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### **Fashion misfit: women's dissatisfaction and its implications**

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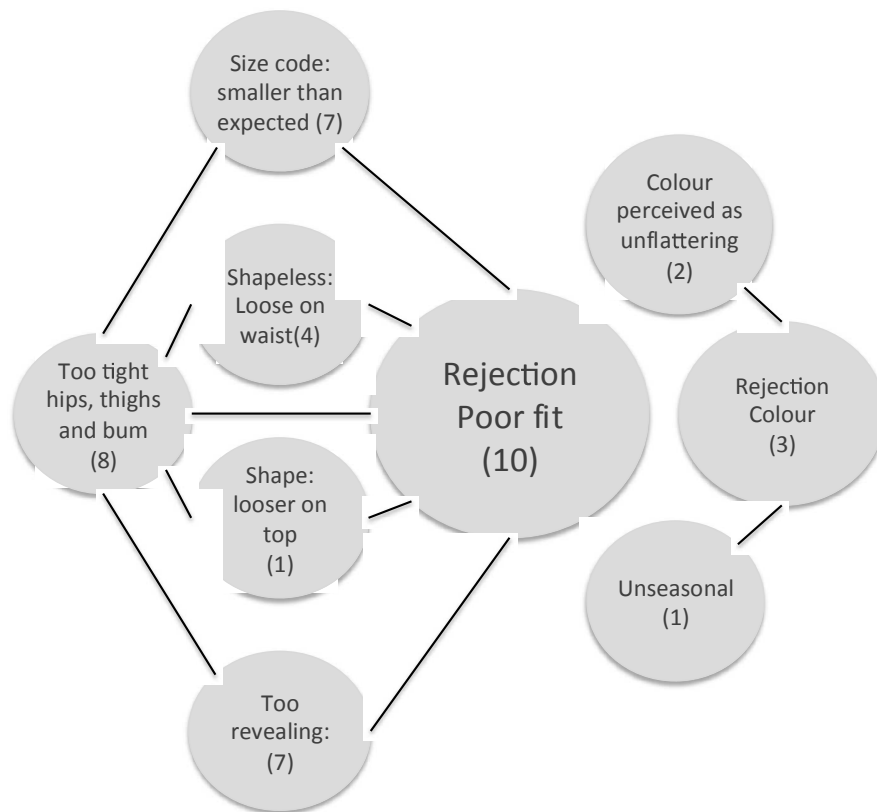


Figure 1 Themes and links between themes (numbers of women reporting each theme are in parentheses)

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Journal of Fashion Marketing and Management

Retailer	Code	Description	Colour	Fabric	Cost
H&M	H&M-PktTunic	Plain garment with little bust, waist or hip shaping. Garment cut as a simple tunic style	3 x Pink	100% Polyester	£24.99
	H&M-ShrtButtn	Fitted style with shirt placket opening to waist level, capped sleeves and collar detail.	3 x Salmon	97% Cotton 3% Elastane	£24.99
New Look	NL-FCapeTea	Fitted bodice, with flared skirt, capped sleeves and collar detail.	1 x Scarlet (10)	100% Polyester	£27.99
			2 x Blue (12/14)		
	NL-Shrt	Short sleeve, loose fit dress, with flared lower skirt and unfitted bodice, belt provided to cinch in waist and placket opening to waist level	3 x Blue Floral Print	100% Viscose	£27.99
Marks and Spencer	M&S-Twist	Fitted dress style, with exposed CB zip and twist detail above bust area on the bodice	6 x Red	100% Polyester	£39.50
Topshop	TS-PltTunic	Fitted tunic style, with exposed CB zip and pleat detailing on the front of the bodice.	1 x Purple (10)	Main 100% Polyester Lining 100% Acetate	£46.00
			2 x Green (12/14)		
	TS-DrapeDtl	Loose fitted, long sleeve, with slit opening down CB. Skirt is full with unfitted bodice, elastic and a belt at the waist provides shaping.	2 x Cream and Yellow (10/12) 1 x Blue and Green (14)	100% Polyester	£55.00

Table 1 details of dresses

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**Fashion Misfit: women’s dissatisfaction and its implications**

**Structured Abstract:****Purpose**

This study draws attention to under-developed and ill-informed sizing practices, fit dissatisfaction and the creation of textiles waste. The literature review identifies: issues that limit the effective development and application of sizing systems, the link between the complexities of consumer fit expectations, body image and self-esteem and maps the link between fit dissatisfaction and the creation of textiles waste.

**Methodology**

Data analysis draws from a wider study designed to investigate women's experiences of dress fit and body image. 20 women aged 18-45 years were audio-recorded while they tried on a number of mass-produced dresses, and were asked to select one dress, which they could keep.

**Findings**

All the dresses were selected except one style, which failed to satisfy any of the women's fit requirements. The findings identify why this dress was considered to be unsatisfactory and highlight the subsequent link between poor fit and body dissatisfaction.

**Social implications**

Findings support the theory that women identify with their clothes' size and when this link is disrupted it causes discomfort and body dissatisfaction which in turn contributed to rejection of the garment.

**Originality/value**

This study is the first to link unsatisfactory fashion sizing practice with the production of textiles waste. The process of capturing women's interactions with high street fashion dresses whilst trying them on, enabled a detailed analysis that contributes new evidence to the debate around sizing practice, poor fit and its impact on body image and self-esteem.

**Key words**

Sizing, fit, fashion, body image, consumer satisfaction, textiles waste

## Introduction

### *The historical development of UK women's sizing systems*

Sizing systems for mass-produced clothing should meet the size needs of a whole and varied population. However, systems both in the UK and globally have been the focus of much criticism both from academic authors (Beazley, 1998; Winks, 1997; Ashdown, 1998; Lee et al., 2007; Gill, 2015) and the popular press (Shabi, 2004; Fox, 2007; Smithers, 2011; Street Porter, 2016). This study provides further evidence to show that current methods of sizing are unsatisfactory and highlights the resulting implications on body image and the creation of textiles waste.

In the UK, clothing was constructed on an individual basis well into the 20<sup>th</sup> century (Kunick, 1984; Aldrich, 2007). This individual approach enabled the tailor or dressmaker to adjust garments for each specific wearer. Manufacturing skills and the application of body measurement were developed within this context. The introduction of mass production, initially in America and later in Europe, eliminated the opportunity to fit on the individual. It is this change that initiated the need to solve a far more complex problem, involving statistical analysis of data sets and the development of new sizing systems. New skills and data sets were therefore in demand in the clothing industry.

To gather anthropometric data for mass-produced clothing, scientific sizing surveys were initiated. The first, in America during the 1940s, collected data from approximately 1500 female agricultural workers (O'Brian and Shelton, 1941). This became a model for future surveys including one in the UK, in 1951 (Kemsley 1957). The UK survey report recommended that at least three female body shapes should be considered in subsequent sizing systems (Kunick, 1984; Winks, 1997). However, British retailers' based their systems on only one body shape and up until fairly recently this practice remained unchanged (Bougourd, 2007; Gribbin, 2014). Sizing systems are influenced by two conflicting needs: to provide the most appropriately fitting garments for a population, and to reduce costs for the manufacturer (Ashdown, 1998; Ashdown, 2014). Basing systems on one body shape reduces the number of sizes, which can reduce costs for the manufacturer. Studies conducted in a variety of

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3 countries have demonstrated the limitations of this narrow approach when applied to  
4 large populations (Tamburrino, 1992a; Winks, 1997; Ashdown, 1998; Beazley, 1996;  
5 Lee *et al.*, 2007; Gill, 2008). There is also evidence to show that sizing and grading  
6 practices predate these large scale surveys, raising questions regarding their  
7 grounding in population differences (Schofield and LaBat, 2005).  
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## 11 12 13 **Literature Review**

### 14 15 ***Current problematic sizing practice***

16  
17 A number of issues can be identified that result in problematic sizing practice  
18 including; subjective fit evaluation; the failure to recognise variances in body shape;  
19 changes in purchasing behaviour as a result of online consumption; and the preference  
20 for idealised body shapes within the fashion industry.  
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23  
24 Many large scale sizing surveys, using 3D body scanning technologies, have  
25 been conducted globally (Yu, 2004; King, 2014). However in order to apply the  
26 survey findings effectively further research is required. Recent studies demonstrate  
27 that outmoded and inappropriate practice has prevailed in many clothing companies  
28 (Ashdown and O'Connell, 2006; Brownbridge, 2012; Gribbin 2014). To establish fit  
29 each individual prototype garment is fitted on a fit model, whose body conforms to a  
30 company's sample size (Pisut and Connell, 2007; Wren and Gill, 2010; Ashdown,  
31 2014). This method replicates historical practice used when garments were  
32 constructed for individuals. **Bye et al. (2008) evaluated industry grading practice and  
33 found that it did not provide good fit. They condemned commonly used sizing  
34 practice comprising of: fitting prototypes on a model who complies to a small sample  
35 size, grading this prototype to develop a range of sizes, failing to conduct any further  
36 fit tests. It was suggested that fit tests should be conducted throughout the size range.**  
37  
38 Although it may be logical to test the fit of prototypes, it is difficult to see how  
39 creating good fit on one person can achieve good fit for a population of people. In fact  
40 a previous study that compared 3D body data from 637 women and a retailer's fit  
41 model demonstrated that this method is not appropriate. Only nine of the women were  
42 found to conform to the bust waist and hip measurements of the fit model. Further  
43 visual analysis of the 3D images showed postural, height and proportional variance  
44 (Brownbridge et al. 2014). No matter how rigorous the fit testing process is, once the  
45 item of clothing is worn by anyone other than the fit model, the fit relationship  
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changes and is likely to be compromised. In addition this method of achieving fit is said to rely on subjective personal judgement (Fan *et al.*, 2004; Ashdown and O'Connell 2006) and create bottlenecks and expensive iterations within the product development cycle (Brownbridge 2012).

The failure to recognise more than one body shape within a population has been discussed in previous studies (Gill and Brownbridge, 2015; Gribbin, 2014). Although there may be production savings when producing a reduced number of sizes, there must also be a cost related to the alienation of consumers who are dissatisfied with fit and the inevitable returns of clothes to retailers. This is of particular concern because the online sector eliminates the ability to try garments on before purchase and is becoming increasingly popular. It is perhaps understandable therefore that 54% of young women, aged 16-24 have said that they have returned clothes bought online and nearly half of these blame poor fit for their dissatisfaction (Goody, 2016).

An issue that is more reflective of the aspirational nature of fashion is the use of idealised bodies during design and development processes. This has led to a focus on slim female bodies. Designs are conceptualised on exaggeratedly tall slim templates (Brownbridge, Gill and Sanderson 2014). Garments tend to be produced for a slim female body (in the UK a size 10 or 12) (Jenkin Jones 2005; Bougourd 2007), yet according to the findings from SizeUK (Taylor 2004) the average woman is larger than a size 10 or 12. If designers and product developers are predominantly focusing on slim female bodies they are unlikely to be addressing the specific preferences of the increasing number of larger women. Studies show that women tend to have very specific preferences according to their body size and shape (Apeageyi, 2008; Grogan *et al.*, 2013). This tendency to only use idealised body shapes must surely have a negative impact on the ability to satisfy the preferences of a varied population.

#### ***Non-standard and inconsistent sizing provision***

Any attempts to introduce sizing standardization at a national level, let alone globally have failed (Winks 1997). It is left up to each individual retailer to develop their own system of sizing. This current lack of standardization has been claimed to create more choice for the consumer (Workman 1991) and this opinion is often cited in popular discussion of sizing (Hardy, 2011; Shabi, 2004). It is hard to see how such a haphazard approach presents a solution. In fact, it causes much confusion as sizes

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3 between retailers vary so much. Whilst there is evident variation in UK sizing (Gill,  
4 2016) this does not equate to similar variation in proportional (shape) offerings in  
5 existing sizing (Gill, 2015).  
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8 Size coding used to communicate the size of the garment to the consumer  
9 presents further opportunities for inconsistency and non-standardisation. Both the  
10 methods of communicating size and the amount of increment between sizes vary  
11 (Winks, 1997). Kinley (2003) recognised the frustration that sizing inconsistency  
12 causes women and investigated the extent to which sizes vary on the high street. An  
13 evaluation was conducted on trousers,. 1011 pairs were measured at the waist, inseam  
14 and crotch. Measuring garments bought from retailers to establish variance is not an  
15 exact science, as it is difficult to distinguish between dimensional variance caused by  
16 styling choices from those caused by size chart variance. The study did however  
17 indicate a large degree of dimensional inconsistency across a range of providers  
18 within single sizing categories. Kinley (2003) recommended a de-emphasise of the  
19 number on the size label in order to focus on achieving comfort through appropriate  
20 fit.  
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29 A more recent study collected all the published size chart data from UK  
30 retailers and presented it in a visual format to guide consumers (Powell-Smith, 2012).  
31 This study highlights sizing inconsistency in the UK and the generous press attention  
32 received by this work indicates a high level of public interest. Vanity sizing, a  
33 strategy used by retailers to flatter women into thinking they are a smaller size than  
34 they expect to be (Shabi, 2003) has also been criticised for creating further  
35 inconsistency between retailers (Labat, 2007, Kennedy 2009). Size coding systems  
36 are not being used as a consistent means to communicate garment size, but as a  
37 marketing tool. Further complicated by the global nature of the industry, often  
38 resulting in the inclusion of multiple size codes from various global regions on one  
39 label (British Standards Institute, 2002).  
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#### 48 ***Garment fit and the female body***

49 If sizing systems consistently fail to meet the fit needs of a broad range of  
50 consumers, the subsequent implications are more than just economic losses for the  
51 retailer. The way a garment fits a person has been found to signal a range of subtle  
52 messages to the wearer about their body. Women can monitor changes of body size  
53 by the fit of their clothes. They identify with their clothes' size and blame their own  
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3 bodies if clothes do not fit. This can impact on body image, self esteem and identity  
4 (Labat and DeLong 1990; Grogan et al. 2013; Grogan 2016;).  
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6 This present study presents a very focused analysis of apparel related data  
7 from a larger interdisciplinary study, which interviewed and observed women when  
8 they were trying dresses on. The initial output focussed on the women's comments in  
9 relation to dress fit and body image (Reference blinded for peer review). The thematic  
10 analysis found a consistent preference for the slim hourglass body shape. These  
11 aspirational preferences influenced the choices women made; they tended to seek  
12 garments that balanced the hip and bust dimensions, created a well-defined waist, and  
13 avoided styles that made them feel larger. Participants wanted the dresses to conceal  
14 body regions that they thought were unattractive or socially inappropriate and  
15 emphasise regions that they thought enhanced their attractiveness. The desire to  
16 conform to the slim hourglass body relates to the idealised fashion body used by the  
17 industry for shop mannequins, catwalk models and models used to sell clothing  
18 online.  
19

20 De Klerk and Tselepis (2007) explored the relationship between fit evaluation, fit  
21 expectation and fit satisfaction for adolescent female consumers. They found that  
22 consumer fit preferences were influenced by a range of characteristics, such as  
23 comfort, the ability to flatter the body, suitability for the occasion and adherence to  
24 current fashion. Apeageyi (2008) found that 77% of survey respondents experienced  
25 problems with garment fit relating to specific problematic body locations. They  
26 sought clothes that enhanced their body shape and were aware if their own body  
27 shape did not conform to industry standards. Shim and Bickle (1993) focused on  
28 women aged 55 and over. Differences in fit satisfaction between tall, medium and  
29 petit women were compared. This study demonstrated that satisfaction levels were  
30 low and identified specific issues such as length of trousers, skirts and dresses as  
31 problematic. Indication that sizing systems were not catering for a diverse range of  
32 heights was evident. It was recommended that retailers should address this lack of  
33 diversity and introduce sizing systems that cater for various heights and different  
34 ages. 25 years later, most fashion retailers are still operating limited sizing systems  
35 and fit problems are still manifest.  
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37 Eckman et al. (1990) included fit analysis within a broader context whilst  
38 exploring the decision making processes, consumers experience when purchasing  
39 apparel. 80 women were interviewed in two stores in the same city. The women were  
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only questioned after they had tried garments on, so observation on how the garments were selected were retrospective. Three decision making phases were identified; the selection of the garment (the interest phase), the trial phase (in the changing room) and the purchase decision (to buy or reject). Results suggested that women focus on different characteristics during the initial selection of the garment (colour/pattern, styling and fabric) than they do when they decide to purchase a garment (fit and appearance) or reject a garment (fit, appearance and styling).

All these studies show that fit assessment at an individual level is subtle and complex and women's fit expectations relate to interpretations of bodily aspirations. If these expectations are not acknowledged by fashion product developers the subsequent garments are more likely to remain unsold or returned post purchase.

### ***The clothing industry's contribution to waste***

Unsold garments and returns are both signifiers of non-sustainable fashion practice. A growing number of studies are acknowledging that current fashion systems do not comply with definitions of sustainability. Cataldi et al. (2013) blame fast fashion production for causing serious environmental damage including: the depletion of fossil fuel and fresh water reservoirs; contamination through pesticides use and synthetic fibre production and the release of toxic waste water pollutants. Given that the production of clothing can be so harmful it is appalling that such a high percentage is discarded so casually. According to Fletcher (2014) 1.1 million tonnes of textiles (approximately 18 kg per person) are discarded every year in the UK. Lapolla and Sanders (2015) reported on figures from the environmental protection agency of just over 41 kilos of clothing and textiles wasted per person every year in the US. Textiles waste in landfill sites produces methane emissions, pollutes the ground and can contaminate water systems. Levels of waste disposal appear to be growing as consumption levels rise (Fletcher 2014).

Waste is also generated by the production of fashion ranges that are rejected by the consumer and never leave the store, forcing redistribution (Grose, 2013). Businesses like *TK Maxx* buy up and sell unsuccessful lines. The vast scale of this global player is an indication of how significant the quantities of unsold fashion goods are. Even more worrying are the reports of clothing being sent straight from the shop to landfill. *H&M* and *Walmart* have both been accused of slashing or damaging unsold clothing, before leaving it out for municipal rubbish clearance providers

(Dwyer, 2010). Reports also claim that faulty goods are incinerated even before they get into the store (Grose 2013).

The link between inconsistent and limited sizing systems and the creation of textiles waste has not been previously addressed. This study identifies the relationship between current sizing practice and waste creation, by analysing responses about one particular dress, which was rejected by 100% of women in the larger study focusing on dress fit and body image (reference blinded for peer review).

### **Methodology**

The project involved a multi-disciplinary team of researchers from Manchester Metropolitan University and Health Psychology researchers from Staffordshire University. Qualitative data were collected whilst participants were trying garments on, and in subsequent interviews (see reference blinded for peer review for linked psychology research from the larger study). A variety of dress styles were purchased from four UK retailers (see table 1). Participants were told that they could take one of these dresses home with them. At the end of the data collection period, all the dresses had been selected except one particular style. The data analysis for this study seeks to determine the reasons why this dress remained on the rails, rejected by all 20 participants.

### ***Recruitment of Participants***

20 Participants were recruited by word of mouth and email, sent initially through a university network then snowballing to include a wider demographic. This study was designed as an in depth, qualitative study and therefore the number of participants were limited to 20 in order to enable a thorough analysis of the rich data. The majority of participants worked in administrative roles, with only two of the 20 recruited having direct clothing industry experience. All were between 18 – 45 years old and self-selecting as a UK size 10, 12 or 14. One participant self-identified as a size 14, eight as size 12 and eleven as 10. It was not possible to ascertain why less women who were a size 14 volunteered for this study but speculatively it is possible that women who are smaller are more comfortable about talking about their bodies. The limitation on size was implemented because dresses were purchased specifically for this study. Restricting the size range of the participants meant that a greater variety of

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3 dresses could be purchased with the limited funding that was available. Each  
4 participant was given a separate timeslot. Dress availability was a factor that required  
5 careful management in order to ensure there was one of an appropriate size available  
6 for everyone who participated. Participants were sent details explaining research  
7 procedures in advance and consent forms were completed before data collection.  
8 Women agreed for quotes to be used anonymously in reports.  
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#### 14 ***Retailer and garment selection***

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16 Four retailers (*H&M; M&S; Newlook; Topshop*) were selected from a larger sample  
17 who matched the criteria of: providing dresses in sizes 10-14; having a national UK  
18 presence; providing primary sizing data online and having retail outlets marketing to  
19 consumers between 18 – 45. Dresses were chosen because they have a fit relationship  
20 with the primary (bust) and secondary (waist and hip) dimensions used to designate  
21 clothing size to the customer (BSI 2002). A total of 24 dresses were purchased (Table  
22 1) from the retailers where they had available stock in 10 – 14. The dresses were  
23 selected in order to provide a wide selection of styles in order to replicate what would  
24 typically be available to them during a shopping visit to one of the selected retailers.  
25 Where possible, each style of dress was purchased in only one colour in order to  
26 differentiate between the influence of garment characteristics (style and colour)  
27 during the selection process. All the dresses were made from woven non-stretch fabric  
28 except one which was slightly stretchy due to its 3% elastane fibre content. During the  
29 research garments were coded (Table 1) using either the codes on the swing ticket or a  
30 short abbreviated code to make managing data easier.  
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#### 48 ***Coding of the participants to preserve anonymity***

49 Each participant was provided with a unique code, these codes were then converted to  
50 alphabetic letters and full names beginning with that letter for qualitative results  
51 relating to wearer perceptions. This coding retained the anonymity of the participants.  
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### *Qualitative data collection*

The initial stage was for each participant to select a dress from the seven different styles provided. They could try as many of the dresses on as they liked before they made their final decision. This stage was set up to mimic the decision-making processes that take place when a garment is purchased within a store. The selection stage was broken down in to two separate processes:

- assessment and selection from the rail when the garment was still on the hanger
- assessment of the dress on the body and the subsequent selection or rejection.

Women were provided with a private cubicle with a mirror. Once they had the dresses on they were joined by one of the researchers who audio recorded their observations as they tried the dresses on. A further short interview probed into their body image perceptions related to their selected garment. All the data were transcribed.

### *Analysis of the results*

Although the aim of the larger interdisciplinary study was to investigate women's experiences of dress fit and body image, it became clear during the analysis that one particular dress was constantly rejected. This rejection was of particular concern for the apparel experts, both of whom have research interests in sizing and garment fit. Therefore a focused analysis was conducted to identify why the dress was rejected by so many. Keyword searches were initially used on the transcripts of the participants' observations made during the dress selection and fit trials in order to identify why the dress was rejected. To establish whether this rejection was related purely to fit problems or whether other factors influenced the rejection the data was coded to identify categories. Categories were then combined and relationships between the categories were explored.

## **Findings**

### *Rejection of the pink dress*

Twenty participants took part in the study. During stage one of the assessment, the pink dress was selected at least as many times as the other dresses. In fact exactly half of the participants (10) chose to try it on. Out of those who did not select it to try, eight did not mention **why and two participants rejected the dress because of colour**



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3 **preference**. Only one other dress was selected by more participants (11 times) and the  
4 dress selected the least number of times was tried on by four participants. All the  
5 other dress styles were tried on by either eight or nine participants. It was during stage  
6 two of the selection process, when the participants were assessing the garment on the  
7 body that the problems with the pink dress began to emerge. The most predominant  
8 theme was that of poor fit which caused or contributed to the rejection of the dress by  
9 all ten participants who tried the dress on. **Colour preference also featured as an**  
10 **influential factor causing rejection**. Themes and relationships between themes are  
11 illustrated in Figure 1.  
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### 22 ***Fit rejection: Too tight: hips, thighs and buttocks***

23 The most common complaint from those who tried the pink dress was that it was too  
24 tight around the hips, buttocks and thighs. Eight out of the ten participants who tried  
25 the dress on experienced this fit problem. One participant complained about the dress  
26 being so tight across the hips, she couldn't get it on.  
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31 THERESA: I couldn't get it over my hips, I had to take it off again.  
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34 However even the next size up was considered to be too tight.  
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37

38 THERESA: This one goes on but I still had to pull it over my hips.  
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### 41 ***Size code smaller than expected***

42 Seven participants found that the initial dress they tried was generally too small. Two  
43 could not even get the dress on. Only one of them went on to try the larger size, which  
44 was still too tight. Five participants were clearly perturbed when they found that the  
45 size that they initially selected was too small. Comments were indicative that slimness  
46 was perceived to be desirable and consequently misleading size coding contributed to  
47 making the women feel larger and less attractive.  
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52 ISABELLE: It's even tighter than the other one... it's not doing anything  
53 for my self esteem.  
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PETRA: It's too small around my hips and bum ... [it makes me feel]  
...not very attractive...yeh it makes me feel bigger

Some participants reacted indignantly at the idea that they had to try a larger size than normal.

QUEENIE: I've never been a size 14.

LISA: If this is a 10, then it should be a breeze to put on.

### ***Too revealing: fit, style and fabric***

Seven of the participants complained that the dress was too revealing. Two of these comments related to the fact that it was too tight over the hip region.

ANNA: It's quite tight on my bum... Yeah, I don't want my ass on show.

Two participants were conscious that the fabric revealed their underwear and "lumps and bumps", whilst others were uncomfortable that the styling or cut of the dress revealed specific regions of their bodies that they preferred to conceal including: knees, cleavage and arms.

ANNA: I can just imagine giving everyone a good eyeful...from bending over. I get told off by my Mum and Dad."

### ***Shapeless: too loose on waist***

Many of the participants who said the dress was too tight on the hips also complained that the dress was too loose around the waist. This 'shapeless style' was considered to be unflattering. One participant realised that the dress was designed to be unfitted at the waist but it was not a style that she was usually attracted to.

OLIVIA: I usually go for a dress that has more of a waist but I suppose that's missing the point.

It was the combination of tight hips and loose waist that caused the most concern.

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3 ANNA: Gosh it's dead baggy round here [the waist]...Oh my god!  
4 Do you remember I said about those ones that cling to your bum?  
5  
6 There it is, it's quite tight on my bum."  
7

8  
9 ***Shape: looser on the top***

10 The second issue relating to shape was that it tended to be looser around the top (bust,  
11 armholes, shoulder) than it was on the hips. A number of participants who complained  
12 about tightness around the hips were satisfied with the fit around the bust. More  
13 extreme examples of this problem also occurred with the dress being too tight on the  
14 hips and too loose on the top.  
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20 ***Rejection: Colour***

21 In comparison to fit the influence of colour was minor. It caused 2 participants to  
22 reject the dress before trying it on and one participant was swayed by colour in her  
23 decision-making. The participants' comments indicate that colour preference in  
24 clothing is closely related to the enhancement of personal attraction. Participants had  
25 clear opinions about which colours suited them or enhanced attraction and which  
26 were perceived to deter it.  
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33 LISA: I tend to stay away from pinks and reds because they make me  
34 look pale.  
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37 One other colour subtheme emerged and that was the notion of seasonal colours. One  
38 participant was deterred from taking the dress because the colour was one she  
39 associated with summer, thus limiting its wearable lifespan.  
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44 THERESA: It's more of a summery dress, so if it was a dark dress,  
45 more of a wintry colour, I think I could wear it with black or dark  
46 brown tights and boots.  
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## Discussion

### *The importance of fit*

The analysis highlights some important issues relating to fit. Firstly, although none of the women selected the pink dress to keep, half of them selected it to try on. This is worth noting because it identifies the difference between how women assess clothing on and off their bodies. The study demonstrates that it is only once a garment is on the body that the decision about purchase is made. **This concurs with Eckman et al. (1990) who found that women initially selected dresses using a different set of criteria to the criteria used in the changing room.** In the context of online retailing, **these findings** highlight the difficulty of meaningful consumer assessment of a garment before purchase. It helps to explain why the percentage of women returning clothing is reported to be as high as 54% (Mintel 2015). **In a similar way to catalogue purchase,** online retailing forces the secondary and crucial assessment of a garment on the body to be conducted at home, only after the purchase has taken place.

The findings of this study not only demonstrate how important it is for women to assess a garment on the body prior to purchase but it also reveals that women have a clear idea of what they expect from a garment in terms of fit. This concurs with previous studies (**Shim and Bickle 1993; De Klerk and Tselepis 2007; Apeageyi 2008; Grogan et al. 2013**) and indeed familiar themes emerged from the analysis: the preference for flattering garment shapes, specifically those that enhanced the waist and emphasised or created an hourglass body shape. The rejection of anything that was too tight, too revealing and therefore inappropriate and a preference for a proportionally balanced body shape.

The findings also add evidence to support the claim that the use of fit models in industry is outmoded and inappropriate and the cause of fit problems for anyone who does not conform to the body shape of the model (Ashdown and O'Connell 2006; Bye et al., 2008; Brownbridge 2012). **Shim and Bickle (1993) who conducted a much larger qualitative study identified length of trousers, skirts and dresses as being the primary cause of fit dissatisfaction. The results from this study focus more on girth measurements.** The rejected dress did not conform to any of the participants' body shapes. This nonconformity was however consistent in that it was too tight on all the participants' hips and either too loose or fitted across their bust. Speculatively, this dress was developed for a fit model with a very different body shape to that of the

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2  
3 participants in this study. This observation may appear to be contradicted by the  
4 acceptance of the second dress from the same retailer (H&M) by three of the  
5 participants. Both dresses were pink, would presumably conform to the same size  
6 specification and potentially be fitted on the same fit model. The rejected dress  
7 however was a shift shape, styled to skim over the hips and made from a non-stretch  
8 woven fabric. The accepted dress was a button through shirt dress that flared slightly  
9 from the hips and was made from a stretch cotton sateen. This comparison indicates  
10 that good fit is more crucial for some garment styles than others. In this case the shirt  
11 dress was still tight across the participants hips but the inclusion of elastane in the  
12 fabric and the flared skirt prevented the participants rejecting the dress.  
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19 Finally the size coding on the pink dress was also problematic. When the participants  
20 tried the dress on and it was tighter than they expected, their responses indicated that  
21 they were frustrated by what they considered to be misleading information. There was  
22 also evidence to support the theory that women identify with their clothes' size  
23 (Grogan 2016) and when this link is disrupted and the familiar size is replaced by a  
24 larger size it causes discomfort and body dissatisfaction. The frustration of being  
25 misinformed and the feelings of discomfort both contributed to the dress being  
26 rejected. Size coding is a complex issue and this finding indicates that garments that  
27 have been coded smaller than the prospective purchaser expects are more likely to be  
28 rejected. It is well documented that many retailers avoid this pitfall by implementing  
29 vanity sizing, in order to flatter women into purchasing (Treleavan 2006).  
30 Paradoxically, although vanity sizing may please women and influence them to  
31 purchase, it also increases sizing inconsistency amongst retailers, which increases  
32 frustration for consumers, prevents purchase and increases the risk of returns (Labat,  
33 2007; Kennedy, 2008). Findings from this study show that women can feel  
34 disappointed and deflated when they find that the size number on the label of the  
35 garment they are trying does not match the size they identify with. These sizing  
36 numbers can actually have a very tenuous relationship to how a garment fits and  
37 negative feelings invoked by the number on the label appears to contribute to the  
38 rejection of the garment. This finding supports Kinley (2003) who suggested that  
39 retailers de-emphasise the number on the size label in order to focus on achieving  
40 comfort through appropriate fit.  
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### ***Poor fit and its contribution to textiles waste***

This small-scale study provides insight into how sizing, a very specific area of clothing practice can contribute to waste and pollution. As the debate around the fashion industry's contribution to non-sustainability matures (Cataldi et al., 2013; Fletcher 2014; Binotta and Payne 2017), it is important that specific problems that contribute to poor practice and result in waste are identified. Only then can real initiatives for improvements be implemented. This is already starting to happen as individual experts from particular fields of research start to acknowledge the environmental impacts caused by established methods of practice. Cassidy, (2013) for instance suggests that current methods of colour forecasting should be amended in order to consider customer preference and therefore limit levels of unsold stock due to the use of colour that does not appeal.

Even when sustainable manufacturing practice is used, the application of flawed sizing practice, resulting in garments that do not fit compromises sustainability. Evidence from this study suggests that garments are currently being produced that do not fit a large proportion of the population. There is clearly a need for a different, more considered and accurate approach.

### ***Speculative practice leading to waste***

The fashion supply chain currently works on a system where the provider (retailer) decides what to produce and the consumer selects from this predetermined offer. In order to develop fashion goods, a complex number of processes must take place, all requiring skills, knowledge and the acquisition of appropriate data. Sizing is just one of these processes. This system is not fail-safe and consequently every time a batch of garments is produced, the retailer is taking a risk on whether the batch will sell through. The demand for ever increasing efficiencies creates a situation where personnel are expected to work shifts of 12–15 hours (Grose, 2013) and therefore decisions are often made under extreme pressure. In addition to this highly pressurised environment, problematic and underdeveloped systems such as those used to size mass-produced (Aldrich 2007; Ashdown 2014) clothing add to the risk that a product line will not sell.

## Conclusions

This small-scale study set out to understand why women rejected one particular dress, as a way to investigate broader issues around clothing rejection and clothes waste. Poor fit of the target dress was the predominant theme in interviews with women who rejected the dress, and women were frustrated at inaccurate sizing information. Lack of fit linked with body dissatisfaction as a result of the dress being tighter than expected. Consumers need to be able to read some kind of coding system in order to identify their size, however it is clear that the current sizing chaos is no nearer being solved despite many attempts to do so. This study demonstrates how current systems of numerical size coding can contribute to a the rejection of garments. Further research to develop and evaluate less emotive and more informed systems of coding are necessary. In addition, manufacturers appear to be unable or unwilling to sacrifice the perceived need to minimise the amount of sizes produced in order to facilitate systems that cater for greater size diversity. Further qualitative research would help to gain insight into why it is so difficult to create change within the fashion industry. In addition to this, consumer research is needed on sizing communication and coding systems in order for any meaningful improvement to be made.

Poor clothes fit has important implications for creating clothes waste and this study demonstrates a link between poor sizing practice and textiles waste. Further research is needed in order to gain insight into the extent of this issue. Very little known about how retailers deal with this issue and it remains hidden. Research that tackles this problem and brings it into the public sphere is needed.

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3 **Additional Questions:**

4 **<b>1. Originality: </b>Does the paper contain new and significant information**  
5 **adequate to justify publication?:**

6  
7 R1: It may not be as original as I was thinking, but it could, after modifications, be  
8 published.

9  
10 **Modifications in line with the reviewers comments have been included**

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14 **<b>2. Relationship to Literature: </b>Does the paper demonstrate an adequate**  
15 **understanding of the relevant literature in the field and cite an appropriate range of**  
16 **literature sources? Is any significant work ignored?:**

17  
18 R1 - Interesting, besides 1941 and 1957 (two major documents) it covers paper and  
19 books from the last two decades. For whoever is familiar with the topic and for whoever  
20 is not, gets a good understating of the issue of sizing and fit.

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25 **<b>3. Methodology: </b>Is the paper's argument built on an appropriate base of**  
26 **theory, concepts or other ideas? Has the research or equivalent intellectual work on**  
27 **which the paper is based been well designed? Are the methods employed appropriate?:**

28  
29 R1

30 This part needs to be reveiw. The methodology seems to be all over the place. Besides,  
31 there is only 20 participants, which for me is ...

32 Context of the research approach needs to be more explicit.

- 33 • When, why recruiting this way.
- 34 • Why only 20 participants (lack of time? lack of budget?).
- 35 • Why recruiting women who considered themselves to be 10, 12 or 14?
- 36 • Why was it more difficult to find women size 14?
- 37 • Why choosing one specific type of dress and not another?
- 38 • Why "of the same color when possible"?
- 39 • Criteria has to be the same if not, color may have an impact (as they mentioned).

40 **These comments have been addressed p9&10 (highlighted in red)**

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44 Methodology employed may be appropriate but many details needs to be mentioned  
45 and the whole section should be review.

46  
47 R2

48 In Table 1, details of dresses, it would be very helpful to know what type of fabric the  
49 dresses were made from--knit, woven, stretch-woven? Fabric type can largely impact  
50 fit. This should be reported and discussed in the methods, results, and discussion.  
51 **A short description of the fabric structure has been added (P10). The authors agree that**  
52 **fabric is an important factor in relation to fit, however this article focuses on the results**  
53 **from one dress and its rejection. This article does not attempt to do a thorough**  
54 **comparison between the participants responses to all the dresses. A further article**  
55 **addressing this is planned.**  
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**4. Results:** Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?:

Results validate the literature. Although, again the section needs to be review. It has to be more detailed, more structured, and factual.

- Results also provides names of 7 of the 20 participants. Names should not be mentioned. It should be participant #1, participant #2, etc. Besides, Response – the coding system is explained on page 9 under coding of participants to preserve anonymity – (now highlighted in red).
- I would have liked to know the measurements of the 20 participants, the measurements of the garments, even maybe a photo of the dresses. It is not possible to include photographs of the dresses because the dresses were taken by the participants.
- As mentioned before, since dresses were not all of the same colors, it had an impact on why the dresses were rejected, which as I mentioned cause a bias to this study. The study acknowledges that colour was an influential factor. It draws attention to the fact that two participants rejected the dress before trying it on because of the colour and then identifies two more instances when the colour of the dress influenced its rejection – P11 (highlighted in red)
- In the Discussion, 8.1 third paragraph, a point is made that the rejected dress must have been developed on a fit model that was not the same as the participants. However, there was another dress by the same manufacturer (H&M) that was NOT rejected. So, it seems that this point cannot be valid. Consider whether it was the style, or the fabric causing the poor fit. A paragraph has been added to explain this discrepancy. P15 (highlighted in red)
- Also, the dress measurements should be compared to the size chart measurements given by the company. Further analysis is needed into the reasons why this dress was rejected. The authors agree that this is important however although this data was collected, the authors are currently working on a methodology that enables a valid comparison between body measurement, garment measurement and size chart measurement. This will be submitted as a separate article.

Furthermore, there are many missing citations. I can tell the author(s) are referencing back to studies mentioned in the literature review. These should be cited when they are mentioned again in the discussion--every time!

References have been added throughout the discussion (highlighted in red)

**5. Implications for research, practice and/or society:** Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing

public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?:

R1

Although I personally found the paper (as a whole) a bit weak, it identifies an implication for research, practice and/or society that is usually not being mentioned when sizing it discussed: "Contribution to textiles waste".

Indeed, it was mentioned many times in previous papers that the actual sizing system may cause frustration for women; may be confusing for manufacturers; may cause many returns, etc. but to my knowledge, publications do not discuss this important issue.

This being said, it should discuss the importance of providing better – more detailed information on the size label.

The authors agree that there is a real need for improved information on the size label and have added passages that draw attention to this issue in the discussion p16 and conclusions p18.

R2

- This section needs improvement. The authors should really consider and respond to all of the above questions.
- Additionally, I was quite surprised that there is no discussion of future research questions implied by these findings, as it seems that there would be several.

Some recommendations for future research have been added to the conclusions p18.

- Section 9 is only a summary of the findings. It gives only one vague conclusion. (e.g. what is meant by "improved" sizing system?) If the other suggested changes are made in terms of additional literature, discussion, and more in-depth analysis, I think you could come up with some more meaningful conclusions from this research.

The conclusions have been updated p18.

**6. Quality of Communication:** Does the paper clearly express its case, measured against the technical language of the fields and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.:

R1

The whole paper needs to be review. So many misspelling, syntax errors, throughout the whole paper.

- For every reference there is at least 1 error, many times 3 and sometimes 5 in only one.
- Besides, references needs to be in alphabetic order. Ex. Ashdown, Aldrich then back to Ashdown.



Corrections have been done and spell and grammar checks conducted.

**Additional Questions:**

**1. Originality:** Does the paper contain new and significant information adequate to justify publication?:

R2 - Yes. This paper does contain new and significant information adequate to justify publication.

- However, authors need to explain what their studies contribute, confirms, brings different information to light in comparison to Eckman, M., Damhorst, M. L., & Kadolph, S. J. (1990). Toward a model of the in-store purchase decision process: Consumer use of criteria for evaluating women's apparel. *Clothing and Textiles Research Journal*, 8(2), 13-22. I don't think it is right to say that this study is the first to look at women's fitting room experiences.

Added to the literature review (p8 highlighted in red) and referred to in the discussion p15 (highlighted in red)

- Also, there is some talk in this paper of online shopping forcing these decisions to be made in-home. However, this is not a new phenomenon--it happened with catalog shopping. e.g. Shim, S., & Bickle, M. C. (1993). Women 55 years and older as catalog shoppers: Satisfaction with apparel fit and catalog attributes. *Clothing and Textiles Research Journal*, 11(4), 53-64. How does the experience of shoppers evaluating apparel fit back then, relate to shoppers today?

Added to the literature review P7&8 and discussion p15

**2. Relationship to Literature:** Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?:

R2

- on Pg. 6 about line 10, It is indicated that "recently" this has led to a focus on slim female bodies. I do not think that this is a recent phenomenon. Do you have literature to support this point? If not, perhaps delete "recently".  
This point is acknowledged by the authors who agree that this is a long standing issue and not a recent one. The word has been deleted (highlighted in red)
- Section 3 addresses sizing inconsistencies; however, it is not clear what is meant in terms of inconsistencies. There should be some discussion of how garment measurements are arrived at. It is the basic block which relates (more or less) to the body measurements, modified to create the current fashion style. Thus, there is body measurement, plus wearing ease, plus (or minus) style ease of the fashion. Relate all of these factors back to sizing inconsistency.  
Yes, this heading was not clear and has been changed and a couple of introductory sentences added (highlighted in red). The focus of this section was an overview of poor sizing provision across a broad market, rather than a detailed review of how garment measurements are arrived at on an individual level.
- When talking about the issue of inconsistency in size coding, you may also wish to address the Kinley, T. R. (2003). Size variation in women's pants. *Clothing and Textiles Research Journal*, 21(1), 19-31 research.

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3 This has been added p6 (highlighted in red) and in the discussion p16

- 4 • On page 5, about line 40, there seems to be an unnecessary "s" at the end of the  
5 word female.

6 Amended (highlighted in red)

- 7 • In section 5, there is a significant amount of space discussing textile was that is  
8 NOT caused by fit problems. I'm not sure all of this is necessary.

9 The authors acknowledge that some of this section may not be directly related to  
10 fit but it is included because it adds context to the issue of textiles waste. I.e.  
11 because both textiles production and textiles waste in landfill can be so  
12 damaging to the environment the production of faulty garments through  
13 application of ill-conceived sizing systems is something that should be urgently  
14 addressed.

- 15 • You may also wish to include Bye's research on grading practices--which speaks  
16 to why it is such a bad idea to have a single size fit model for an entire size range.  
17 Bye, E., LaBat, K., McKinney, E., & Kim, D. E. (2008). Optimized pattern grading.  
18 International Journal of Clothing Science and Technology, 20(2), 79-92.

19 A paragraph has been added P4 (highlighted in red)

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- 26 • The quality of the communication is very good, overall.  
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28 • As noted above, there are some definite opportunities for additional  
29 work/improvements. Overall, though, the present text is very well organized  
30 and well written.  
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