Research paper
6th PLATE 2025 Conference
Aalborg, Denmark, 2-4 July 2025

Leveraging social norms for sustainable behaviour: How the exposure to static-and-dynamic-norm communications encourage sustainable behaviour towards reduction of fashion consumption

Giulia Granato, Ruth Mugge
TU Delft, faculty of Industrial Design Engineering, Netherlands

Keywords: Social norms; sufficient-based consumption, fashion, sustainable behaviour; over-consumption.

Abstract: Communication channels from social media to newspapers abound with examples where static norms, reflecting established behaviours (e.g., eating meat, drinking alcohol at parties) are combined with dynamic norms, illustrating emerging societal trends (e.g., adopting more plant-based diets, attending alcohol-free events). Despite widespread exposure to these combined static-and-dynamic-norm communications, their impact on consumer behaviour remains unexplored. Through two lab experiments, this research investigates how static-and-dynamic-norm communications influence sustainable behaviour towards a reduction of fast fashion consumption. Our findings show that consumers exposed to the combination of unsustainable static and unsustainable dynamic norm purchased significantly fewer fashion items compared to other experimental conditions. This effect is driven by social moral cleansing, as consumers, confronted with widespread unsustainable behaviour of others, felt a highlighted motivation to clean and compensate for the normalized bad behaviour of others by behaving more sustainably in return. This research advances the understanding of social normative influences on sustainable consumption and offers valuable insights for researchers, designers and policy makers. By identifying an effective social norm communication to encourage consumption reduction, it lays the groundwork for future research and policy initiatives aimed at promoting sufficiency in the context of sustainable behavioural change.

Introduction

In our increasingly digital world, we find ourselves exposed, almost constantly, to others' people lives, including how they commonly behave and what they believe as standard, typical and appropriate behaviour in many situations. Contemporary media environments are dense not only of "current behaviours", of how people behave in a particular moment in time, but also of "future trends", of how people are changing their behaviour over time. From omnivorous influencers engaging in "veganism for a month" to alcohol lovers engaging in strict alcohol-free "dry parties" (documenting their transition day by day to their audience), social media platforms are increasingly responsible in making certain behaviours more visible, more accepted and more normalized (Geber & Hefner, 2019).

Beyond social media, also the more traditional communication channels, such as newspapers and newscasts, are full of examples where static practices, showing the norm up to now are combined with dynamic trends in society, showing which behaviour is becoming more common between consumers. In this regard, recent examples from the newspaper The Guardian, include: "*Until recently, 67% of Brits have engaged in monthly drinking…young adults would reach for a drink at parties to fit in socially* (static norm). *However, more and more young people are choosing not to drink, increasingly engaging in dry events. Welcome to the era of sober-curious…(*dynamic norm*)*" (Segalov, 2023) or "*Up to now, full-time in-office work was the norm, with face-to-face meetings and set hours (*static norm*). Now, more companies and employees are embracing flexible, remote work options as part of a new standard, with hybrid models becoming the preferred choice…(*dynamic norm*)"* (Aratani, 2024).

Such narratives are also reflected in sustainability discussions, where, past, present and future practices are combined, in the same message, to raise awareness on the impact of human behaviour on the environment. An example for all is represented by the popular BBC documentary (and homonymous book) "*A*

Life on Our planet" where current unsustainable behaviours (e.g., *for decades, people used coal and oil to power their homes)* are emphasized in combination with more sustainable dynamic trends (e.g., *society is embracing renewable energy solutions which are becoming more and more common*) (Attenborough, 2020). From a theoretical point of view, all the above mentioned examples combine the so-called static and dynamic social norms. While static social norms indicate those sets of values, beliefs and behaviours that are perceived as typical and acceptable at a particular moment in time or up to now, dynamic norms signal behaviours that are becoming increasingly popular over time (Loschelder et al., 2019; Sparkman & Walton, 2017).

Despite frequent exposure to these combined static-and-dynamic-norm communications, no scientific research has investigated the effect of this exposure on our behaviour, exploring, for instance, how the combination of static and dynamic social norm messages influence consumer sustainable behaviour. While in the context of environmental research, studies on the effects of static-only or dynamic-only messages on pro-environmental decisions have been flourishing (Borg et al., 2020; Loschelder et al., 2019; Pristl et al., 2021; Sparkman & Walton, 2017; Thomas & Sharp, 2013; Yamin et al., 2019), up to our knowledge, no research has been focused on the combined effect of static-and-dynamic-norm information. This understanding holds crucial importance, particularly when promoting sustainable behaviour. In a world where encounters with forms of unsustainable behaviours (e.g., littering, prematurely discarding of still functional items, or engaging in fast fashion consumption etc..) are common, normalized and often accepted, it becomes important to understand how the exposure to others' unsustainable behaviours or communications about that, influences the likelihood of conforming to or diverging from these established norms. Furthermore, since, these unsustainable behaviours can be framed as both the static and the dynamic norm (thus creating a matching alignment between the two norms) or as the dynamic norm alone compared to a more sustainable static norm and vice versa (creating a mismatch), it is essential to explore how these different combinations of static and dynamic norms influence consumer behaviour. In fact, different types of norm combinations with a matching or mismatching sustainability framing may lead to varying effects on pro-environmental decision making and sustainable behaviour.

Therefore, this research aims to explore the effect of combining (sustainable or unsustainable) static and (sustainable or unsustainable) dynamic norms in promoting more sustainable behaviour, and in particular, in promoting sufficiency (often associated with "buy less', " buy parsimoniously", "buy only what you need"), rather than over-consumption of fashion items (Allaby & Park, 2013; Ehrlich & Goulder, 2007). By using this rather overlooked but crucial context of sufficient (vs over-) consumption for its societal implications, this research aims to answer the following research questions: *How does the exposure to static and dynamic social norm communications with a matching or mismatching sustainability framing influence sustainable behaviour towards sufficiency in fashion?"* and "*Which combinations of static and dynamic social norms are more effective in promoting more sustainable practices*?".

By doing so, this research provides several theoretical and practical implications. Theoretically, this research advances the understanding of the combined impact of static and dynamic norm communications on consumer behaviour, filling a critical gap in prior studies that largely examine static-only or dynamic-only normative influences (Aldoh et al., 2024; Loschelder et al., 2019; Sparkman & Walton, 2017). At a practical level, this research underscores the influence of norm-based communications on immediate consumer decisions, a finding that holds particular relevance for the rapidly growing field of social commerce. In this regard, nearly 40 million users are expected to participate in social commerce, where purchasing decisions are directly integrated with social interactions (Azhar et al., 2023; Leong et al., 2024). This setup allows shopping choices to occur almost simultaneously (or right after) to the perceived normative behaviour (e.g., to choose and purchase an outfit right after being exposed to a normalized fashion behaviour). Furthermore, by differentiating the effects of various combinations of (sustainable/unsustainable) static and dynamic norms and by suggesting which combinations of normative messages may be more effective in promoting sustainable practices, this research provides substantial societal implications. Specifically, it may offer actionable insights for policymakers focused on

fostering sustainable practices in the fashion industry which stands as the second-most polluting industry globally, after the oil and gas sector (Choi & Lee, 2024).

Studies overview

The current research aims to explore the effect of exposing consumers to static-and-dynamic social norm communications with a matching and mismatching sustainability framing on an actual real-life sustainable behaviour, namely sufficient behaviour in the context of fashion. By doing that, this research also demonstrates which combinations of (sustainable/unsustainable) static and (sustainable/unsustainable) dynamic norm are more effective in promoting sustainable practices and the reasons for this effectiveness. This paper tested these effects through two lab studies. Study 1 tested the main effect of static and dynamic norm communications on the number of fashion items chosen by respondents in a fictitious web-shop of clothes, as proxy of (un)sustainable behaviour. Study 2 replicates these effects with different manipulations of static and dynamic norms and different measures for the dependent variables. Additionally, study 2 explores the potential mediating role of social moral cleansing and social moral licensing as two related strategies of norm-behaviour regulation.

The experiments for Study 1 and 2 run across four days in January and December 2024, respectively, and followed the same procedure: upon entering the lab, participants were asked to sit at a computer desk, read and agree to an inform consent and were randomly assigned to one condition in a 2 (static norm: unsustainable vs sustainable) x 2 (dynamic norm: unsustainable vs sustainable) between-subjects experiment, containing the combination of static and dynamic social norms. They were instructed to evaluate a web shop of clothes, after being exposed to the manipulation of social norms and to shop as they would have normally done. Upon completion of the experiment, participants were offered a chocolate bar as a thank-you gift for study 1 and chocolate bar and 5 euro voucher for study 2.

Methods – Study 1

Participants

A total of 292 participants were recruited from [blinded for reviewers] University. After excluding 19 participants who did not pass both attention checks integrated in the study, a final sample of 273 respondents was used for the data analysis (54.9% female; Mage=22.8 years old; 78.4% Dutch).

Manipulations of the static and dynamic norms

To study how the combination of static and dynamic norms affected respondents' (over)consumption practices of fashion items, a fictitious web shop of clothes was created containing a 40 seconds movie that represented the manipulation of static and dynamic norms. Respondents were asked to watch the movie before answering a series of questions. Four different movies for the four different experimental conditions were created that systematically differed for a series of elements presented: text (with voice recorded on top), colour, pictures and animations. The videos started with the presentation of the static norm, following the dynamic norm on a follow-up page/animation. The text for the sustainable (unsustainable) static norm included the following sentences (with voice recorded): "*Recent research has shown that currently 80% of consumers (do not) make an effort to limit the amount of clothes they buy, purchasing only the clothes they need (more clothes than they need)"*. This text was followed by a second text in a second page, representing the sustainable (vs unsustainable) dynamic norm: "*And (but) they are changing their behaviour; more and more consumers are engaging in sufficient consumption (over-consumption), purchasing less (more) clothes than before and only (more than) what they really need*" (Figure 1). All the texts were adapted from previous manipulations of social norms (Yamin et al., 2019).

Procedure and main measures

After being exposed to the manipulation of static and dynamic norms, respondents were asked to engage in a fictitious web shop of clothes and to shop as they would have normally done, with a specific event in mind (e.g., a job interview, a party, a day out etc..). Participants were first asked whether they wanted to shop in the men's or women's section and were presented with an assortment of clothes corresponding with their gender selection.

Condition 1: unsustainable static + unsustainable dynamic

Screenshot 1 (unsustainable static)

Screenshot 2 (unsustainable dynamic)

Condition 2: unsustainable static + sustainable dynamic

Screenshot 1 (unsustainable static)

Screenshot 1 (sustainable dynamic)

Figure 1: screenshots of the movie, representing the manipulation of static and dynamic norms for condition 1 (unsustainable static + unsustainable dynamic) and condition 2 (unsustainable static + sustainable dynamic). Text, images (depicting over-consumption vs sufficient- based consumption in fashion for the static and dynamic norm) animations (with wardrobe of clothes becoming fuller or emptier and shoppers holding more vs less shopping bags) for the respective conditions are presented.

A large assortment of clothes was created to guarantee variety, including a total of 54 pieces of clothes for each gender, divided in six pages (one page of t-shirt, one of jeans, one of blouses, one of skirts etc..). Every item selected was recorded as a primary measure of (over)consumption practices. Selecting fewer items indicated a more parsimonious and sustainable behaviour compared to selecting a larger number of items. Second, participants were informed that they had €50 leftover, and they were asked whether they wanted to donate (some of) the leftover budget to the WWF (defined as "*a non-profit organization that fights for conservation of nature and the environment")* or keep it and continue shopping (Van Horen et al., 2018). Personal traits (environmental concern and tendency to overconsume), manipulation and attention checks, control variables and demographic questions were also asked and recorded.

Results – Study 1

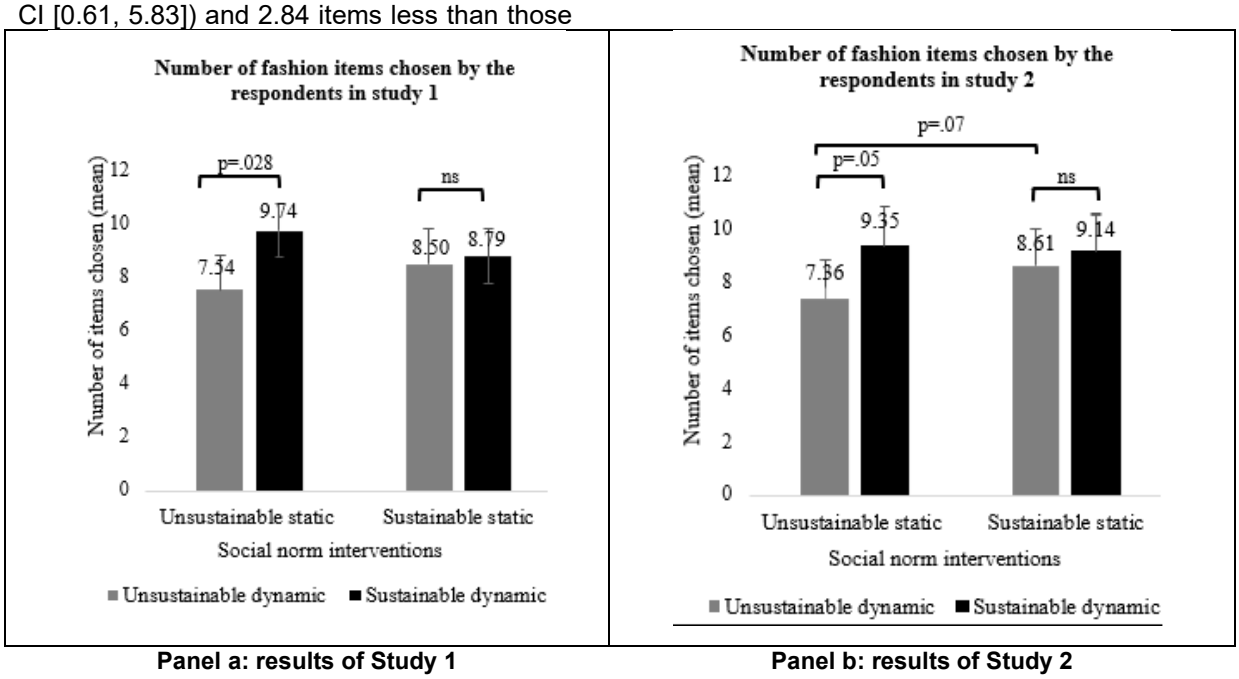
The effect of static-and-dynamic norm communications on sustainable behaviour towards reduction of fashion consumption

Results of an ANOVA and post-hoc test showed that respondents chose a lower number of items when exposed to the combination of an unsustainable static and unsustainable dynamic norm (M=7.54; SD=4.79) than when exposed to the combination of an unsustainable static and sustainable dynamic norm (M=9.74; SD=6.10; p=.02, Figure 2, panel a).

In addition, results of an ANCOVA showed that the individual's tendency to overconsume (F (1,273) = 10.72; p=.001; part η^2 =.04) and age (F (1,273) = 4.98; p=.03; part η^2 =.02)

significantly affected the number of items chosen by the respondents, independently from the social norm intervention. Specifically, the higher the tendency to overconsume, the higher was the number of items chosen (β=.19; t=3.28; p=.001). Similarly, the younger the respondents, the higher was the number of items chosen (β= -.13; t= -2.22; p=.03).

A spotlight analysis was conducted to examine the effects of the different social norm interventions on the number of fashion items chosen by the respondents at specific levels of the moderator (-1SD for low level, mean and +1SD for high level), namely people tendency to overconsume. Additionally a floodlight analysis was performed to explore range of the moderator values at which these effects are statistically different. Both analysis were conducted with the SPSS PROCESS macro, Model 1 (Spiller et al., 2013). The results showed that, for people with a low tendency to overconsume, the exposure to the "unsustainable static + unsustainable dynamic" intervention was very effective in reducing the number of fashion items chosen, as those people selected, on average, 3.22 items less than those exposed to the "unsustainable static + sustainable dynamic" (t= 2.43, p = .01; 95% CI [0.61, 5.83]) and 2.84 items less than those exposed to "the sustainable static + sustainable dynamic" intervention (t= 2.11, p = .03; 95% CI [0.19, 5.48]). For people with an average level of tendency to overconsume the exposure to an unsustainable static and unsustainable dynamic norm was still very effective in reducing the number of fashion items chosen (on average, 2.04 pieces of items less), but only more effective than the "unsustainable static + sustainable dynamic" (t= 2.20, p = .03; 95% CI [0.21, 3.86]). For people with high tendency to overconsume, no significant differences were observed across interventions. Overall, the results suggest that a rather "catastrophic" scenario, signalling that the majority of consumers behave unsustainably (unsustainable static norm) and that this trend is changing for the worst (unsustainable dynamic norm), is more effective than a scenario that opens a window of positivity and hope, where the dynamic norm signals a change for the better ("…*but more and more consumers are changing their behaviour, reducing the number of clothes they buy* etc..). In particular the intervention is effective for people with a low to medium tendency to overconsume (with values below 3.70- results from the Floodlight analysis).



Panel a: results of Study 1 **Panel b: results of Study 2**

Figure 2: Number of fashion items chosen by the respondents across the four static and dynamic norm communications in study 1 (panel a) and study 2 (panel b). NS= non significant. Error bars indicate 95% confidence interval.

Methods – Study 2

Study 2 further studies (and replicates) the effects of Study 1 and delve into a potential mediating factor. Rather than with a movie, study 2 manipulated static-and-dynamic-norm communications through a series of digital and newspaper news. For each condition, respondents were exposed to two news, one from a digital newspaper and one from a paper newspaper. This was done to strengthen the effect of the manipulation, for replication purposes only. Each news included a piece of text and an image representing the information included in the news. The two texts for the unsustainable (vs sustainable) static norm included the following: "*Currently, 80% of Western consumers engage in over-consumption (sufficient consumption): they commonly purchase excessive (parsimonious) amounts of clothes, far more than (only) what they really use and need"* and *"Recent research indicates over-consumption (sufficient consumption) of fashion items as an accepted and standard trend in today's western society, where buying excessively (parsimoniously) is the norm".* The two texts for the unsustainable (vs sustainable) dynamic norm included the following: "*Consumer behaviour is changing for the worst (the better): more and more consumers are engaging in over-consumption (sufficient consumption), purchasing more (less) clothes than before"* and *"Consumption practices are getting worst (better): overconsumption (sufficient consumption) is expected to be the norm by 2030, when buying excessively (parsimoniously) will become more common between consumers"* (Figure 3).

Procedure and main measures

Same procedure and instructions as Study 1 were applied for study 2.

Main measurements: Four main measurements were recorded and analysed to measure sustainable behaviour. First, the number of fashion items chosen by the respondents was measured and recorded, as in Study 1. In addition to that, as sufficient behaviour has been identified not only in the practice of reduced consumption, but also in the practice of reusing and second-hand purchases (Lage, 2022; Speck & Hasselkuss, 2015), willingness to switch to a second-hand item was added in study 2 as a second measurement for sufficiency. For this purpose, respondents received the following instructions: "You have just selected some brand-new clothes. The web-shop presents you with an option to switch to a second-hand version of the same product. How much cheaper does the second-hand item need to be for you to consider switching? Please use the slider to indicate the percentage discount you would need". The slider included values from 0% discount (second hand and new item have the same price) to 100% discount (the second hand item is for free) with increments of 10%. This was based on the switching behaviour typical of choice-based conjoint analysis or forced choice scales (Guiot & Roux, 2010; Roux & Korchia, 2006; Train, 2009).

In addition, to measure whether the social norm interventions triggered some consumption restraints, limiting respondents from buying all the items they liked, a multi-items question was used, adapted from the Frugality Scale (Lastovicka et al., 1999) and the Brief self-control scale (Malouf et al., 2014). Items and reliability analysis are included in Table B.1, Appendix B. Last, respondents were asked their intention to support a policy for consumption reduction by answering the question: "How strongly would you support or oppose a government policy that limits the number of fashion items consumers can purchase in a year to reduce the environmental impact?". This was measured through a 1-7 scale (1: I would strongly oppose, 4: I would neither oppose, nor support, 7: I would strongly support).

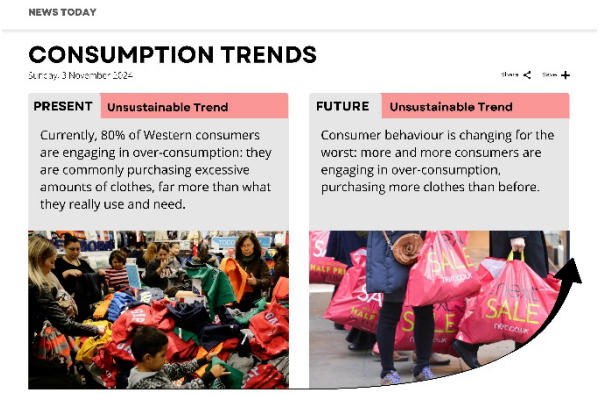
Mediator: To explore whether and to what social moral licensing and its reversed effect of social moral cleansing mediate the effects of the social norm interventions on sustainable behaviour, respondents were asked to reply to two scales measuring social moral cleansing (example of item: "After reading about other's behaviour, I feel the need to act quickly to reduce consumption") and social moral licensing (example item: "Reading about other's behaviour makes me feel I can relax a bit my own efforts) in a 7 point scale (1: strongly disagree; 7: strongly agree) and the emotional context related to social moral licensing (feelings of indifference, unconcern and discouragement) and cleansing (feelings of anxiety, stress or frustration), respectfully [1]. These emotions can be used to understand the emotional context that might lead to social

[1] Opposite poles labelled (1: very relaxed…7: very anxious; 1: very calm…7: very stressed; etc..). Manipulation of social norms was re-presented to the respondents before the mediator variables.

moral licensing/cleansing, allowing for a deeper understanding not only of whether and to what extent social moral licensing/cleansing influence the effects of static and dynamic norms on sustainable consumption practices, but also how this influence occurs (Cyders & Smith, 2008; Fisher-Fox et al., 2024).

Condition 1 : Unsustainable static + unsustainable dynamic

Digital news



Newspaper news

Condition 2 : Unsustainable static + sustainable dynamic

Digital news

Newspaper news

Figure 3: Example stimuli material for study 2, where the two versions of the same condition (1 and 2) is presented: the digital news and the newspapers news combining the static and dynamic norm information.

Discussion Study 1

Results of study 1 showed initial and promising insights into how exposing consumers to static and dynamic norm communications influences sustainable behaviour, towards a reduction in fashion consumption. In particular, consumers in our experiment chose on average a lower number of fashion items when exposed to the combination of an unsustainable static and unsustainable dynamic norm than consumers in other conditions. Despite the significant differences found, consumers still selected a high number of items across conditions, highlighting a crucial challenge: while reducing consumption is a relatively attainable behavioural shift, achieving true sufficiency-

consuming only what is necessary- remains a far more difficult step in the context of sustainable behavioural change.

Results of study 1 enrich the current understanding on social norm effects by supporting the hypothesis of norm-behaviour differentiation, rather than conformity, theoretically grounded on the principle of social proof (Bicchieri, 2016; Cialdini et al., 1990; Lahlou, 2018). In this regard, our results showed that consumers do not follow the presented normalized behaviour of others but deviate from that, if exposed to a very strong signal that others are behaving unsustainably. The combination of an unsustainable static and unsustainable dynamic norm function as such a strong signal that seems to motivate consumers to take action and behave differently and more positively than others. In study 2, we aim to replicate this effect and to investigate whether such norm-behaviour differentiation, found in study 1, is due to the norm-behaviour regulation strategies of social moral licensing and cleansing (Lasarov & Hoffmann, 2020; Brañas-Garza et al., 2013).
Adding beyond study 1, study 2 uses a sample of online shoppers, rather than a mixed sample of online and exclusively in-store shoppers and a different manipulation of social norm communications with digital and traditional newspapers news. In addition, study 2 adds variety to the dependent variable measurements, by investigating the effect on sustainable and sufficient practices from multiple lens: the one on reduction, by measuring how many items consumers purchase (replication from study 1), the one on reusing, by investigating switching behaviour to second-hand fashion practices, and the one on policy support, by investigating willingness to support to a policy for fashion reduction.

Results- study 2

The effect of static-and-dynamic norm communications on sustainable behaviour towards reduction of fashion consumption

Results of an ANOVA and post-hoc test confirmed the results of study 1: respondents chose a lower number of items when exposed to the combination of an unsustainable static and unsustainable dynamic norm communication (M=7.36; SD=45.20) than when exposed to the combination of an unsustainable static and sustainable dynamic norm (M=9.34; SD=5.34; p=.05, Figure 2, panel b). In addition, marginal significance was found between the condition “unsustainable static + unsustainable dynamic” and its opposite, “sustainable static + sustainable dynamic” (M= 9.14; SD= 5.16; p=.07) (Figure 2, panel b).
In addition, results of an ANCOVA showed that the individual’s environmental concern (F (1,230) = 6.40; p=.01; part η2 =.03) significantly affected the number of items chosen by the respondents, independently from the social norm intervention. Specifically, the higher the environmental concern, the lower was the number of items chosen (β=-.17; t=-2.63; p=.009). No significant effects were observed for other personal traits (tendency to overconsume). Gender significantly affected the number of items chosen, as female respondents chose on average less items than male respondents (β=-.24; t=-3.71; p=<.001). For female respondents, the effect of the social norm interventions was stronger and variances between conditions larger (p-values become smaller).
Results on the effect of social norm interventions on second hand switching behaviour (F(1, 230)=0.30; p=.83) and reflection on restrictive parsimonious behaviour (F(1,230)=0.77; p=.51) did not show significant effects.

The effect of static-and-dynamic norm communications on policy support for reduction

Results of an ANOVA and post-hoc test (LSD corrected) showed that respondents who were exposed to the combination of an unsustainable static and an unsustainable dynamic norm indicated to be more willing to support a government policy that limits the number of fashion items consumers can purchase in a year to reduce the environmental impact (M= 4.03; SD= 1.87) in comparison to the respondents exposed to its opposite, the combination of a sustainable static and sustainable dynamic norm (M=3.21; SD= 1.83; p=.01).
Thus, this result shows that a behaviour related measurement (N of items chosen) and an intention behaviour measurement (intention to support a policy) are in line: the social norm intervention which combines an unsustainable static norm with an unsustainable dynamic norm seems to be the most effective in promoting sustainable behaviour, which gets reflected into both consumer intentions for

policy support and actual purchasing behaviour towards reduction.

4.2.4 The role of social moral cleansing and social moral licensing (and the related emotional context)

To check whether social moral cleansing and licensing mediates the effect of social norm communications on sustainable behaviour towards reduction in fashion (i.e., number of fashion items selected and on policy support for reduction), a series of mediation analysis were conducted with PROCESS MACRO in SPSS, Model 4 with multi-categorical independent variable (Spiller et al., 2013). As social moral cleansing and licensing effects are related to certain emotions that may anticipate or co-occur with these effects, these emotions were added in the analysis (anxiety, stress, frustration related with social moral cleansing and indifference, unconcern and discouragement related with social moral licensing).

The mediation analysis with social moral cleansing showed that different static and dynamic norm communications differently triggered the emotional context related with social moral cleansing (t=-1.97; SE=0.41; p=.050; LLCI=-1.642; ULCI=-0.001). In fact, those consumers exposed to the "unsustainable static + unsustainable dynamic" condition experienced a higher level of social moral cleansing related emotions (M=4.86), in comparison to consumers exposed to the "sustainable static + sustainable dynamic" condition (M=3.52; p<.001; LLCI=-1.687; ULCI=-0.98) and "unsustainable static and sustainable dynamic" condition (M=4.49; p=.045; LLCI=-0.733; ULCI=-0.008). As a result, consumers felt the urge to "clean" and compensate for the unsustainable behaviour of others, behaving more sustainably in return (social moral cleansing effect). In fact, higher levels of stress, frustration and anxiety were associated with 1) stronger social moral cleansing effect (B=0.57; SE=0.07; β= 0.50; t=8.68; p<.001), 2) lower number of fashion items selected by respondents (B=- 0.72; SE=0.33; β= - 0.14; t= -2.18; p=.03), and 3) greater support for policies aimed at consumption reduction (B=0.48; SE=0.11; β= 0.28; t=4.49; p<.001). While the social moral cleansing related emotions mediate the effect of social norm communications on the number of items chosen by respondents, the cleansing effect per se (measured through the 4-item scale) leads to greater willingness to policy support for reduction (B=0.60; SE=0.09; β= 0.41; t=6.81; p<.001; LLCI=0.329; ULCI=0.729), but does not result in actual sustainable behaviour, purchasing fewer items (B=- 0.06; SE=0.29; β= - 0.014; t= -0.21; p=.84; LLCI=-0.329; ULCI=0.978).

The mediation analysis with social moral licensing showed no significant effect on sustainable behaviour, neither on the number of fashion items chosen by respondents, nor on policy support for consumption reduction. In addition, no variations were observed across interventions on social moral licensing. Despite that, results showed that higher levels of social moral licensing related emotions (indifference, unconcern and discouragement) had two main consequences: 1) significantly increased the social moral licensing effect (B=0.33; SE=0.08; β= 0.26; t=4.15; p<.001), and 2) significantly decreased consumer support to policies aimed at consumption reduction (B=- 0.49; SE=0.13; β= - 0.24; t= -3.79; p<.001).

Discussion Study 2

Results of study 2 replicate and confirm results of study 1, demonstrating that consumers exposed to the combination of unsustainable static and unsustainable dynamic norm communications behaved more sustainably than consumers exposed to other conditions. In fact, those consumers selected a lower number of items in the shopping task and indicated a higher willingness to support a policy aimed at consumption reduction. Adding beyond study 1, the results of study 2 suggest an underlying mechanism driving these effects, centred on the norm-behaviour regulation strategy of social moral cleansing. In this regard, results demonstrate that the communication of an unsustainable behaviour of others, like the one of excessive consumption, reflected both in the static and dynamic norm, can function as a strong signal driving action rather than inaction and norm- behaviour differentiation rather than conformity. In fact, after being exposed to the unsustainable static and unsustainable dynamic norm communication, respondents in study 2 felt more anxious, stressed and frustrated in regard to the normalized unsustainable behaviour of others, than respondents in the other conditions. As a result, respondents felt the urgency to take action and "clean" the bad behaviour of others, behaving more sustainably in return (social moral cleansing effect).

References

Allaby, M., & Park, C. (2013). *A dictionary of environment and conservation*. OUP Oxford.

Aratani, L. (2024, 12 July 2024). The new normal': work from home is here to stay, US data shows. *The Guardian*. https://www.theguardian.com/money/article/2024/jul/12/working-from-home-data

Attenborough, D. (2020). *A life on our planet: My witness statement and a vision for the future*. Random House.

Azhar, M., Akhtar, M. J., Rahman, M. N., & Khan, F. A. (2023). Measuring buying intention of generation Z on social networking sites: an application of social commerce adoption model. *Journal of Economic and Administrative Sciences*. https://doi.org/10.1108/JEAS-02-2022-0047

Borg, K., Curtis, J., & Lindsay, J. (2020). Social norms and plastic avoidance: Testing the theory of normative social behaviour on an environmental behaviour. *Journal of Consumer Behaviour*, *19*(6), 594-607. https://doi.org/10.1002/cb.1842

Choi, Y.-H., & Lee, S. (2024). Climate change messages in the fashion industry discussed at COP28. *The Research Journal of the Costume Culture*, *32*(4), 517-546. DOI: 10.29049/rjcc.2024.32.4.517

Ehrlich, P. R., & Goulder, L. H. (2007). Is current consumption excessive? A general framework and some indications for the United States. *Conservation Biology*, *21*(5), 1145-1154. https://doi.org/10.1111/j.1523-1739.2007.00779.x

Geber, S., & Hefner, D. (2019). Social norms as communicative phenomena: A communication perspective on the theory of normative social behavior. *SCM Studies in Communication and Media*, *8*(1), 6-28. DOI: 10.5771/2192-4007-2019-1-6

Hogg, M. A., & Reid, S. A. (2006). Social identity, self-categorization, and the communication of group norms. *Communication Theory*, *16*(1), 7-30. https://doi.org/10.1111/j.1468-2885.2006.00003.x

Leong, L.-Y., Hew, T. S., Ooi, K.-B., Hajli, N., & Tan, G. W.-H. (2024). Revisiting the social commerce paradigm: The social commerce (SC) framework and a research agenda. *Internet Research*, *34*(4), 1346-1393. https://doi.org/10.1108/INTR-08-2022-0657

Loschelder, D. D., Siepelmeyer, H., Fischer, D., & Rubel, J. A. (2019). Dynamic norms drive sustainable consumption: Norm-based nudging helps café customers to avoid disposable to-go-cups. *Journal of Economic Psychology*, *75*, 102146. https://doi.org/10.1016/j.joep.2019.02.002

Pristl, A. C., Kilian, S., & Mann, A. (2021). When does a social norm catch the worm? Disentangling social normative influences on sustainable consumption behaviour. *Journal of Consumer Behaviour*, *20*(3), 635-654. https://doi.org/10.1002/cb.1890

Rimal, R. N., & Lapinski, M. K. (2015). A re-explication of social norms, ten years later. *Communication Theory*, *25*(4), 393-409. https://doi.org/10.1111/comt.12080

Segalov, M. (2023, 15 January 2023). Last orders: how we fell out of love with alcohol [November 2024]. *The Guardian*. https://www.theguardian.com/society/2023/jan/15/last-orders-how-we-fell-out-of-love-with-alcohol

Sparkman, G., & Walton, G. M. (2017). Dynamic norms promote sustainable behavior, even if it is counternormative. *Psychological science*, *28*(11), 1663-1674. https://doi.org/10.1177/0956797617719950

Spiller, S. A., Fitzsimons, G. J., Lynch Jr, J. G., & McClelland, G. H. (2013). Spotlights, floodlights, and the magic number zero: Simple effects tests in moderated regression. *Journal of Marketing Research*, *50*(2), 277-288. https://doi.org/10.1509/jmr.12.0420

Thomas, C., & Sharp, V. (2013). Understanding the normalisation of recycling behaviour and its implications for other pro-environmental behaviours: A review of social norms and recycling. *Resources, Conservation and Recycling*, *79*, 11-20. https://doi.org/10.1016/j.resconrec.2013.04.010

Van Horen, F., van der Wal, A., & Grinstein, A. (2018). Green, greener, greenest: Can competition increase sustainable behavior? *Journal of Environmental Psychology*, *59*, 16-25. https://doi.org/10.1016/j.jenvp.2018.08.007

Yamin, P., Fei, M., Lahlou, S., & Levy, S. (2019). Using social norms to change behavior and increase sustainability in the real world: A systematic review of the literature. *Sustainability*, *11*(20), 5847. https://doi.org/10.3390/su11205847

Yanovitzky, I., & Rimal, R. N. (2006). Communication and normative influence: An introduction to the special issue. *Communication Theory*, *16*(1), 1-6. https://doi.org/10.1111/j.1468-2885.2006.00002.x