detritus | Multidisciplinary Journal for Waste Resources & Residues

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END OF USE TEXTILES: GIFTING AND GIVING IN RELATION TO SOCIETAL AND SITUATIONAL FACTORS

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Article Info:
Received:
16 January 2018
Revised:
05 March 2018
Accepted:
20 March 2018
Available online:
31 March 2018

Keywords:
Textiles
Clothings
Reuse
UK
Senegal

ABSTRACT

The clothing and fashion industry is associated with the seeking of new trends to meet and influence consumer demands. In consequence, the rates at which clothing and other textiles are purchased are high, as are the associated rates at which end-of-use items arise. Ensuring that methods and systems are in place to permit and encourage items deemed to be end-of-use by one person to be utilised to their full potential by other(s) is clearly desirable. This study aimed to elucidate how societal and situational factors influence the purchasing of clothing and other textiles, how decisions are made regarding end-of-use of these items, and the routes and means by which end-of-use textiles are subsequently passed on or disposed of. A comparison was therefore made of the public in Southampton (UK; relatively high income and established waste management systems) and Dakar (Senegal; relatively low income and with largely informal waste management systems) in which societal and situational factors contrast. Comparison of these two case studies was thus expected to provide insight as to the influence(s) of society and situation upon the generation and fate of end-of-use textiles. Through a questionnaire survey, the study found that factors leading to purchasing, decisions regarding end-of-use of items and post-use destinations differed markedly between these two contrasting cities. However, reuse of end-of-use clothing and textiles was common in both cities, which is desirable in reference to the aims and principles of the waste hierarchy. High levels of reuse occur despite the common belief that more developed and established systems provide better opportunities for effective waste and resource management.

1. INTRODUCTION

Whilst efforts to achieve more sustainable use of many materials through waste management have been made, the textiles sector has received relatively little attention. The global retail textile industry reached a value of over $1.2 trillion in 2014 (Resta and Dotti, 2015). As one of the world's largest industries, this sector impacts substantially upon the environment (Resta and Dotti, 2015) due to, for example, production processes that use a range of chemical and consume high levels of water and energy (Caniato et al., 2012).

Production, consumption and disposal rates of textiles are considerable. In the UK alone around 2.5 million tonnes of textile items are bought annually (Letcher and Vallero, 2011); over a million tonnes per year of textiles from the domestic waste stream may be destined for landfill (WRAP, 2013). Rapid rates of purchasing lead to high rates of disposal of unwanted fashion products (Letcher and Vallero, 2011). Further expansion of the fashion industry due to growing consumer demand (Pookulangara and Shepard, 2013) could lead to higher levels of consumption, with associated increases in the generation of textile waste (Birtwistle and Moore, 2007).

Textile waste generation is linked to economic growth and lifestyle aspirations. With growing population and rapid economic growth in developing economies, the middle income sector of the population has grown in number and is associated with a commensurate increase in product consumption (Pookulangara and Shepard, 2013). Historically, "make-do-and-mend" has been a way of life in less economically developed nations (Williams and Shaw, 2017). However, materialism and social comparison have gained high social importance in developing economies; individuals compare their possessions with those of others (Zhang and Kim, 2013). Buying luxury and new products appears to be an indicator of success. Individuals in emerging economies may seek to differentiate themselves from others and tend to "mimic" so-called Western attitudes (Markus and Kitayama, 1991). In contrast, as the circular economy gains

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https://doi.org/10.26403/detritus/2018.15

traction in developed countries, reuse, refurbishment and repair of "pre-loved" or "pre-owned" items is increasingly becoming a lifestyle choice for many people (Williams and Shaw, 2017), especially a group of the so-called "Millennials" who are seeking a lifestyle that is sustainable, flexible, fair and tolerant (Students and Staff of the Centre for Environmental Science, 2017).

Rising levels of demand will likely lead to higher quantities of unwanted textiles. If unwanted items are destined for an unsustainable fate (e.g. landfill), the impacts will be (1) the resources consumed in producing textiles will be of limited value; (2) the utility of these items will be foreshortened; and (3) disposal, if inappropriate, will lead to impacts on the environment. The risks of these negative impacts occurring is higher if patterns of development exceed parallel development of waste management systems that reflect and respond to the local setting (Mukhtar et al., 2016). Whilst social, cultural, behavioural and situational factors are key drivers behind waste generation attitudes (Martin et al., 2006), such factors vary markedly across nations of contrasting economic status. It can be argued that published research has focused somewhat more upon developed nations than on emerging economies.

The waste management systems and infrastructure that have been established in developed economies do not currently exist in many emerging economies. The methods that deliver desired outcomes in such situations are by no means guaranteed to achieve their purpose in less developed economies without adequate recognition of and adaptation to the local situation, including social, cultural, and behavioural facets. By the same token, practices that have evolved in emerging economies in the absence of established infrastructure and services are likely more orientated around behaviour and thus may provide insight to waste management system design and delivery where infrastructure and services are fully established.

The aims of this study are therefore to:

- Elucidate factors that influence the generation and fate of end-of-use textiles in contrasting situations;
- Determine if and how improvements might be made in the management of textile waste adapting or adopting approaches from contrasting situations.

2. METHODS

A comparison was made of the public's self-reported actions in Southampton (UK) and Dakar (Senegal), cities in which societal and situational factors contrast markedly. Southampton has a population with relatively high income; the city has a long-established waste management infrastructure and services (since 1753), including systems provided by municipal authorities and third sector organisations (TSOs; charities and community groups). In contrast, Dakar's population has a relatively low income and its waste management infrastructure and services are largely informal and irregular. Informal networks provide opportunities for the giving of items to others, a practice that is aligned with religious and cultural norms. Formal charity schemes for clothing and textiles are present but at low scale (Ville de Dakar, 2015a). The differing cultural and situational contexts of these two cities permit insight to their influences upon clothing and textiles in terms of consumption, end-of-use decisions and the fate of unwanted items and, in so doing, identify opportunities for improving waste management for clothing and textiles.

A questionnaire survey (including quantitative and qualitative elements) was employed to elucidate societal and situational influences on buying habits, decisions regarding the end-of-use of items owned, and disposal/reuse options. Surveys of the public were conducted in situ in Southampton and Dakar.

2.1 Case studies

2.1.1 Southampton

Southampton is located in Hampshire, in the south of the United Kingdom and has a population of ca. 250,000 (HCC, 2015). As a result of the UK's long history of development, infrastructure and services (Timlett and Williams, 2011), municipal waste management systems in Southampton are well-developed and well-established. Property-close collection systems, household waste recycling centres and recycling banks are established and the public are accustomed to using them. Other, complementary, systems also exist in the UK contribute to achievement of waste management outcomes that align with the principles of the waste hierarchy (Williams, 2015). Around 25% of textile items arising from the municipal solid waste stream is recycled by charity-related companies such as the Salvation Army Trading Company Limited who provide collection and distribution facilities for donated shoes and clothes (Woolridge et al., 2006). TSOs are important in textile waste management strategies in the UK (Brooks, 2013). Often working with local authorities – as in Southampton – TSOs provide re-use and donation pathways to encourage and facilitiate local communities to participate (Woolridge et al., 2006). Textile waste is mainly given to charities or destined for donation pathways in the UK and it then follows varied routes (DEFRA, 2016).

2.1.2 Dakar

Dakar is Senegal's capital and one of the main seaports on the western African coast. It is located in the Cape Verde Peninsula and is Africa's most westerly point. The Dakar region is the most populated in Senegal with ca. 3,140,000 inhabitants (Ville de Dakar, 2015a; ANSD, 2015). Few formal charity schemes such as 'Le Relais' or 'Frip Ethique' (organized by Oxfam) exist in Dakar (Ville de Dakar, 2015b). Infrastructure and services for waste management are mostly irregular and informal. Despite a substantial lack of environmental consciousness and resources, informal collection of end-of-use items takes place due to religious and cultural norms. Strong implementation of Islamic belief and societal values encourage the use of re-use and donation schemes according to the principle that 'the more you give, the more you will get rewards from God'. Textile waste is therefore commonly given by households to family members or local mosques to re-distribute to lower-incomes or 'talibés' (child beggars).

2.2 Questionnaire surveys and data analysis

After initial piloting and revision, surveys were conducted using a self-completed questionnaire comprising closed (e.g. Likert format) and open questions. Questions addressed attitudes towards textile purchasing habits, textile waste generation, end-of-use destination for textiles, and impacts of textile waste on the environment. The questionnaire was translated into French and Wolof, the two main languages spoken in Dakar. Questionnaire surveys were carried out during May to July 2016 and were completed by respondents either in digital format or face-to-face interviews and paper-based recording methods in public spaces. The online questionnaire was distributed through social media (Facebook & Twitter) that were exclusive to either Southampton or Dakar. Conducting face-to-face questionnaire surveys in both cities avoided bias towards individuals with internet access. Opportunities were taken to conduct surveys of the public in busy city locations to maximise the number of responses, and gather responses from range of individuals that was diverse in terms of age and income level.

All questionnaire data were coded for storage and analysis in the IBM SPSS Statistics package Statistical Package for Social Sciences (SPSS) computer programme. Descriptive statistics and statistical tests such as regression were used. Qualitative information gathered in questionnaire surveys was grouped into umbrella responses (Fink, 2003; Pope et al., 2006).

3. RESULTS

3.1 Questionnaire respondent profiles

When compared with the population profiles of Southampton and Dakar (Table 1), the respondent groups were broadly similar. Some differences were noted between the respondent groups and the population profiles (Table 1); where pertinent, bias in the respondent group profile will be considered in evaluating the observed responses.

3.2 Clothing and textile purchasing

When asked how often they purchased new clothing and textile items, respondents in Southampton reported that purchasing occurred at higher frequency than respondents in Dakar (Table 2). Although the differences in purchasing frequency were statistically significant (Table 2), it was noted that the modal frequency for purchasing clothing and textiles were once in 1-2 months at both locations.

Some of the stated reasons for buying new clothing or textiles differed between the two study locations. Fashion trends and public social events were more common reasons for purchases in Dakar than in Southampton (Table 2).

A significantly higher proportion of respondents indicated that purchases were motivated by need in Southampton than in Dakar (Table 2). Likewise, a significantly higher proportion of respondents indicated that purchases were for gifts in Southampton than in Dakar (Table 2).

TABLE 1: Profiles of respondent groups compared with reference population statistics. Authoritative data specifically for Dakar were not available; reference statistics are derived from national data for Senegal.

Location	Variable	Respondents	Population	Notes
Southampton	Population	356	249,5001	
Dakar		414	3,137,196[2]	
Southampton	Female	57%	50%	Gender bias in favour of female questionnaire respondents compared with population statistics[1,3,4]
	Male	43%	50%	
Dakar	Female	54%	50%	
	Male	46%	50%	
Southampton	Age 18-25	18%	13%	Bias towards the two lower age classes for both Southampton[4] and Dakar[3]. No respondents from the >66 group in Dakar.
	Age 26-45	47%	30%	
	Age 46-65	29%	21%	
	Age >66	5%	13%	
Dakar	Age 18-25	36%	9%	
	Age 26-45	57%	24%	
	Age 46-65	7%	13%	
	Age >66	0%	3.5%	
Southampton [5]	Muslim	2%	4%	Closer match of respondent group and population for Dakar than for Southampton
	Christian	22%	52%	
	None	57%	34%	
Dakar[6]	Muslim	92%	94%	
	Christian	4%	5%	
	None	4%	-	

[1] HCC (2015), [2] Ville de Dakar (2015a) and ANSD (2015), [3] ANSD (2013), [4] ONS (2015), [5] ONS (2011) [6] ANSD (2006)

TABLE 2: Purchasing frequency and reasons for purchasing reported for buying clothes and textiles in Southampton and Dakar.

Question	Responses	Southampton (%)	Dakar (%)
How often do you buy clothes and other textiles items for your own use?	Every week or two [1]	19	14
	Once in 1-2 months [1]	53	41
	Once in 3-6 months [1]	17	9
	Once or twice a year [1]	7	3
	Depends on finding or need [2]	4	30
What is the main reason you buy clothes and other textiles items?	Fashion trend [2]	10	26
	Change of size [3]	9	7
	Only buy what I need [1]	58	44
	Public social events [2]	0.8	17
	Private social events [3]	5	4
	Gifts[1]	14	0.7

[1] proportion for Southampton is significantly higher than for Dakar (one-tailed z test); [2] proportion for Dakar is significantly higher than for Southampton (one-tailed z test); [3] no significant difference between Southampton and Dakar (one-tailed z test).

3.3 End-of-use decisions for clothing and textiles

When asked to state the main reason why clothing and textiles are thought to be no longer needed, respondents in Southampton and Dakar differed. In Southampton, the main factors were when clothing and textiles wore out or became out-of-date, and when the individual's clothing size changed (Table 3). In Dakar, respondents' end-of–use decisions were most frequently motivated by the needs of others (Table 3). Having too many items, having too little space, changing tastes, and a desire for new items were more common reasons for end-of-use decisions in Dakar than in Southampton (Table 3).

3.4 End-of-use destinations of clothing and textiles

When asked to state the main destinations of end-of-use clothing and textiles, responses were markedly different between the two locations. In Southampton, the vast majority of respondents (89%) indicated that, when no longer needed or wanted, clothing and textiles were donated to a charity (Table 4). Charity donations were also identified by 30% of the respondents in Dakar, but the main recipients of end-of-life clothing and textiles in Dakar were friends and family (39% of respondents) and homeless people (25% of respondents) (Table 4). The proportion of respondents disposing of end-of-use items in a general refuse bin was significantly higher (5%) in Southampton than in Dakar (1%) (Table 4).

4. DISCUSSION

With regard to the factors that influence the generation and fate of end-of-use textiles in Southampton and Dakar, this study has revealed differences and similarities between respondents in these contrasting locations and situations. In terms of purchasing habits, the tendency of respondents in Southampton to purchase clothing and textiles more frequently than in Dakar (Table 2) is, arguably, symptomatic of the high levels of consumer demand (Pookulangara and Shepard, 2013) and could lead to high quantities of unwanted items (Letcher and Vallero, 2011). It was noted, however, that there was a strong desire for individuals to purchase new clothes and textiles in both relatively wealthy and relatively low income cities (Table 2). The modal reason for buying new items was also the same in both locations: "only buying what is needed" featured

TABLE 3: Reasons reported for deciding that clothes and other textiles are no longer needed in Southampton and Dakar.

Responses	Southampton (%)	Dakar (%)
Too many [2]	1	6
To make space [2]	1	4
Change of taste [2]	4	10
Worn out/spoiled [1]	52	9
Change of size [1]	14	19
Old, out of date [1]	24	9
Want new [2]	0.6	12
Change of lifestyle [3]	0.3	0.7
Others may need it [2]	0	26
My education [2]	0	2

[1] proportion for Southampton is significantly higher than for Dakar (one-tailed z test); [2] proportion for Dakar is significantly higher than for Southampton (one-tailed z test); [3] no significant difference between proportions for Southampton and Dakar (one-tailed z test).

TABLE 4: Primary destinations of end-of-use clothes and textiles reported in Southampton and Dakar.

Responses	Southampton (%)	Dakar (%)
Charity/donation [1]	89	30
Homeless[†2]	0.3	25
Mosques/Churches [2]	0	2.9
Family & friends [2]	3.9	39
General refuse bin [1]	4.8	1.4
Griots[††3]	N/A	0.7

[†] Includes talibés (usually young abandoned or orphaned boys; Dakar only: [††] storytellers and praise singers who generate income from contributions to celebrations; Dakar only). [1] proportion for Southampton is significantly higher than for Dakar (one-tailed z test); [2] proportion for Dakar is significantly higher than for Southampton (one-tailed z test); [3] not tested statistically. N/A not applicable.

strongly in both Southampton and Dakar (Table 2). In relation to the waste hierarchy (Williams, 2015), "only buying what is needed" aligns, in principle, with the avoidance or prevention of waste that is of highest preference. At the same time, an individual's differentiation between what is "needed" and what is "wanted" is subjective, being by no means consistent with the perspectives of others. Of the respondents in Southampton, for example, 38% indicated that they only buy what they need and stated that they buy something new every 1-2 months. The inference here is that ca. 6 to 12 new items of clothing or textiles are "needed" per year by these individuals; we suggest that this rate is symptomatic of buying habits that are driven at least partially by "want" as well as "need".

It was also observed that higher proportions of respondents in Dakar than in Southampton indicated fashion trends and public social events are motivations for buying new items (Table 2). A view may be taken that dressing for fashion and public events has an orientation towards the appearance of individuals and their associated concerns: the focus on personal appearance in public fora highlights the importance of social comparison (Zhang and Kim, 2013) and the desire of individuals to i) differentiate themselves from others (Markus and Kitayama, 1991) and ii) seek a sustainable lifestyle (Students and Staff of the Centre for Environmental Science, 2017).

When respondents were asked to state reasons for deciding that clothing and textiles had reached their end-of-use, responses differed markedly between Dakar and Southampton. Although the proportions of respondents stating various reasons for this decision were statistically different in several instances (Table 3), two key diffrences were particularly notable. First, the predominant reason for end-of-use decisions amongst respondents in Southampton were motivated by utility; over half of the respondents identified that their clothing or textiles were no longer wanted or needed due to a perception that they were worn out or spoiled (Table 3). In terms of resource efficiency, there is a positive message in that this response infers that individuals are using clothing and textiles fully in regard to their potential utility, a feature that corresponds with the principles of sustainable waste and resource management. However, the judgement regarding when an item loses its utility is again subjective; what constitutes "worn out" or "spoiled" (Table 3) is questionable and likely inconsistent.

In contrast, a key feature of the surveys in Dakar was the relatively high proportion of respondents whose end-of-use decisions were influenced by the potential utility of items by others (26% of respondents). These responses could be interpreted as indicating that (1) many individuals in Southampton and Dakar orientate end-of-use decisions around the utility of clothing and textiles, but (2) around half of the respondents in Southampton consider the utility to themselves whilst around half of the respondents in Dakar consider the utility to others. This higher apparent level of altruism in Dakar may be associated with societal norms, aligned with cultural practices and expections, and faith.

In terms of the destinations of end-of-use clothing and textiles (Table 4), it was notable that very few respondents indicted that end-of-use items were disposed of (Table 4). Given the contrasts in the situations in which Southampton and Dakar residents exist (see §2.1), this observation is highly notable: 95% to 99% of the respondents indicated that their unwanted items would be reused in some shape or form (Table 4). In terms of the destinations of these items, when they are no longer wanted or needed they are more likely to be given to a charity in Southampton than in Dakar and more likely to be given directly to a person or community-level organisation in Dakar than in Southampton. This situation likely reflects both the availability of charity collections (i.e. a situational factor) and the difference in cultural and societal norms. The intention that end-of-use items are passed on so that they can be used by others infers that the (stated) practice in both locations aligns well with the principles of the waste hierarchy insofar that reuse is preferable to recycling, value recovery (EfW) or disposal. Achievement of waste hierarchy aims is, however, incomplete. The reasons stated why choices are made to buy new clothing and textiles (Table 2) are partly aligned with loss of functionaility and partly by other factors not strictly aligned with function or loss thereof. The implication is that avoidance or prevention of waste has been partially but not yet fully reached.

With regard to if and how improvements might be made in the management of textile waste, the outcomes of this study highlight the role of altruism; end-of-use decisions were made in both locations to the benefit of others. Respondents in Dakar appear to favour "gifting" by which a donation of end-of-use items is made to a recipient via relatively direct means (Burke et al., 1978); the majority (89%) respondents in Southampton chose primarily to give their end-of-use items to charities. The distinction in

this regard is that "gifting" results in directly tangible and/or visible outcomes, whereas the act of "giving" involves indirect connections between the donor and the beneficiary, with an associated lack of direct visibility of outcomes. Gifting has been mostly associated with collectivist societies (Cruz-Cárdenas et al., 2016) and implies giving back to people who are close at hand, whilst gifting (i.e. donating) is mostly used in individualistic societies (Brooks, 2013) and implies giving items to an organization.

The dominant pathways of end-of-use clothing and textiles in Southampton and Dakar (Figure 1) share common outcomes but contrast in terms of the means by which the benefits arise. Clothing and textiles that are no longer needed or wanted by one person tend to be given away such that they can be used, i.e. their utility is extended. Environmental benefits are thus gained: the resources consumed in and impacts of production (Caniato et al., 2012) are used to fuller extent and there is no short-term impact through disposal. There is a societal benefit in that the clothing and textiles are made available to others with needs. In the Southampton case, relatively low-cost items may be purchased by those with limited income and/or those who make a lifestyle choice to purchase used items (Williams and Shaw 2017). In the Dakar case, items are made available to low income and/or homeless individuals at no cost (Figure 1). There is a contrast, however, in that selling donated (gifted) items through charity shops provides financial resources to support charitable work, the beneficiaries of which may be proximate or distant to the donor.

Cruz-Cárdenas (2013) and Cruz-Cárdenas et al. (2016) suggested that collectivist societies prefer giving to others rather than disposal, whereas individualistic societies prefer donation to charity schemes. The present study reaffirms this proposal and presents futher evidence that gifting is an important part of material culture in collectivist societies (Brooks, 2013) and infers that the Southampton and Dakar case studies represent, broadly, more individualistic and collectivist cultures. Moreover, this study demonstrates the routes by which the donation of clothing or textiles can positively affect the donor via the "warm fuzzy feeling" associated with acts of goodwill and with benefits for both the environment and the well-being of others (Figure 1).

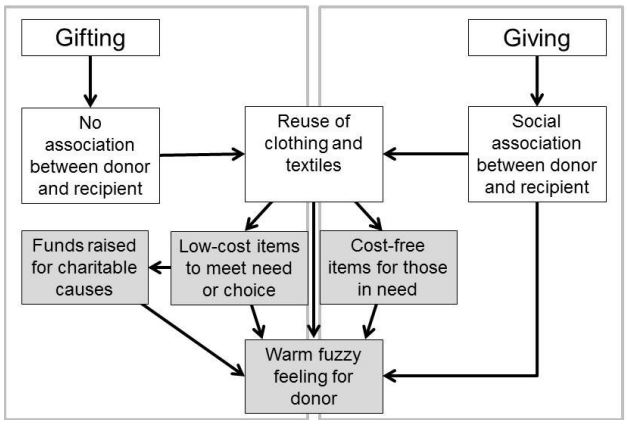

FIGURE 1: Schematic representation of the predominant pathways of end-of-use clothing and textiles and the benefits of their reuse. "Gifting" is more prevalent in Southampton; "giving" is more prevalent in Dakar (see Table 4).

Regarding if and how improvements might be made in the management of textile waste adapting or adopting approaches from contrasting situations, this study has highlighted the differences between broadly collective and individualistic societies (Figure 1). Although the reuse of end-of-use items (e.g. Table 4) is preferable in relation to the aims and principles of the waste hierarchy (Williams and Shaw, 2017), the opportunities to raise funds for charitable works appear less well represented in Dakar, whilst the association(s) between the donor and the beneficiary are weaker in Southampton. We propose that fund-raising in Dakar would likely be inappropriate given that "giving" occurs at already high rates (Table 4) notwithstanding the lack of infrastructure available in this regard.

Strengthening the relationship between the donor and the benefits of their donations may, however, present an opportunity to improve reuse rates in Southampton and perhaps reduce consumption rates of clothing and textiles. Clothing and textile donors in Southampton must understand the indirect means by which their donations make a difference to others, whilst the benefits of donations in Dakar are readily and directly perceived (Figure 1). Opportunities to achieve more direct and visible connection are perhaps more suitable for charities with UK if not local focus. Charities supporting the homeless, for example, have opportunities to sell donated items to raise funds and/or to provide clothing directly to those with need. Moreover, increased awareness of less fortunate members of local society may prompt those with higher incomes to reconsider their spending habits; perceived needs for new purchases may be re-appraised.

It should be noted that the respondent sample composition and size (Table 1) limit the outcomes of the study to providing an indicative but not absolute profile of population level responses. There is also a likelihood that responses are influenced by social desirability and may not truly represent the beliefs, attitudes or actions of respondents. We note that the data presented indicate the primary reasons, actions and behaviours of respondents; it is unlikely that all individuals are entirely consistent in these terms. The influences of demographic factors (gender, income, age and faith) will be further elucidated in future work.

5. CONCLUSIONS

We conclude that, in Southampton and Dakar, it is important that citizens view end-of-use clothing and textiles in terms of their value as a resource. Purchases are partly made due to need and the decision that items are no longer wanted or needed is partly aligned with loss of functionality. In contrast, purchases and end-of-use decisions are also influenced by factors other than functionality. However, there is an evident appetite for reuse in both Dakar and Southampton; the vast majority of respondents' end-of-use textiles are destined for reuse in both locations. Given that end-of-use clothing and textiles are frequently destined for reuse, the systems in place in Dakar and Southampton

appear to already meet – in part at least if not fully - the principles of the waste hierarchy. The value of translating methods and approaches to clothing and textile waste management between Southampton and Dakar appears to be limited in that reported rates of reuse are high. Outcomes of this study indicate that fitness-for-purpose exists in both settings; we suggest that this has arisen due to co-evolution of systems and practices in which situational and societal factors influence are recognised and influential. Promotion of reuse in a Southampton could, however, potentially be achieved by emphasising the benefits of donations to the less fortunate within the local society.

AKNOWLEDGEMENTS

The authors would also like to acknowledge Senegal's Agence Nationale de Statistique et de la Démographie, and in particular M. Bah, M. Ndiaye and P.S. Fall for providing help and support for this project. We would like to give a special thanks to M.A. Mbow for her time and constructive comments and advice as well as B.B. Diop, A.B. Diop, L. Matavel, S. Atai, K.Goddsmark, E. Smith, A.Pinto and everyone who provided assistance in carrying out questionnaires.

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