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Perceptions of sacrifice in the pursuit of sufficient consumption

Lise Magnier[a], Charlotte Kobus[b], Vivian Tunn[c]
a) Delft University of Technology, Delft, The Netherlands
b) Avans University of Applied Science, Breda, The Netherlands
c) Utrecht University, Utrecht, The Netherlands

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Abstract: This study investigates the role of perceived sacrifice in the adoption of behaviours of sufficiency in clothing consumption. With the urgent need to reduce carbon emissions and consumption to stay within planetary boundaries, this research explores how consumers perceive and are willing to make sacrifices for sustainable consumption. The paper examines seven types of perceived sacrifices—functional, emotional, social, epistemic, conditional, financial, and time/effort—and their impact on the intention to adopt sufficiency behaviours such as reducing purchases, extending clothing longevity, shifting to second-hand items, and sharing clothes. The findings reveal that perceived sacrifices significantly and negatively influence the willingness to adopt these behaviours, with variations across different types of sacrifices and behaviours. This research contributes to the literature on sustainable consumer behaviour and offers insights for policy-makers, marketers and designers to promote sufficiency in consumption.

Introduction

Current consumption and production patterns cannot be maintained within the planetary boundaries (O'Neill et al., 2018). For example, it has been estimated that to comply with the Paris Agreement, the carbon budget per capita in the Netherlands should decrease 89% by 2050 in comparison to 1990, representing individual emissions between 1 and 2 tonnes CO2 eq. yearly (Olivier, Schure, & Peters; 2017). In 2021, these emissions were equal to 15.4T CO2 eq., which suggests that substantial efforts have to be undertaken to reduce carbon emissions and especially that of the high consuming-classes. Therefore, next to technological innovations based on efficiency and carbon removal, we have to develop approaches to change behaviour, involving radical reduction of material and energy consumption (Wynes & Nicholas, 2017).

Sufficiency in consumption entails reassessing personal needs to avoid excess consumption (Gossen et al., 2019), reducing overall resource usage, waste, and other negative impacts to contribute to staying within planetary limits while improving human well-being and fighting social inequalities (Garcia-Ortega et al. 2023). The term sufficiency relates to a lower and an upper limit of consumption. The lower limit warrants a decent quality of life while the upper limit ensures the well-being of the planet and thus future generations (Spengler, 2016). Consumers can adopt sufficient lifestyles either by necessity (i.e. lack of financial means to consume more) or by choice (i.e. conscious decision to reduce impact of one's consumption). Our focus is on the latter as this is necessary for just sustainability given the huge gap between consumption footprints of countries (Wiedmann et al., 2020) and individuals with low/high income (Ivanova & Wood, 2020). From a consumer perspective, sufficiency for high-consuming classes results in substantial changes in consumption patterns, which may entail absolute reductions in consumption, modal shifts, product longevity, and sharing practices (Sandberg, 2021).

This study specifically focusses on sufficiency in clothing consumption. The clothing domain is a compelling focus due to its significant environmental impact (Muthu & Gardetti, 2020), the potential for behavioural change, and the symbolic value of clothing in consumer culture (Niinimäki et al. 2020). In this context, changes in consumption patterns may entail behaviours such as assessing the number of clothes that are truly needed, reducing the number of items bought, buying these items second-hand, sharing or renting some clothes or ensuring that these are kept for as long as possible, and may lead to perceived loss of value for consumers.

Akbar et al. (2016, p.4222) indeed highlight that "consumers who want to reduce their general consumption patterns (e.g., to save resources) sometimes make painful sacrifices". Thus, sufficient behaviours can result in discomfort which might prevent consumers from making these necessary sacrifices.

Perceived sacrifice has previously been defined in the consumer behaviour literature as what would be given up in acquisition (Cronin, Brady, & Hult, 2000). However, in daily language we would not call this a sacrifice, but rather an exchange. In other fields, different conceptualisations of sacrifice can be found. For example, in multiple ethical theories, sacrifice is seen as an essential component of the moral agent when self-transcendence and self-interest conflict (Halbertal, 2012). Hence, sacrifice means somebody gives something up of high value for a greater cause (Bélanger et al. 2014). In literature on romantic relationships, sacrifice is conceptualised as costly prosocial behaviour in favour of the relationship (Righetti, Visserman, & Impett, 2022). Based on these definitions, we understand sacrifices for sufficiency as perceived personal losses of value that consumers experience when they voluntarily reduce their consumption for the greater good. Perceived sacrifices are likely highly subjective, dependent on the consumer, lifestyle, and values. Thus what one consumer perceives as an exchange another might perceive as a sacrifice. Unsurprisingly, the extent to which individuals are willing to make sacrifices in their consumption behaviours may differ greatly (Hutter and Hoffmann, 2013).

Despite the potential of perceived sacrifices to explain willingness to adopt sufficient behaviours, perceived sacrifice as an antecedent of adoption of 'strong sustainable behaviours' has so far been overlooked in the literature (Chwialkowska & Flicinska - Turkiewicz, 2021). We therefore investigate the role of perceived sacrifice in predicting the willingness to adopt sufficient consumption behaviours. More specifically, we explore seven types of sacrifice, namely functional, emotional, social, epistemic, conditional, financial, time/effort (Sheth, Newman & Gross, 1991; Zeithaml, 1988). This study contributes to the literature in design for sustainable behaviour change by highlighting the significant role of perceived sacrifices in the willingness to adopt sufficient consumption behaviours. Furthermore, the findings also highlight the perceived benefits of the sufficient consumption behaviours and potential incentives that could make it easier for consumers to change their behaviours.

Method

We created a survey to explore the extent to which different types of value are perceived to be sacrificed when adopting sufficiency behaviours for clothing consumption, how perceived sacrifice influences the intention to adopt behaviours of sufficiency, as well as the perceived benefits of sufficient consumption behaviours and potential incentives to help individuals to adopt these behaviours.

Participants

Two hundred six participants from the Netherlands were recruited via Prolific to participate in this online study. Among these, two participants were deleted from our dataset because they failed the attention check. The final sample consists of 204 individuals aged 18 and above (Mage = 34.31 years, SD = 11.27 years; Age range = 19-75 years), with a diverse representation in terms of gender (Male = 52.9%, Female = 46.1%, nonbinary / third gender : .5%, prefer not to say : .5%), socioeconomic status, and educational background. Ethical approval was received to conduct this study and informed consent was obtained prior to participation. The survey took approximately 13 minutes to complete and participants received a small financial compensation (GPB1.8) for their participation.

Procedure and measurements

Participants started the questionnaire, which was available both in Dutch and in English, by indicating their current level of consumption expressed in clothing items bought in the last three months (Frick, et al. 2021). They were also asked about their aspiration levels in terms of clothing consumption and more specifically how many items per year would be ideal and how many items per year would be sufficient in their opinion (Frick et al. 2021).
Next, to prevent participants' fatigue due to too lengthy questionnaires, they were randomly presented with three out of four behaviours of clothing sufficiency. The four behaviours were based on the categorisation of the sufficiency behaviours by Sandberg (2021). Absolute reduction was represented by "Reducing the purchase of new clothing to on average 5 items

per year (excluding underwear and socks)"; longevity was represented by "Only buying quality clothes, repair and maintain and repair to use until completely worn out"; modal shift was represented by "Only buying second-hand clothing items (excluding underwear and socks)"; sharing was represented by "Only renting clothes that you do not need very often (e.g. via renting or sharing platforms)".
For each behaviour, participants were asked to evaluate the extent to which they would be likely to adopt the behaviour (1: very unlikely - 7: very likely, and 8: I already behave as such). If participants did not respond that they had already adopted the behaviour, they were presented with a list of sacrifices or losses. For each sacrifice, they were asked to evaluate how much sacrifice they thought the behaviour would involve. The sacrifice items (Table 1) were developed based on the theory of consumption values (Sheth et al., 1991), and related to functional, emotional, social, epistemic and conditional value sacrifices), furthermore two items of sacrifice related to financial and time/effort sacrifices were added (Zeithaml, 1988). All items were rated on 7-point Likert scales (1 = no sacrifice to 7 = very big sacrifice). In addition, participants were asked to explain their ratings on the different items in an open question.

Furthermore, participants rated their overall perceived sacrifice on two 7-point Likert scales ('How do you rate the overall sacrifice that this behaviour leads to?' and 'Overall, how hard would it be for you to perform this behaviour?'; Spearman-Brown's ρ's: Absolute reduction = .851; Longevity = .695; Modal shift = .808; Sharing = .839). Then, they had to answer two open questions related to the perceived positive aspects / benefits of the behaviours ('Can you think of the benefits / positive effects related to this behaviour?) and incentives to adopt these behaviours ('What would make it easier for you to adopt this behaviour').
Subsequently, we measured various psychographic variables: Personal Norm for Sufficiency (Frick et al., 2021; Spearman-Brown's ρ = .811), Response Efficacy (Bradley et al., 2020; α =.734), reduced NEP scale (Whitmarsch, 2008; α =.757), a general measure on the Willingness to Sacrifice for the Environment (Davis et al., 2011; α =.954) and involvement with clothing as a product category (Chandrasekaran, 2004; α =.848).
Finally, we collected demographic information and more specifically participants' age, gender, education level, and income.

Results

Descriptive statistics

On average, participants indicated that they had bought 4.37 items (min = 0, max = 30) in the last three months (SD = 4.4). Furthermore, the average ideal level of consumption was 26.2 items (min = 0, max = 500) per year (SD = 44.2) and the average sufficient level of consumption was 9.3 items (min = 0, max = 100) per year (SD = 11.9), indicating discrepancies in participants consumption and aspiration levels. For each behaviour, a number of participants (20% for the absolute reduction behaviour, 19.6% for the longevity behaviour, 7 % for the modal shift behaviour, and 1.3% for the sharing behaviour) indicated that they had already adopted the behaviour. These results give an indication of the proclivity of individuals to adopt these behaviours of sufficiency.

Aspect of sacrifice	**Operationalisation for clothing**
Functional	The ability of your clothes to provide their functional and practical benefits.
Emotional	The ability of your clothes to make you feel good.
Social	The ability of your clothes to help you fit in with social expectations or norms.
Epistemic	The ability of your clothes to satisfy your desire for novelty and curiosity.
Conditional	The ability of your clothes to help you to adapt to different or changing circumstances of use (e.g. work, leisure, weather conditions).
Financial	The cost of this behaviour in terms of money.
Time/effort	The cost of this behaviour in terms of time or effort.

Table 1. Aspects of sacrifices and operationalisation.

Among the participants who had not adopted the behaviours, on average, participants rated their intention to adopt the behaviours below the midpoint of the scales ($M_{absolute\_reduction}$ = 3.95, SD = 1.94; M_{modal_shift} = 2.93, SD = 1.92; $M_{sharing}$ = 2.44, SD = 1.90) indicating moderate to low intention to adopt these behaviours. Only for longevity, participants rated their intention to adopt this behaviour on average above the midpoint of the scale ($M_{longevity}$ = 4.60, SD = 1.87). Interestingly, the overall perceived sacrifice related to these behaviours were on average rated as moderate ($M_{absolute\_reduction}$ = 3.95, SD = 1.72; $M_{longevity}$ = 3.79, SD = 1.40; M_{modal_shift} = 4.22, SD = 1.68; $M_{sharing}$ = 4.56, SD = 1.58). Table 2 displays the means and standard deviations for the four types of clothing sufficiency behaviours.

Influence of overall perceived sacrifice on intention to adopt sufficiency behaviours

Linear regressions were conducted to investigate the influence of the overall perceived sacrifice on the intention to adopt each of the four sufficiency behaviours. The regressions showed significant and negative relationships between the perceived overall sacrifice and the intention to adopt each of the sufficiency behaviour. For the absolute reduction behaviour, $F(1, 118) = 100.01$, $p < .001$, the model explained 46% of the variance in the intention to adopt the behaviour ($R^2 = .459$; $b = -.77$, $p < .001$). For the longevity behaviour, the regression was also significant $F(1, 123) = 32.36$, $p < .001$, explaining 21% of the variance in the intention to adopt the behaviour ($R^2 = .208$; $b = -.61$, $p < .001$). For the modal shift behaviour, $F(1, 144) = 74.649$, $p < .001$, the model explained 34% of the variance ($R^2 = .341$; $b = -.67$, $p < .001$). Finally, for the sharing behaviour, $F(1, 148) = 54.19$, $p < .001$, the model explained 27% of the variance in the intention to adopt the behaviour ($R^2 = .268$; $b = -.62$, $p < .001$).

Influence of specific sacrifices on overall perceived sacrifices

Stepwise regressions were conducted to investigate the influences of the seven perceived sacrifices on the overall sacrifice for each of the four sufficiency behaviours.

Absolute reduction

The first stepwise regression was conducted to determine the most useful perceived sacrifices to predict the overall sacrifice to adopt a behaviour of absolute reduction (i.e., buying maximum five clothing items per year). This first regression model was significant ($F(4, 115) = 43.03$, $p < .001$), and explained 59.9% of the variance in the overall perceived sacrifice. Four variables positively and significantly influenced perceived overall sacrifice: functional sacrifice ($b = .470$, $p < .001$), emotional sacrifice ($b = .231$, $p = .001$), time and effort sacrifice ($b = .167$, $p < .05$) and epistemic sacrifice ($b = .158$, $p < .05$).

Longevity

Second, we analysed the most useful perceived sacrifices to predict the overall sacrifice to adopt a behaviour of longevity (i.e. only buying quality clothes, repair and maintain and repair to use until completely worn out). This second regression was also significant ($F(4, 120) = 17.59$, $p < .001$) and explained 37% of the variance in the overall perceived sacrifice for this behaviour. Here again, four variables significantly influenced the overall perceived sacrifice. Specifically, time and effort sacrifice ($b = .288$, $p < .001$), epistemic sacrifice ($b = .152$, $p < .05$), financial sacrifice ($b = .140$, $p < .05$), and emotional sacrifice ($b = .150$, $p < .05$) were all significantly and positively contributing to the overall perceived sacrifice.

Modal shift

The third stepwise regression was conducted to determine which specific sacrifices best predict the overall perceived sacrifice to adopt a behaviour of modal shift (i.e. only buying second-hand clothing items). This regression was significant ($F(3, 141) = 30.17$, $p < .001$) and explained 39% of the variance in the overall perceived sacrifice for this behaviour. Here, three variables significantly influenced the overall perceived sacrifice. These variables were emotional sacrifice ($b = .337$, $p < .001$), time and effort sacrifice ($b = .201$, $p = .001$) and epistemic sacrifice ($b = .195$, p , .01).

Sharing

Finally, the fourth stepwise regression was conducted to determine which specific sacrifices best predict the overall perceived sacrifice to adopt a sharing behaviour of modal shift (i.e. only renting clothes that you do not need very often (e.g. via renting or sharing platforms)). This regression was significant ($F(3, 146) = 26.886$, $p < .001$) and explained 36% of the variance in the overall perceived sacrifice for this behaviour. For this specific behaviour, three variables significantly

influenced the overall perceived sacrifice. These variables were emotional sacrifice (b = .278, p <.001), time and effort sacrifice (b = .238, p < .001) and functional sacrifice (b = .158, p < .01).

	Absolute reduction		Longevity		Modal shifts		Sharing	
	M	SD	M	SD	M	SD	M	SD
Overall sacrifice	3.95	1.72	3.79	1.40	4.23	1.68	4.56	1.58
Intention to adop	3.95	1.94	4.60	1.87	2.93	1.92	2.44	1.89
Functional sacrifice	3.73	1.82	2.76	1.53	3.32	1.84	3.49	2.02
Emotional sacrifice	3.99	1.87	2.98	1.68	3.84	1.99	4.14	1.93
Social sacrifice	3.43	1.73	2.90	1.53	3.15	1.68	3.21	1.90
Epistemic sacrifice	3.90	1.85	3.54	1.83	3.44	1.93	3.31	1.95
Conditional sacrifice	4.48	1.59	3.49	1.64	3.34	1.67	3.63	1.91
Financial sacrifice	2.08	1.28	3.46	1.83	2.15	1.48	3.77	1.78
Time/Effort sacrifice	2.50	1.63	4.33	1.78	4.09	1.88	4.90	1.74

M: Means; SD: Standard deviations

Table 2. Descriptive statistics

Qualitative results

To better understand respondents' perceptions of the sufficiency behaviours, we analysed the qualitative comments. We extracted the perceived benefits, most prominent sacrifices and suggestions for making the sufficiency behaviours easier to adopt. Respondents did see benefits in all sufficiency behaviours but clearly compared these with their current practices which resulted in concerns about the convenience and cost of integrating these behaviours in daily life. More insights per behaviour are presented in Table 3.

Discussion and Conclusions

To achieve the reductions in per capita consumption necessary to stay within the planetary boundaries, major changes in consumption and production patterns are required (Wiedmann et al., 2020). Sufficient behaviours could contribute to this but are not yet widely adopted. With this study, we contribute to the literature on sufficient consumption (Sandberg, 2021) by demonstrating the influence of perceived sacrifice on willingness to adopt four sufficiency behaviours in the context of clothing. We contribute to the literature on sacrifice by showing that different values involved in consumption (Sheth, 1991; Zeithaml, 1988) are affected when individuals adopt sufficient consumption behaviours for the greater good (Chwialkowska & Flicinska ‐ Turkiewicz, 2021). Regarding the specific aspects of sacrifice, we show that time and effort sacrifice and emotional sacrifice contributed to the overall sacrifice for all four behaviours. For some behaviours epistemic, functional and financial sacrifice also played a significant role. In other words, different sufficiency behaviours lead to different perceived sacrifices. Interestingly, the social and conditional sacrifice aspects did not significantly influence the overall sacrifice for any sufficiency behaviour, while participants mentioned the risk of not being 'able to adapt to different circumstances' and not 'meeting social expectations' when qualitatively elaborating on their ratings of the sacrifices. The fact that participants might have downplayed the social sacrifice could be explained by the fact that people often perceive themselves as less susceptible to social norms, advertising, or peer influences compared to others. Future research should study how different segments of consumers vary in their perceived sacrifices. Furthermore, the study should be replicated in other consumption domains such as electronic products and food. Overall, our results can be used by designers and policy-makers to address the perceived sacrifices that sufficiency behaviours entail by proposing interventions that reframe the behaviours more positively.

Sufficiency behaviour	Perceived benefit(s)	Most prominent sacrifice(s)	Suggestion for making behaviour easier
Absolute reduction	Many respondents see reducing the purchase of new clothing as a way to save money and live more sustainably.	The greatest sacrifices are seen in adapting to different circumstances and meeting social expectations.	-
Longevity	Respondents appreciate the durability and longevity of quality clothing.	The cost and effort of repairs are seen as major sacrifices.	More Accessible Repair Services: Offering easily accessible and affordable repair services can help promote the adoption of quality clothing.
Modal shift	Second-hand clothing is seen as a cost-saving and environmentally friendly option.	There are concerns about the availability of appropriate sizes and styles.	Expansion of second-hand Options: More second-hand stores and online platforms can increase the accessibility and acceptance of second-hand clothing.
Sharing	Renting clothing is seen as a good option for special occasions.	The difficulty and cost of the rental process are cited as drawbacks.	Improved Rental Platforms: Developing user-friendly and affordable rental platforms can lower the barrier to renting clothing.

Table 3. Respondents' perceptions of the sacrifices, benefits and incentives related to the sufficiency behaviours

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