previous use across the countries, which may be the result of the scarce availability of such business models, especially outside metropolitan areas. Given the novelty of the new business models, only limited consumer experience was expected. To accommodate the novelty, the future potential of the business models was also assessed by asking the consumers whether they could imagine using them in the future. Again, reselling clothes online and traditional repair services were the most popular new business models with consumers reporting to be somewhat likely to use them in the future. In relation to incentivized take back services (e.g. leaving clothing for recycling in exchange for a voucher or a buy-back program), fashion rental, swapping markets, and repair services in-store, consumers were more neutral concerning using them over the next three months. Across countries, consumers were unlikely (approaching very unlikely) to use clothing libraries and fashion leasing. These findings might be explained by the availability and accessibility of these new business models. For example, fashion libraries are a new form of business that is – if at all – available in urban areas. In this survey, we asked consumers across all regions within each country. Hence, it does seem reasonable that the majority of consumers are not likely to use these new business models over the next three months.

figure 7. Environmental Clothing Consumption



# environmental clothing consumption

Whereas many of the results reported here hint at the current sustainability of clothing consumption, a supplementary measurement of self-reported environmental clothing consumption was integrated to more specifically assess the sustainability component. The measurement ('Environmental Apparel Consumption' – Kim et al., 1998) includes eight questions that each relate to different aspects of environmentally friendly clothing consumption (see Appendix 9.1.2. for full scale). Across the countries, a moderate level of environmental clothing consumption was reported (mean = 2.68 on a scale from 1 to 5). The only country distinguishing itself was Sweden who reported a significantly lower mean score than the other three countries. This contrasted the pre-existing perception of the Swedish consumer as being sustainability-oriented. However, the reported behavior patterns associated with this scale should be contrasted with the other measures to provide for a more complete picture.

- across the countries, a moderate level of environmental clothing consumption was reported (mean = 2.68 on a scale from 1 to 5)





## summary

The present report provided an overview of a recently conducted survey comprising four countries and outlined the concepts that are going to be further explored in the upcoming deliverables for the Mistra Future Fashion project. The report highlighted a sample of descriptive findings to provide readers with a general overview of the current state of clothing consumption. A key finding from the descriptive analysis was that consumers from the four countries significantly differed in regards to clothing consumption volume and expenditures. Specifically, Polish and American consumers bought the most clothing items over a three-month period. Polish consumers also reported the lowest expenditures on clothing items, which indicates a stronger preference for budget clothing compared to consumers from the three other countries. Another key finding was the low use and acceptance of new business models across all countries. In fact, only reselling clothes online, incentivized take-back services, and traditional repair services were (moderately) likely to be used by consumers in the future. The descriptive analysis also revealed the Sweden differed from Germany, Poland, and the United States in regards to the environmentally friendliness of their clothing consumption, as they generally reported less environmentally friendly consumption patterns than the other countries.

The present report only highlighted a brief subset of the survey findings. The upcoming tasks will present and elaborate on results relating to quality of life and acceptance of new business models as well as formulate consumer policy recommendations based on the survey results.





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Appendix

In the following, the constructs, items, answer categories and literature references are presented in the order of task number.

General Measures  
Background Variables

Concept	Answer Categories
Country of Residence	<ul style="list-style-type: none"><li>• United States of America</li><li>• Poland</li><li>• Sweden</li><li>• Germany</li></ul>
Gender	<ul style="list-style-type: none"><li>• Male</li><li>• Female</li><li>• Other</li></ul>
Age	<ul style="list-style-type: none"><li>• 18 – 24</li><li>• 25 – 34</li><li>• 35 – 44</li><li>• 45 – 54</li></ul>
Region (United States of America)	<ul style="list-style-type: none"><li>• Northeast Region</li><li>• Midwest Region</li><li>• South Region</li><li>• West Region</li></ul>
Region (Poland)	<ul style="list-style-type: none"><li>• Region Centralny</li><li>• Region Północno-Zachodni</li><li>• Region Północny</li><li>• Region Południowo-Zachodni</li><li>• Region Południowy</li><li>• Region Wschodni</li></ul>
Region (Sweden)	<ul style="list-style-type: none"><li>• Östra Sverige</li><li>• Mellan Sverige</li><li>• Norra Sverige</li><li>• Södra Sverige</li><li>• Sydöstra Sverige</li><li>• Västra Sverige</li></ul>
Region (Germany)	<ul style="list-style-type: none"><li>• Baden-Wurttemberg</li><li>• Bayern</li><li>• Berlin</li><li>• Hamburg / Bremen / Schleswig-Holstein / Niedersachsen</li><li>• Hessen / Rheinland-Pfalz / Saarland</li><li>• Mecklenburg-Vorpommern / Brandenburg / Sachsen-Anhalt</li><li>• Nordrhein-Westfalen</li><li>• Thuringen / Saxony</li></ul>
Education - Longest Completed (United States of America)	<ul style="list-style-type: none"><li>• Some high school or less</li><li>• High school graduate</li><li>• Some college</li><li>• College graduate</li><li>• Graduate school degree</li></ul>

Education - Longest Completed (Poland)	<ul style="list-style-type: none"> <li>• Primary / junior high school</li> <li>• Secondary school</li> <li>• Vocational school</li> <li>• University / higher education</li> <li>• Postgraduate education</li> </ul>
Education - Longest Completed (Sweden)	<ul style="list-style-type: none"> <li>• Secondary school</li> <li>• High school / tertiary / tech college</li> <li>• University / higher education</li> </ul>
Education - Longest Completed (Germany)	<ul style="list-style-type: none"> <li>• Secondary school</li> <li>• High school / tertiary / tech college</li> <li>• University / higher education</li> </ul>
Income – After Income Tax (in Dollars) (United States of America)	<ul style="list-style-type: none"> <li>• &lt; 1,500</li> <li>• 1,501 – 1,800</li> <li>• 1,801 – 2,100</li> <li>• 2,101 – 2,500</li> <li>• 2,501 – 3,000</li> <li>• 3,501 – 4,000</li> <li>• 4,001 – 4,500</li> <li>• 4,501 – 5,000</li> <li>• 5,001 – 6,300</li> <li>• 6,301 or more</li> </ul>
Income – After Income Tax (in Zloty) (Poland)	<ul style="list-style-type: none"> <li>• &lt; 1,100</li> <li>• 1,101 – 1,300</li> <li>• 1,301 – 1,600</li> <li>• 1,601 – 1,900</li> <li>• 1,901 – 2,200</li> <li>• 2,201 – 2,600</li> <li>• 2,601 – 3,000</li> <li>• 3,001 – 3,400</li> <li>• 3,401 – 3,800</li> <li>• 3,800 – 4,800</li> <li>• 4,801 or more</li> </ul>
Income – After Income Tax (in SEK) (Sweden)	<ul style="list-style-type: none"> <li>• &lt; 12,000</li> <li>• 12,001 – 14,000</li> <li>• 14,001 – 17,000</li> <li>• 17,001 – 20,000</li> <li>• 20,001 – 24,000</li> <li>• 24,001 – 28,000</li> <li>• 28,001 – 32,000</li> <li>• 32,001 – 36,000</li> <li>• 36,001 – 40,000</li> <li>• 40,001 – 50,000</li> <li>• 50,001 or more</li> </ul>
Income – After Income Tax (in Euro) (Germany)	<ul style="list-style-type: none"> <li>• &lt; 1,000</li> <li>• 1,001 – 1,200</li> <li>• 1,201 – 1,400</li> <li>• 1,401 – 1,700</li> <li>• 1,701 – 2,000</li> <li>• 2,001 – 2,300</li> <li>• 2,301 – 2,700</li> <li>• 2,701 – 3,100</li> <li>• 3,101 – 3,500</li> <li>• 3,501 – 4,500</li> <li>• 4,501 or more</li> </ul>

Employment Status	<ul style="list-style-type: none"> <li>• Employed (35 hours a week or more)</li> <li>• Employed (less than 35 hours a week)</li> <li>• Self-employed</li> <li>• Out of work and looking for work</li> <li>• Out of work and currently not looking for work</li> <li>• A homemaker</li> <li>• A student</li> <li>• Military</li> <li>• Retired</li> <li>• Unable to work</li> </ul>
Marital Status	<ul style="list-style-type: none"> <li>• Married or living together</li> <li>• Divorced</li> <li>• Separated (still married)</li> <li>• Single</li> <li>• Widowed</li> </ul>

clothing behaviour

Concept	Items	Source
Environmental Apparel Consumption	<p>When acquiring clothing items, I ...</p> <p><i>Rated on a 5-point Likert scale (1 = very rarely or never; 5 = very often or always)</i></p> <ul style="list-style-type: none"> <li>• Buy clothes made from recycled material</li> <li>• Buy second-hand clothes</li> <li>• Purposely select fabrics that require cooler washing temperature, shorter dying time, or less ironing</li> <li>• Avoid clothes products because of environmental concerns</li> <li>• Select clothes that you can wear over a longer term compared to trendy clothes that go out of style quickly</li> <li>• Buy clothing made from organically grown natural fibers</li> <li>• Buy clothes with low impact or no dye processing</li> </ul> <p>Buy clothes with environmentally friendly labelling or packaging techniques</p>	<p>Kim, H. S., &amp; Damhorst, M. L. (1998). Environmental concern and apparel consumption.</p> <p><i>Clothing and Textiles Research Journal</i>, 16(3), 126-133.</p>



Clothing Consumption	<p>1. How many items of clothing did you acquire during the last three months?</p> <ul style="list-style-type: none"><li>• None</li><li>• 1-4</li><li>• 5-9</li><li>• 10-15</li><li>• 16-20</li><li>• 21-25</li><li>• 26 or more</li></ul> <p>2. How much money did you spend on clothes within the last three months (indicated in relevant currency)?</p> <ul style="list-style-type: none"><li>• Numeric value</li></ul> <p>3. At which stores do you typically acquire your clothes?</p> <p><i>Indicated by a total sum of 100%</i></p> <ul style="list-style-type: none"><li>• Premium (e.g. Hugo Boss or Gucci)</li><li>• Casual / middle (e.g. Levi's, Esprit, or Gap)</li><li>• Budget (e.g. H&amp;M or Forever 21)</li></ul> <p>4. Of which material is the clothing you acquire typically made of?</p> <p><i>Indicated by a total sum of 100%</i></p> <ul style="list-style-type: none"><li>• New – conventional material</li><li>• New – organic material</li><li>• Reused – recycled material</li><li>• Reused – second-hand material</li></ul> <p>5. How do you typically discard your unwanted clothing?</p> <p><i>Indicated by a total sum of 100%</i></p> <ul style="list-style-type: none"><li>• Second-life (e.g. donating, recycling programs, flea-market, passing on to family)</li><li>• Downcycling (e.g. use as rags)</li><li>• Trash</li></ul>	Own measurements
Acquisition Mode	<p>In the last three months, how frequently did you approximately use the listed modes to acquire new clothes?</p> <p><i>Rated from 1 (never) to 7 (more than 15 times)</i></p> <ul style="list-style-type: none"><li>• High street</li><li>• Shopping mall</li><li>• Online shopping</li><li>• Mail-order</li><li>• Small boutiques</li><li>• Second-hand (e.g. shop, flea market, Ebay)</li><li>• Supermarket</li><li>• Swap (i.e. exchange / barter of clothes)</li><li>• Other: (please indicate)</li></ul> <p>25</p>	<p>Own measurements</p> <p>Own scale</p>

# Quality of life and Sustainable Fashion Consumption (task 3.1.1)

Concept	Items	Source
Cognitive Well-Being (Life Satisfaction)	<p>Please indicate your agreement with the following statements.</p> <p><i>Rated on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree)</i></p> <ul style="list-style-type: none"><li>• In most ways my life is close to my ideal</li><li>• The conditions of my life are excellent</li><li>• I am satisfied with my life</li><li>• So far I have gotten the important things I want in life</li><li>• If I could live my life over, I would change almost nothing</li></ul>	Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. <i>Journal of Personality Assessment</i> , 49(1), 71-75.
Affective Well-Being (Happiness)	<p>Please think about what you have doing and experiencing during the past four weeks. Then report how much you experienced each of the following feelings.</p> <p><i>Rated on a 5-point Likert scale (1 = very rarely or never; 5 = very often or always)</i></p> <ul style="list-style-type: none"><li>• Positive</li><li>• Negative</li><li>• Good</li><li>• Bad</li><li>• Pleasant</li><li>• Unpleasant</li><li>• Happy</li><li>• Sad</li><li>• Afraid</li><li>• Joyful</li><li>• Angry</li><li>• Contended</li></ul>	Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D. W., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. <i>Social Indicators Research</i> , 97(2), 143-156.

Style Orientation	Will be updated when the paper is published.	Armstrong, C. - unpublished manuscript
Materialism	<p>Please indicate your agreement with the following statements.</p> <p><i>Rated on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree)</i></p> <ul style="list-style-type: none"> <li>• I usually buy only the things I need (R)</li> <li>• I try to keep my life simple, as far as possessions are concerned (R)</li> <li>• The things I own aren't that important to me (R)</li> <li>• I enjoy spending money on things that aren't practical</li> <li>• Buying things gives me a lot of pleasure</li> <li>• I like a lot of luxury in my life</li> <li>• I admire people who own expensive possessions (such as homes, cars and clothes)</li> <li>• Some of the most important achievements in life include acquiring material possessions</li> <li>• The things I own say a lot about how well I'm doing in life</li> <li>• I like to own things that impress people</li> <li>• My life would be better if I owned certain things that I don't currently have</li> <li>• I'd be happier if I could afford to buy more things (possessions)</li> </ul> <p>It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like</p>	<p>Richins, M. L. (2004). The material values scale: Measurement properties and development of a short form. <i>Journal of consumer Research</i>, 31(1), 209-219.</p>

## Cross-Country Compersion of New Business Models (task 3.1.2)

Concept	Items	Source
Acceptance of New Business Models (Use)	<p>Have you previously used the following?</p> <p><i>Indicate 'Yes' or 'No'.</i></p> <ul style="list-style-type: none"> <li>• Clothing libraries (e.g. similar to book libraries)</li> <li>• Fashion rental (e.g. special occasion like weddings or carnival)</li> <li>• Fashion leasing (e.g. similar to car leasing)</li> <li>• Swapping markets (swapping clothes without payment)</li> <li>• Reselling clothes online (e.g. Ebay)</li> <li>• Incentivized take back services (e.g. leaving clothing for recycling in exchange for a voucher or a buy-back program)</li> <li>• Traditional repair services (e.g. mending clothes yourself, tailor)</li> <li>• Repair services in-store (e.g. Nudie Jeans)</li> </ul>	Own scale
Acceptance of New Business Models (Intention)	<p>Could you imagine using the following in the future?</p> <p><i>Rated from 0 (very unlikely) to 100 (very likely).</i></p> <ul style="list-style-type: none"> <li>• Clothing libraries (e.g. similar to book libraries)</li> <li>• Fashion rental (e.g. special occasion like weddings or carnival)</li> <li>• Fashion leasing (e.g. similar to car leasing)</li> <li>• Swapping markets (swapping clothes without payment)</li> <li>• Reselling clothes online (e.g. Ebay)</li> <li>• Incentivized take back services (e.g. leaving clothing for recycling in exchange for a voucher or a buy-back program)</li> <li>• Traditional repair services (e.g. mending clothes yourself, tailor)</li> <li>• Repair services in-store (e.g. Nudie Jeans)</li> </ul>	Own scale



# Changing Consumer Mindsets and Behaviour (task 3.2.1)

Concept	Items	Source
Fashion Consciousness	<p>Please indicate your agreement with each of the following statements.</p> <p><i>Rated on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree)</i></p> <ul style="list-style-type: none"><li>Fashionable, attractive clothing is very important to me</li><li>Keeping up with the latest fashion is important to me</li><li>I spend considerable time and effort to learn about the latest fashion</li><li>I keep my wardrobe up-to-date with the changing fashions</li><li>I usually have one or more outfits of the very new fashion</li><li>I consciously choose something that reflects the current fashion</li></ul>	<p>Sprotles, G. B., &amp; Kendall, E. L. (1986). A methodology for profiling consumers' decision-making styles. <i>Journal of Consumer Affairs</i>, 20(2), 267-279.</p>
Life Goals	<p>Please indicate whether the following is an important personal goal for you.</p> <p><i>Rated on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree)</i></p> <ul style="list-style-type: none"><li>To have enough money to buy everything I want</li><li>To have my name known by many people</li><li>To have an image that others find appealing</li><li>To grow and learn new things</li><li>To have committed, intimate relationships</li><li>To help people in need</li><li>To keep myself healthy and well</li><li>To live environmentally friendly</li></ul>	<p>Kasser, T., &amp; Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. <i>Personality and Social Psychology Bulletin</i>, 22, 280-287.</p>
Goal Commitment	<p>Please indicate your agreement with the following statements related to the goal of “living environmentally friendly”.</p> <p><i>Rated on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree)</i></p> <ul style="list-style-type: none"><li>Quite frankly I don’t care if I achieve this goal or not (R)</li><li>I am strongly committed to this goal</li></ul>	<p>Hollenbeck, J. R., Klein, H. J., O’Leary, A. M., &amp; Wright, P. M. (1989). Investigation of the construct validity of a self-report measure of goal commitment. <i>Journal of Applied Psychology</i>, 74, 951-956.</p> <p>DeShon, R. P., &amp; Landis, R. S. (1997). The dimensionality of the</p>

	<ul style="list-style-type: none"><li>It wouldn’t take much to abandon this goal (R)</li><li>I think this goal is a good goal to shoot for</li></ul> <p>I am willing to put in a great deal of effort to achieve this goal</p>	<p>Hollenbeck, Williams, and Klein (1989) measure of goal commitment on complex tasks. <i>Organizational Behavior and Human Decision Processes</i>, 70(2), 105-116</p>
Goal Value	<p>What is your attitude towards living environmentally friendly? <i>Rated on a 7-point bipolar scale</i></p> <ul style="list-style-type: none"><li>Bad – Good</li><li>Harmful – Beneficial</li><li>Foolish – Wise</li></ul> <p>Unpleasant – Pleasant</p>	<p>Kruglanski, A. W., Jasko, K., Chernikova, M., Milyavsky, M., Babush, M., Baldner, C., &amp; Pierro, A. (2015). The Rocky Road From Attitudes to Behaviors: Charting the Goal Systemic Course of Actions. <i>Psychological Review</i>, 122(4), 598-620.</p>
Lower-Order Goal Association	<p>To what extent does acquiring environmentally friendly clothing reflect your goal of “living environmentally friendly”?</p> <p><i>Rated on a 7-point Likert scale from 1 (not at all) to 7 (very much)</i></p>	<p>Devezer, B., Sprott, D. E., Spangenberg, E. R., &amp; Czellar, S. (2014). Consumer well-being: Effects of subgoal failures and goal importance. <i>Journal of Marketing</i>, 78(2), 118-134.</p>
Importance of Lower-Order Goal	<p>How important is it for you to acquire clothing in an environmentally friendly way?</p> <p><i>Rated on a 7-point Likert scale from 1 (not important) to 7 (very important)</i></p>	<p>Devezer, B., Sprott, D. E., Spangenberg, E. R., &amp; Czellar, S. (2014). Consumer well-being: Effects of subgoal failures and goal importance. <i>Journal of Marketing</i>, 78(2), 118-134.</p>
Self-Efficacy of Lower-Order Goal	<p>I am confident that the next time I want to acquire clothes, I can do it in an environmentally friendly way.</p> <p><i>Rated on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree)</i></p>	<p>Galla, B. M., &amp; Duckworth, A. L. (2015). More than resisting temptation: Beneficial habits mediate the relationship between self-control and positive life outcomes. <i>Journal of personality and social psychology</i>, 109(3), 508-525.</p>
Lower-Order Goal Intention	<p>I intend to acquire mainly environmentally friendly clothing.</p> <p><i>Rated on a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree)</i></p>	<p>Galla, B. M., &amp; Duckworth, A. L. (2015). More than resisting temptation: Beneficial habits mediate the relationship between self-control and positive life outcomes. <i>Journal of personality and social psychology</i>, 109(3), 508-525.</p>



Mistra Future Fashion is a research program that focuses on how to turn today's fashion industry and consumer habits toward sustainable fashion and behavior. Guided by the principles of the circular economy model, the program operates cross disciplinary and involves 50+ partners from the fashion ecosystem. Its unique system perspective combines new methods for design, production, use and recycling with relevant aspects such as new business models, policies, consumer science, life-cycle-assessments, system analysis, chemistry, engineering etc.

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