Electrolux

THE TRUTH ABOUT LAUNDRY

Findings of a European study into laundry, caring for clothes and environmental impacts

2021

About the study

The Truth About Laundry was commissioned by Electrolux, a global leader in household appliances.

A recognised sustainability leader in the appliance industry[1], Electrolux has won many awards for its commitment and performance, including the Gold Class award in the RobecoSAM Sustainability Yearbook and inclusion in the Dow Jones Sustainability World Index every year since 1999.

One of its key sustainability priorities is to help make clothes last twice as long, with half the environmental impact. With that in mind, this study was commissioned to further understand attitudes and behaviours to laundry and the attitudinal relationships between clothing care and the environment.

Aims included understanding whether people consider the environment when doing the laundry; identifying behaviours that might contribute to more sustainable laundry practices; and understanding, what might be preventing people from being more environmentally driven when it comes to doing the laundry.

In particular, the study explored the relationship between people and their clothes. Whether, for example, extending the life of clothes was seen as positive, whether people made the connection between extending garment life and the environment, and whether specific laundry behaviours supported those attitudes.

[1] https://www.electroluxgroup.com/sustainabilityreports/2017/en/reporting-framework/awards-and-recognitions/

Foreword by Elisa Stabon (M.Sc Chemistry) Care Experience Development Manager, Electrolux

Fundamentally, this study is aimed at helping people to be more sustainable, an ambition that is at the very heart of Electrolux.

While a key part of our work considers the role of appliances in the laundry process, in many ways it is only as good as the understanding that people have of laundry techniques and the capabilities of modern machinery in supporting them. Our study shows that the technology available is not being fully utilised. This means that clothing (and by definition, people), as well as the planet are paying a higher price than is needed.

The laundry process could be improved if people were given the necessary knowledge, I see three key opportunities for small but significant steps to be taken.

Firstly, we're generally not wearing clothes enough times between washes. It results in millions of clothes being laundered before they should be reducing garment life substantially and increasing individual carbon footprints. The more we can encourage more wears per item, the better it is for the planet and for our clothes.

Secondly, when we do wash, I would recommend an overall reduction of ten degrees in wash temperatures, except where there are specific hygiene requirements or where laundry is particularly dirty. 30°C or lower must become the norm, not the exception and with the capability of modern technology and advancements in detergent science, the cleaning is just as effective.

This message must get through. Our study shows that over 60% of people across Europe are still, mainly, washing at 40°C and above. If every household, that washes at 40°C, switched to 30°C, the potential saving would be the equivalent of nearly 5m tonnes of CO_2, every year.

The third and last step towards positive change is for people to review the type of detergent they are using. In this study we prove that certain types of detergent are more abrasive on clothes than others, especially when dosing is not accurately measured. Taking both temperature and detergent type into account, significant negative impacts on the environment could be averted.

How we deliver change is now the big challenge for us all. Our study shows that people are more or less on auto pilot when it comes to laundry practices with 59% of people in Europe stating that they do the laundry the way they were taught by previous generations. Breaking free of outdated habits and updating laundry practices will therefore be key.

With more people acknowledging the need to be sustainable, I think the results of this study show us how and when more conscious choices can easily be made without sacrifice or major lifestyle changes.

At Electrolux we will continue with our work to enhance technical performance however, we will do so with an understanding that to deliver excellence, the process is a duality of user and machine. Harnessing the power of technology is best done when we are not solely reliant upon it and this study shows where user and machine can work together to help clothes and the planet last for longer.

Foreword by Vanessa Butani, Director Sustainability, Electrolux Europe

At Electrolux, we want to be the Sustainability leader in our industry.

I am keen on exploring how we can build bridges, not just between our actions as a manufacturing company and the environment but with those that use and rely on our products every day. I am particularly conscious that our responsibility goes beyond our immediate environment so that it also brings people with us on the journey to a more sustainable future.

To me, that means more than the creation of energy efficient, reliable and supportive household appliances and it certainly means more than telling people what they can do better.

This study, coming in the middle of a global pandemic, provides an interesting opportunity to review the way in which we can all make a contribution to the health of the planet through our own daily actions and especially when so many of us are spending more time at home and have greater reliance on home appliances.

Electrolux will continue to make technological advancements to help people, whilst constantly ensuring care for the environment. We aim to reduce the environmental impact of laundry by half and I am very happy to see how this study helps break down the opportunities for people to have an impact at home. I hope it will inspire people to continue to ask more of us so that we can move forward together.

Methodology

To inform the direction and content of the study, Electrolux first commissioned a review of existing research and commentary on laundry and garment care. The review covered newswires, news sites, industry news and commentary, and research from relevant brands and environmental organisations. Using the analysis, it then commissioned new research.

The findings in the study are based on quantitative data collected from 12,000 adults across twelve European markets. OnePoll, a survey-led market research company – managed the research in collaboration with Electrolux and its partners. The survey was fielded between the 21st July and 7th August 2020 with data collected in the following countries: Denmark, Finland, France, Germany, Italy, Norway, Poland, Russia, Spain, Sweden, Switzerland and the United Kingdom.

The data was weighted for each country to ensure accurate representation by age, marital status, income/social class, ethnicity and religion. For a statistic of 50% the margin of error for sampling on a sample of 1000 respondents is ±3.1%. For smaller or larger statistics, the margin of error will decrease and falls to 1.9% for a statistic of 10% or 90%. This is based on all countries having 1000 respondents per market. This margin of error is small making the data highly reliable.

The importance of extending the life of clothes

The environmental cost of fashion

There has been extensive research into the fashion industry and its impact on the Environment. Some of these impacts are best highlighted by research from the United Nations Environment Programme (UNEP)[2] and the Ellen MacArthur Foundation[3]:

- The fashion industry is responsible for 10% of annual global carbon emissions, more than all international flights and maritime shipping combined.
- If the fashion industry's trajectory continues, greenhouse gas emissions will surge by more than 50% by 2030.
- The textiles industry relies mostly on non-renewable resources – 98 million tonnes in total per year – including oil to produce synthetic fibres, fertilisers to grow cotton, and chemicals to produce, dye, and finish fibres and textiles.
- Textile production (including cotton farming) also uses around 93 billion cubic metres of water annually.
- 87% of the total amount of fibre used for clothing is ultimately incinerated or disposed of in a landfill.

The cost of under-utilisation of clothes

Estimates on how many clothes people own and utilise (the average number of times a garment is worn before it ceases to be used) and ultimately discard them on a global level vary but the conclusion is largely the same:

- We buy more clothes than ever, wear them fewer times and discard them at a faster rate.
- During the past 10 years the number of items of clothing purchased per consumer has more than doubled[4].
- It is expected that clothing consumption will increase globally by 63%, from the current 62 million tonnes to 102 million tonnes by 2030[4].
- The average consumer now buys 60% more items of clothing than in 2000[3].
- Worldwide, the average number of times a garment is worn, before it ceases to be
- used, has decreased by 36% compared to 15 years ago[3].
- It is estimated that the average garment is worn only ten times before disposal[6].
- It is estimated that more than half of the fast fashion produced is disposed of in under a year[5].
- These buying habits contribute to the 39 million tonnes of post-consumer textile waste that is generated (at a minimum) worldwide each year – primarily in the form of garments[5].
- In terms of the bigger picture, of all discarded clothing, only 10% overall is recycled, only 8% is re-used as second-hand clothing and 57% is sent to landfill[3].

[2] https://unfashionalliance.org/

[3] https://www.ellenmacarthurfoundation.org/assets/downloads/publications/A-New-Textiles-Economy_Full-Report_Updated_1-12-17.pdf

[4] https://www.commonobjective.co/article/fashion-and-waste-an-uneasy-relationship

[5] https://traid.org.uk/wp-content/uploads/2018/09/impacts_of_clothing_factsheet_23percent.pdf

[6] Global Fashion Agenda and Boston Consulting Group, Pulse of the fashion industry (2018), p.59

The importance of extending the life of clothes continued

The environmental benefit of extending clothing life

According to research from WRAP (Waste & Resources Action Programme), extending the life of clothes by an extra nine months of active use would reduce carbon, water, and waste footprints by around 20–30% each[7].

Which behaviours reduce garment life?

According to Fashion Revolution, up to 25% of a garment's carbon footprint comes from the way it is washed and cared for[8]. They also report that nine out of ten items of clothing end up in landfill long before they should, mainly due to over-washing which can damage the fabric, fade colours, misshape garments, cause shrinkage and spoil clothes due to colour run.

For this Report, three main laundry behaviours, which contribute to the reduction of clothing life, were studied:

1. Wash temperature
2. Frequency of wash
3. Detergent type

In addition, research was also undertaken to understand behaviours in relation to full

loads. Washing full loads of laundry has many environmental benefits including energy and water savings, which have been extensively researched before. However, research has also shown that washing full loads can reduce the life of certain fabrics, such as denim. More research is required to understand the environmental impacts of full loads on fabrics and assess impacts versus those of other savings.

[7] https://wrap.org.uk/sites/files/wrap/valuing-our-clothes-the-cost-of-uk-fashion_WRAP.pdf

[8] http://fashionrevolution.org/dont-overwash-its-time-to-change-the-way-we-care/

THE FINDINGS

The main reasons for washing clothes

The study began by exploring the main reasons why people do the laundry. By understanding key drivers, it might be possible to identify areas for improvement. Using options identified through previous research[9], respondents were given six answers to choose from.

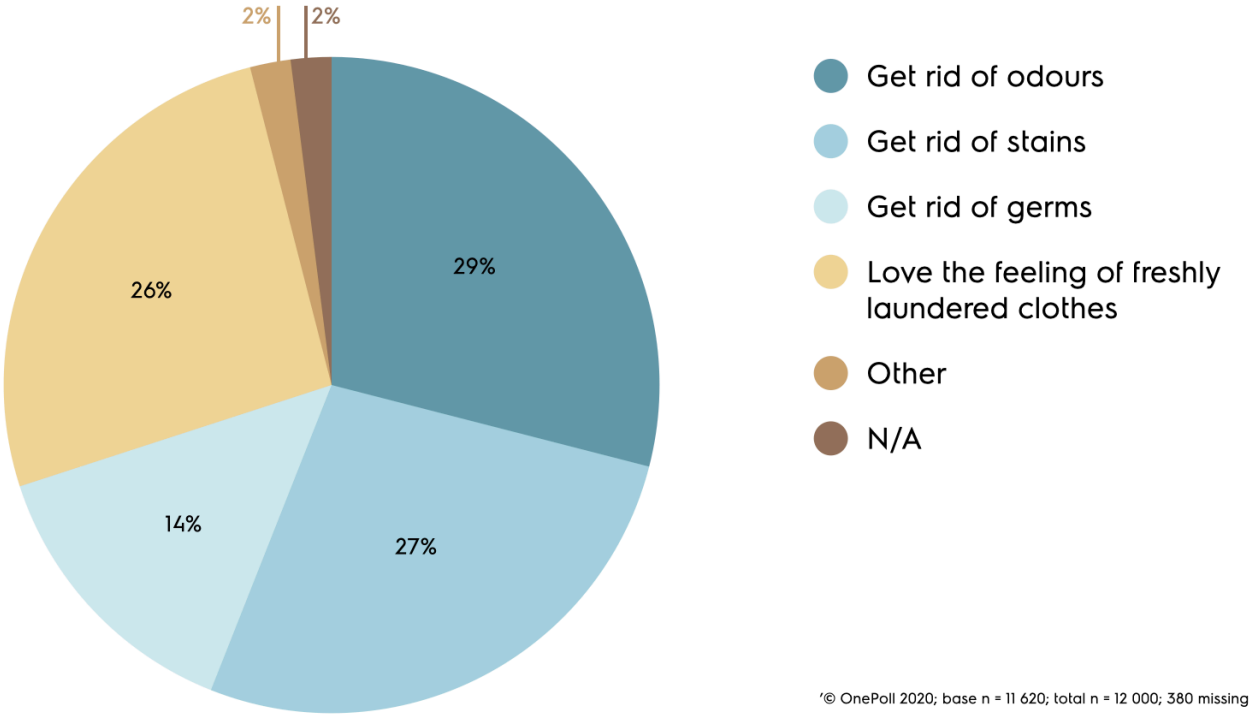
Perhaps, unsurprisingly, the two most popular reasons were, 'getting rid of odours' (29%) and 'getting rid of stains' (27%). There may also be overlap between the two, e.g. garments that have stains and odours.

However, for just over a quarter (26%) of the adult population, the main reason cited was because they 'love the feeling of wearing freshly laundered clothes'. Using household data for Europe[10], this equates to over 409 million washes every week. Further analysis identified age and marital status as key drivers behind this reason to launder. 34% of people aged 55+ chose this reason, significantly more than those who opted for stain or odour removal; among divorcees (34%) and people widowed (36%), it was also the most popular reason given.

Younger age groups were more concerned about odours. 40% of 18-24 year olds and 38% of 25-34 year olds wash clothes, primarily, to get rid of odours. There were no statistically significant gender differences.

Notable observations, with regard to statistical variances in countries, included:

- Denmark, Russia and Switzerland were the least concerned by stains (21% versus average of 27%) whereas Finland was the most (43%).
- Italy, potentially influenced by the timing of the study and its proximity to the COVID-19 pandemic, was the most likely to wash clothes to get rid of germs (25% versus average 14%).
- Russians enjoyed the feeling of wearing freshly laundered clothes more than any other population (44% versus average of 26%) whereas the Swedes were the least concerned (16%).



'© OnePoll 2020; base n = 11 620; total n = 12 000; 380 missing

[9] Better Living Report (2019), www.ElectroluxGroup.com

[10] https://ec.europa.eu/eurostat/statistics-explained/pdfscache/29071.pdf
https://www.pordata.pt/en/Europe/Private+households+total+and+by+number+of+children-1615;
https://en.wikipedia.org/wiki/List_of_countries_by_number_of_households; household size and composition around the world 2017, Data booklet, United Nations

Wash temperatures

It has been over ten years since P&G's detergent brand, Ariel, launched Do a Good Turn, a campaign encouraging people to turn the washing temperature down to 30°C. Since then, the benefits of washing at lower temperatures (e.g. cost savings, energy and water savings) have been promoted far and wide.

A recent study by the University of Leeds and Proctor and Gamble[1] found that washing clothes at the coldest and shortest setting on a washing machine, makes them last longer. Their findings included "more colour loss occurred in 'warmer-longer' wash cycles than 'cold-quick' cycles" and "rate of dye desorption (i.e., dye being released) increases most significantly between 20°C and 40°C". It also found "Microfibre release was significantly greater" at a 40°C, 85 min cycle in comparison with a cold-quick cycle, and this effect continued with further washes.

According to this study, The Truth about Laundry, only 35% of people regularly did their washing at 30°C or lower. 48% of adults were primarily washing at 40°C while for 11%, their regular wash temperature was 60%. Nearly two thirds (63%) of the European population were, therefore, continuing to mainly wash at temperatures above 30°C.

As is shown in the chart below, Spain was the one country where more than three quarters (76%) of the population washed at 30°C or less, with 27% washing with cold water. That still leaves just over a fifth (22%) who washed at 40°C or higher.

Choice: When doing your laundry, what temperature do you use the most?

	Denmark	Finland	France	Germany	Italy	Norway	Poland	Russia	Spain	Sweden	Switzerland	UK
Cold	0%	0%	3%	1%	7%	1%	0%	3%	27%	1%	1%	2%
< 30°C	4%	2%	3%	4%	10%	2%	2%	5%	18%	2%	1%	5%
30°C	26%	8%	43%	30%	35%	14%	23%	29%	31%	9%	26%	41%
40°C	56%	66%	38%	47%	33%	62%	53%	41%	16%	68%	55%	40%
50°C	3%	4%	2%	3%	4%	3%	6%	7%	2%	3%	3%	3%
60°C	8%	18%	8%	12%	9%	15%	13%	12%	4%	14%	12%	3%
> 60°C	1%	1%	1%	0%	1	1%	1%	2%	0%	1%	0%	0%

OnePoll 2020; base n = 11620; total n = 12000; 380 missing

[1] https://www.sciencedirect.com/science/article/pii/S0143720819320431?via%3Dihub

Just over half of Italians (52%) chose to wash at the lower temperatures although 9% consistently washed at 60°C. France and the UK are also notable, with 49% of the population claiming to wash at 30°C or lower.

Further analysis showed age, once again, had an influence with older age groups less likely to wash at lower temperatures than younger groups. Across Europe, 64% of 35-44 years old, 69% of 45-54 year olds and 71% of 55+ all washed at 40°C and above. This is compared to 49% of 18-24 year olds. Women were also more likely to wash at 40°C than men (50% vs 45%), but men were more likely to wash at 60°C (13% vs 8%).

Without comparable data to analyse, it is not possible to ascertain whether the research is evidence of behavioural change and, if it is, the speed at which it might have happened. But, with nearly two thirds of people (63%) choosing not to primarily wash at lower temperatures, sizeable benefits to the environment, household income and clothing utility are not being realised.

Ingrained habits, as we will see, may, in part, explain why more people are not washing at lower temperatures more often, as might a lack of education on cleaning and hygiene efficacy at lower temperatures. By analysing temperature choice alongside the main reasons cited for washing, a clearer picture starts to emerge about why people might be choosing specific temperatures for certain washes, possibly pointing to opportunities for further engagement and education.

In Denmark, for example, where 68% of people washed at 40°C or higher, 52% of people cited the main reasons for washing as getting rid of odours and stains. Both of which, for many fabric types, can be achieved at lower temperatures, particularly with pre-wash treatments such as environmentally friendly spot stain removal and pre-wash soaking. Targeting specific reasons to launder with relevant messaging and, critically, proof, could potentially create sizeable opportunities to shift attitudes and behaviours towards temperature.

Choice: What would you say is the main reason you wash clothes?

	Denmark	Finland	France	Germany	Italy	Norway	Poland	Russia	Spain	Sweden	Switzerland	UK
To get rid of odours	31%	28%	23%	30%	32%	29%	27%	23%	30%	33%	34%	34%
To get rid of stains	21%	43%	24%	27%	22%	33%	26%	21%	28%	30%	21%	27%
To get rid of germs	25%	10%	11%	12%	25%	14%	11%	6%	19%	16%	6%	16%
You love the feeling of wearing freshly laundered clothes	19%	16%	39%	27%	19%	19%	35%	44%	21%	16%	36%	17%
Other reason	2%	2%	1%	1%	2%	2%	0%	1%	1%	3%	1%	2%
N/A - no reason in particular/ I don't know	2%	2%	2%	2%	0%	3%	1%	5%	1%	2%	1%	4%

OnePoll 2020; base n = 11620; total n = 12000; 380 missing

The impact of temperature on reducing micro-organisms

The washing process is able to reduce the level of micro-organisms present on textiles thanks to the synergic effect of different factors:

- Water (extraction and dilution)
- Mechanical action / agitation
- Temperature
- Chemicals (detergents, additives)

The levels of micro-organism reduction are strongly related to the particular combination of the above parameters that characterise a washing programme. Research undertaken by Electrolux has shown the indicative levels of micro-organism removal achievable in different washing conditions. Electrolux showed that, in general, powders perform better than liquids but they have a greater negative impact on textiles/ care. As will also be shown, powders have a greater negative impact than liquids on global warming potential.

Aware of the link between temperature and clothing life?

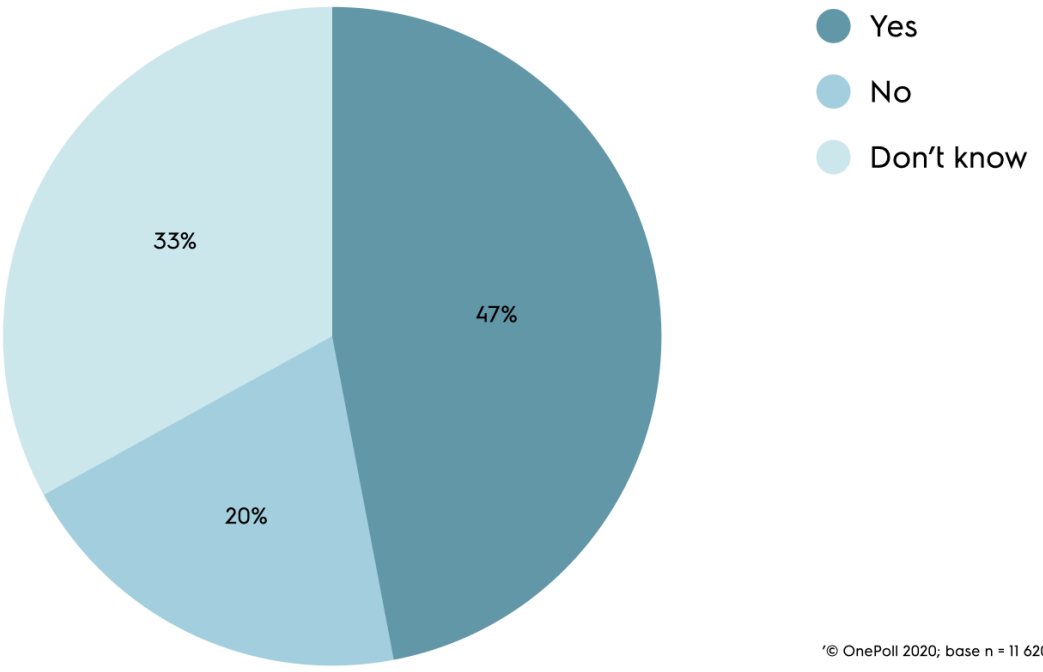
More than half (53%) of all adults did not make the link between temperature and its impact on garment life, including 33% who didn't know. Spain (62%), Poland (58%) and Russia (57%) were three of only five countries where more than half of the population were cognisant of the link. At the bottom of the table were Denmark, with only 33% of people agreeing, Finland (35%) and UK (40%).

To understand whether a shift in focus towards clothing care might encourage more people to wash at lower temperatures, more often, the study explored whether people actually cared about increasing the lifespan of clothes.

82% of adults responded favourably to the statement "I care about increasing the lifespan of clothes". 50% agreed strongly and 32% somewhat agreed, which was fairly consistent across all age groups.

The countries which agreed strongest were Poland (71%) and Germany (57%). In France though, only 19% of adults agreed strongly, with 60% either showing no view (56%) or disagreeing (4%).

Do you think lowering the temperature of your wash would help to make your clothes last longer?



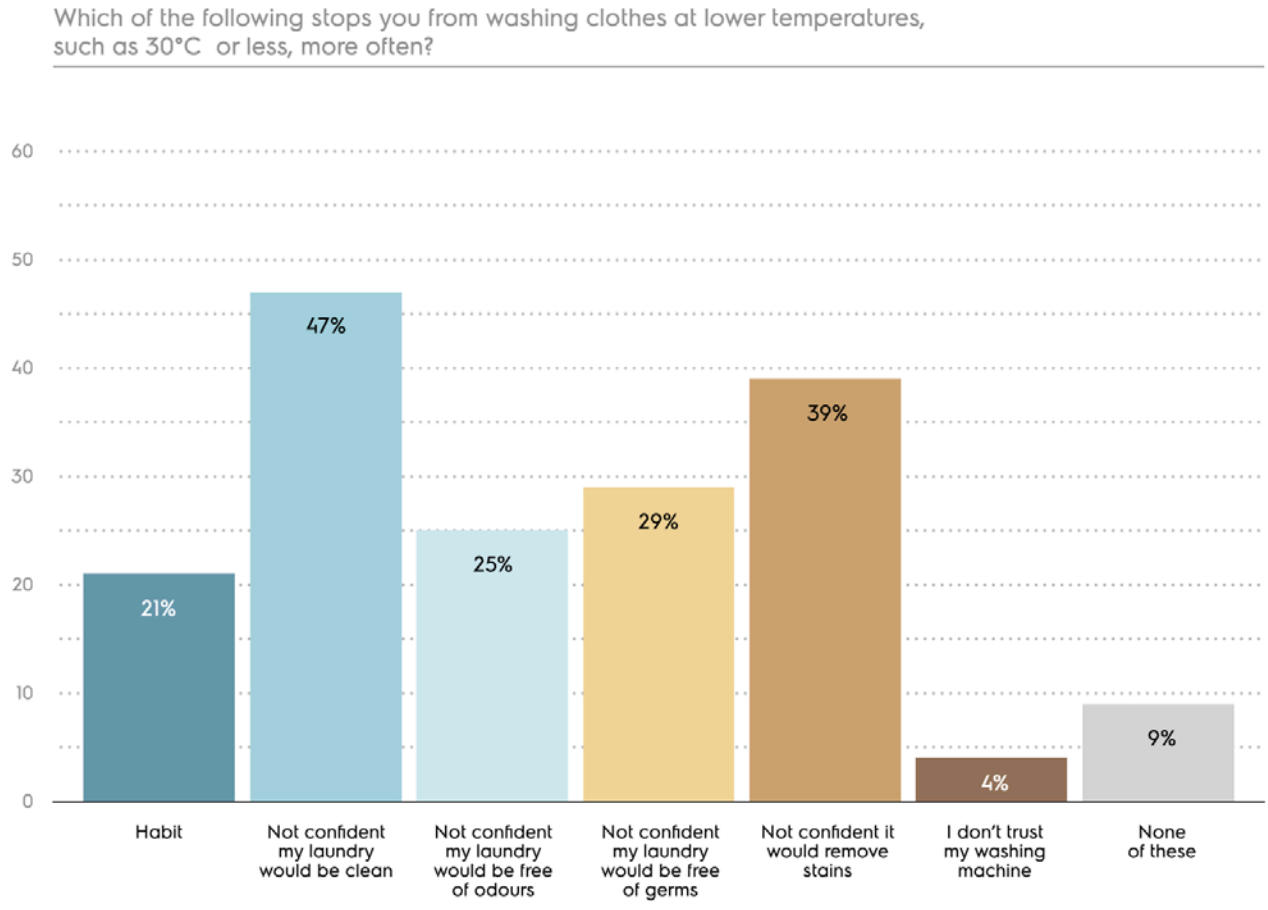
'© OnePoll 2020; base n = 11 620; total n = 12 000; 380 missing

What is stopping people from washing at lower temperatures more often?

The key barriers preventing people from washing at lower temperatures were due to a lack of confidence in cleaning efficacy. 47% of people were not confident their laundry would be cleaned and 39% did not think their laundry would be free of stains.

Lack of confidence in tackling germs (29%) and odours (25%) were not primary drivers but still significant. For over a fifth of people (21%), habit was a barrier to change. Men were more likely to cite habit than women (24% vs 18%) and it slightly under-indexed among older age groups and over-indexed with younger groups.

The country with the most ingrained habits was Spain (34%) while Poland and Sweden, at 16%, were the lowest at citing habit. Finland (63%) was the most sceptical about lower temperatures cleaning effectively, while Denmark (37%) had the most concerns over germs and for Poland (52%), it was stains.



Common items and the most used wash temperatures

Respondents were then asked to state the temperature they most frequently used to wash various items of common clothing, namely t-shirts, jeans, regular underwear, sportswear, outdoor wear and wool.

- 50% of respondents reported washing
- T-shirts at 40°C or above with 10% washing them at 60°C or higher.
- 54% washed jeans at 40°C or above with, again, 10% washing at 60°C or higher.
- 25% washed regular underwear at 60°C or above.
- 15% washed sportswear at 50°C or above.
- 48% washed outdoor wear at 40°C and above and 19% did the same with wool.

Using this data, we can see there are potentially hundreds of millions of items of clothing being washed at too high a temperature.

This behaviour is proven to not only reduce the life span of clothes (especially when one considers the damage to woollen items and outdoor wear through a high temperature wash), the majority of which will end up in landfill, but also negatively impact upon energy and water supplies as well as having a negative economic cost for every household.

The impact of temperature on colour

According to WRAP[12], "Colour is one of the most important influences on consumers when they are considering the purchase of new clothes. Colour also plays a significant role in the consumers' decision making when deciding whether a garment has reached the end of its life. The fading of deep colours and discolouration of light shades can make garments look old, even though they are

still perfectly functional in terms of technical performance".

It would therefore be reasonable to assume that the fading of colours could be a key contributor to clothes being discarded, long before they need to be. The study from Leeds University and Procter and Gamble[11] evaluated the impacts of washing temperature and washing time on garment colour loss (dye fading), and colour transfer (dye staining).

It found, "Significantly greater colour loss and greater colour transfer were observed for a 40°C, 85 min wash cycle compared to a cold-quick (25°C; 30 min) cycle. Desorbing dyes were found to mainly be reactive dyes. From fundamental kinetic studies, it was observed that significant increases in both rate of dye desorption and total dye desorption occurred when increasing from 20°C to 40°C, but the difference in dye release between 40°C and 60°C was not as significant; the same kinetic trends were observed for dye transfer".

"Dry transfer" is a phenomenon that can occur when colour solidity is not strong enough (often associated with low-quality fabrics), which is more evident in the initial washes of a new garment. This 'dry transfer' can happen even at low/cold wash temperatures as the dye has not been strongly fixed to the fibre. When a dye transfer episode occurs, even if only once in a lifetime, it creates a problem.

Dye is released into the environment and if other garments are also being washed at the same time, spoilage occurs. Washing at lower temperatures may reduce the concentration of dye transfer but there is no solution yet available to total prevention.

Concerns over washing mixed colours together came through in the study. 44% of Europeans said they would not wash full loads because of their concerns over washing mixed colours together. This resistance could be down to a number of factors such as habit, prior bad experiences with dye transfer, a propensity for cheaper fabrics or, perhaps, it was advice passed down.

Helping people to both protect garments from dye transfer and to keep clothing from fading would, as will be shown, deliver demonstrable benefits to the planet and to garment life. For 25% of Europeans, being able to wash mixed colours together more often, would also help them do less laundry.

[12] http://www.wrapni.org.uk/sites/files/wrap/Clothing-Durability-Report-final.pdf

Laundry detergents

The type of detergent used can make a measurable difference to the life span of garments.

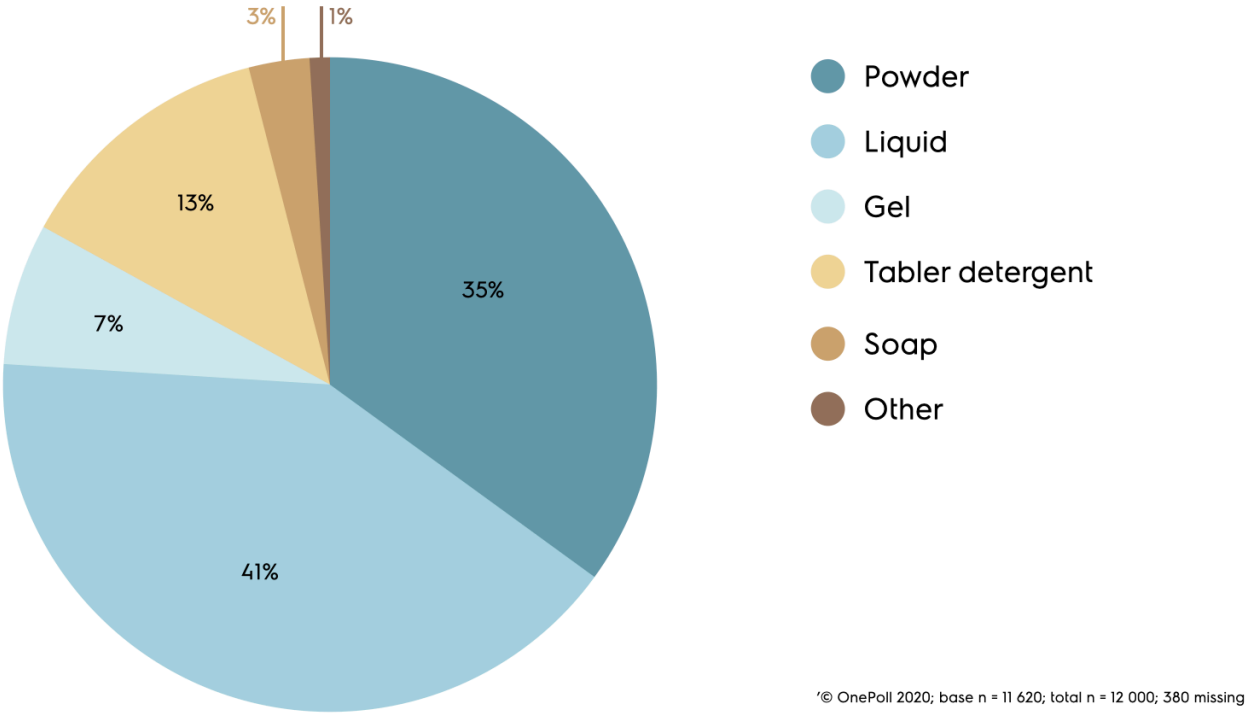
Of the main detergent types used, washing powder, because of its abrasiveness, can shorten the life of many fabrics. Most powders also contain bleach which can be very effective on whites, but can cause brightly coloured clothes to fade, potentially reducing utilisation. Therefore, while powders are more effective at cleaning, as will be shown, they have a greater impact on Global Warming Potential (GWP) and a negative impact on textiles/care.

Over a third of all adults (35%) reported using powder as their detergent of choice. 41% reported liquid, 13% tablet detergent and 7% gel.

Across Europe there were sizeable variances worth noting. Only 8% of adults in France reported using powder compared to 65% of Russians, 58% of Norwegians and 58% of Swedes.

Italy had the highest preference for liquid (64%) followed by France (62%) and Spain (49%). As reported, these three markets also over-index on colder washes which might, in part, explain the variances. It should also be noted that in many markets, powder detergent is often the cheapest option so economic influences on detergent preference should not be ruled out.

What type of laundry detergent do you use most often?



'© OnePoll 2020; base n = 11 620; total n = 12 000; 380 missing

Temperature and detergent and their impact on global warming potential

Newly published analysis from Electrolux, has now quantified the impact of washing temperature and detergent type on Global Warming Potential (GWP) during the washing machine use phase.

The following analysis was undertaken using one model, with one EU-wide detergent. Figures may change significantly for other types of washing machine (e.g. vertical axis) and use phases.

What the analysis shows is that by reducing the temperature of a wash from 40°C to 30°C, the GWP is reduced by 19%. In real terms, that is the equivalent saving of 27.2 kg CO_2 per appliance, per year, based on an average of 220 wash cycles/year[13].

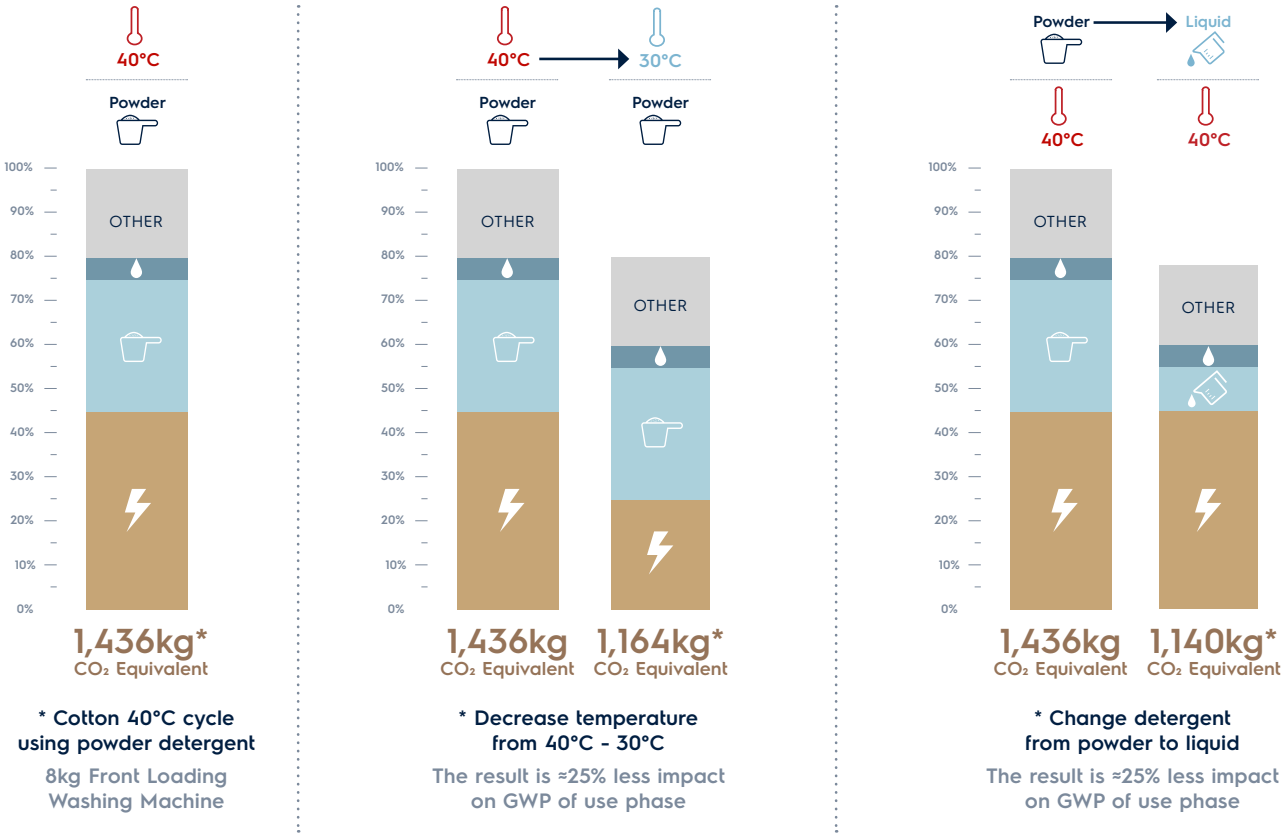
To consider the implications, one might look at the total number of households across the Europe[6],which has been estimated to be 375 million.

With 48% of households primarily washing at 40°C, and assuming one appliance per household, then it would equate to approximately 180 million households regularly washing at 40°C.

If each of those households switched to 30°C, the impact on GWP would potentially be reduced by the equivalent of 4.9 million tonnes of CO_2 per year. This is a minimum as it should also be noted that an additional 15% of Europeans claimed to mainly wash their clothes at 50°C and above including 10% who said they mainly washed at 60°C.

The potential GWP saving, when switching from powder detergent to liquid is, according to this new analysis, just as compelling. By changing the detergent type, within a 40°C wash cycle, the equivalent saving could be as much as 29.6kg CO_2, per appliance per year.

Therefore, whilst further analysis has not yet been completed, it is possible to consider the positive benefits to GWP by households both lowering their wash temperature to 30°C and switching to liquid from powder. The impact could be as high as saving the equivalent of over 50kg CO_2 per appliance, per year.



[13] JRC, Ecodesign and Energy Label for Household Washing machines and washer dryers - Preparatory study Final report, 2017

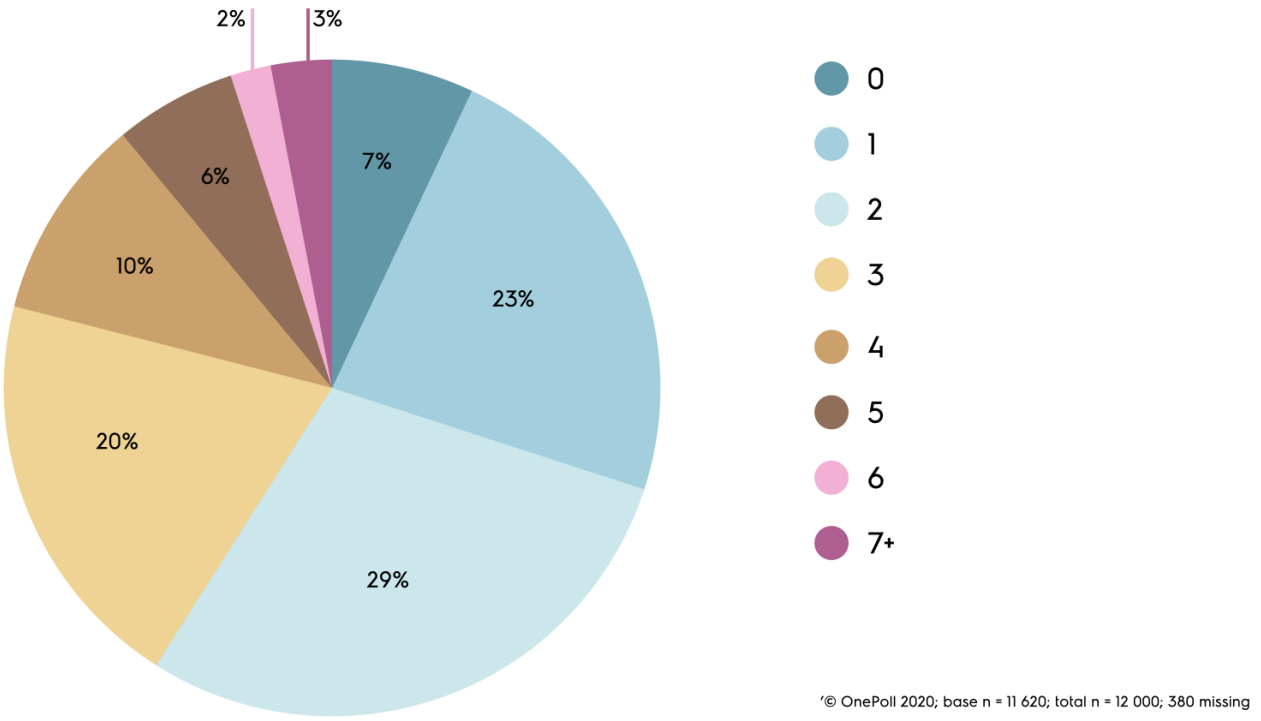
Frequency of laundry - how much washing do we do?

A high frequency of wash is one of the main contributors to garments wearing out faster than they should.

According to research[13], the average number of wash cycles undertaken across the EU is 4.2 per week per household. According to this study, which looked at the number of times people do the laundry (rather than wash cycles), the average was 2.4. Even through the data cannot be corresponded, it would not be unreasonable to assume that, on average, people are doing just over two loads per wash.

71% of people did their laundry between one and three times a week with 21% doing it 4 or more times a week. On average, women (2.6) did slightly more laundry per week than men (2.3) and 35-44 year olds did the most, averaging 2.8 per week. Italy had the highest average number of washes (3.0) and Sweden (2.0) had the lowest average.

On average, how many times do you do your laundry per week?



'© OnePoll 2020; base n = 11 620; total n = 12 000; 380 missing

Laundry frequency during the Covid-19 pandemic

At the time of writing, multiple markets within the study have reimposed restrictions so it must be remembered this study was undertaken between 21st July and 7th August 2020.

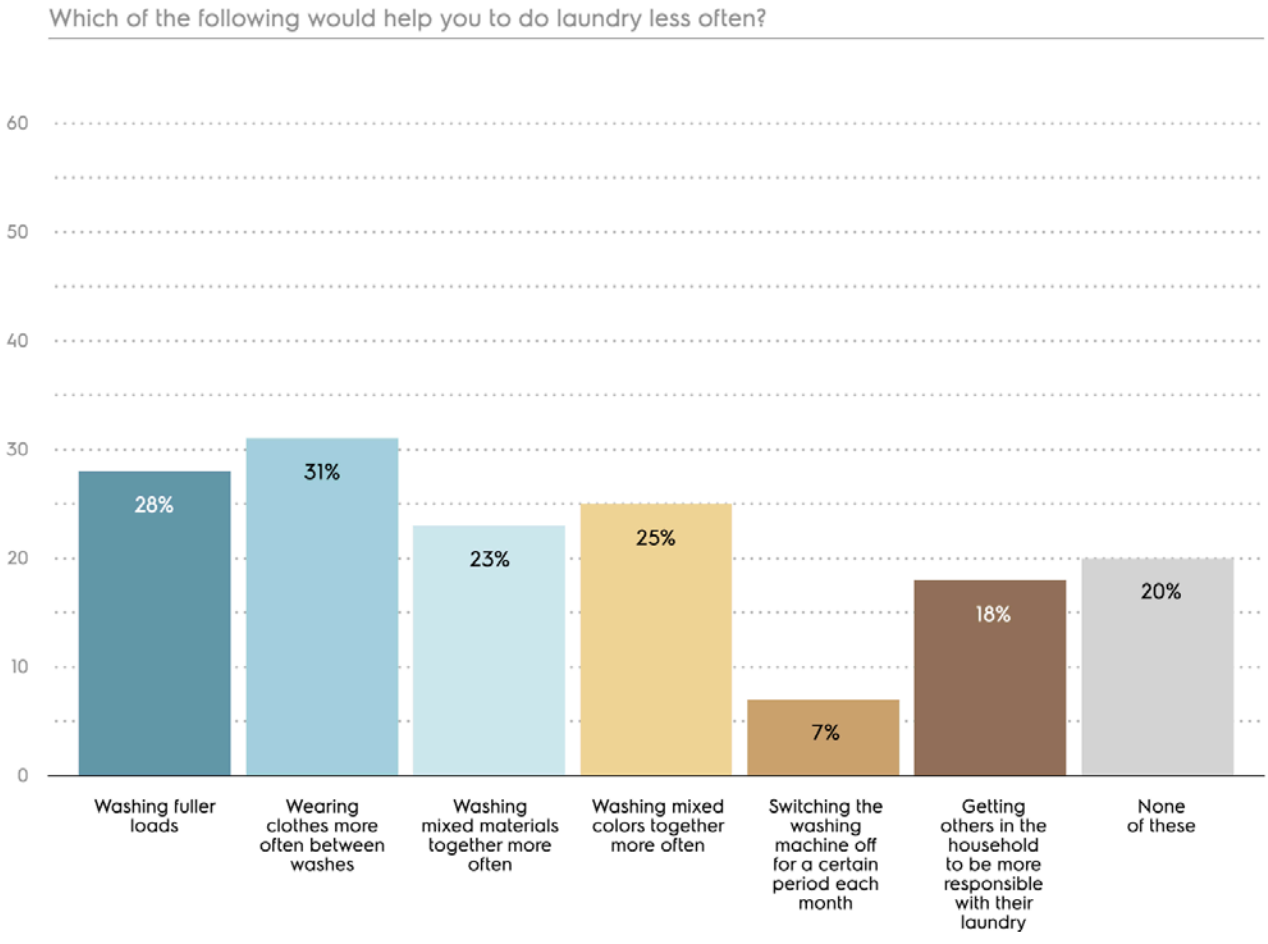
During that time period, 20% of respondents said they had increased the frequency of laundry during the pandemic; 68% of people said their laundry frequency remained the same and 12% had reduced the number of times they did the laundry. Spain and Italy, two of the countries initially hit hardest by the pandemic, both showed nearly a third of respondents (29%) had increased frequency. Conversely, Sweden only reported a 14% increase in frequency, the second lowest to Switzerland which reported a 12% increase.

What would help reduce the frequency of laundry?

Given the impact of laundry frequency on garment longevity and resources, including energy and water, it was important to try and identify the factors that might help people reduce those impacts.

Nearly a third of all respondents, recognised that wearing clothes more often, between washes, was the simplest way to reduce the number of times they did the laundry. 28% of people believed washing fuller loads would reduce frequency while 25% of adults, as reported earlier, said washing mixed colours together more often would help. 23% claimed washing mixed materials, and 18% said getting others in the household to be more responsible, would help.

Interestingly, a fifth (20%) said none of the options would make them do fewer washes. This might speak to some of the ingrained habits already reported, e.g. a percentage of people may not be willing to change their behaviours under any circumstance or for any reason.



The figures below show all responses from across the 12 markets with the most popular choice for reducing the frequency of laundry highlighted.

Which of the following would help you to do laundry less often?

	Denmark	Finland	France	Germany	Italy	Norway	Poland	Russia	Spain	Sweden	Switzerland	UK
Wash fuller loads	14%	28%	22%	28%	36%	29%	32%	26%	34%	32%	23%	26%
Wear clothes more often between washes	24%	33%	33%	29%	24%	44%	24%	37%	29%	30%	30%	36%
Wash mixed materials together more often	30%	21%	28%	21%	26%	20%	30%	17%	25%	18%	21%	21%
Wash mixed colours together more often	31%	25%	26%	21%	27%	20%	34%	17%	29%	20%	22%	24%
Get others in the household to be more responsible with their laundry	14%	13%	15%	18%	24%	16%	19%	38%	15%	15%	19%	16%

OnePoll 2020; base n = 11620; total n = 12000; 380 missing

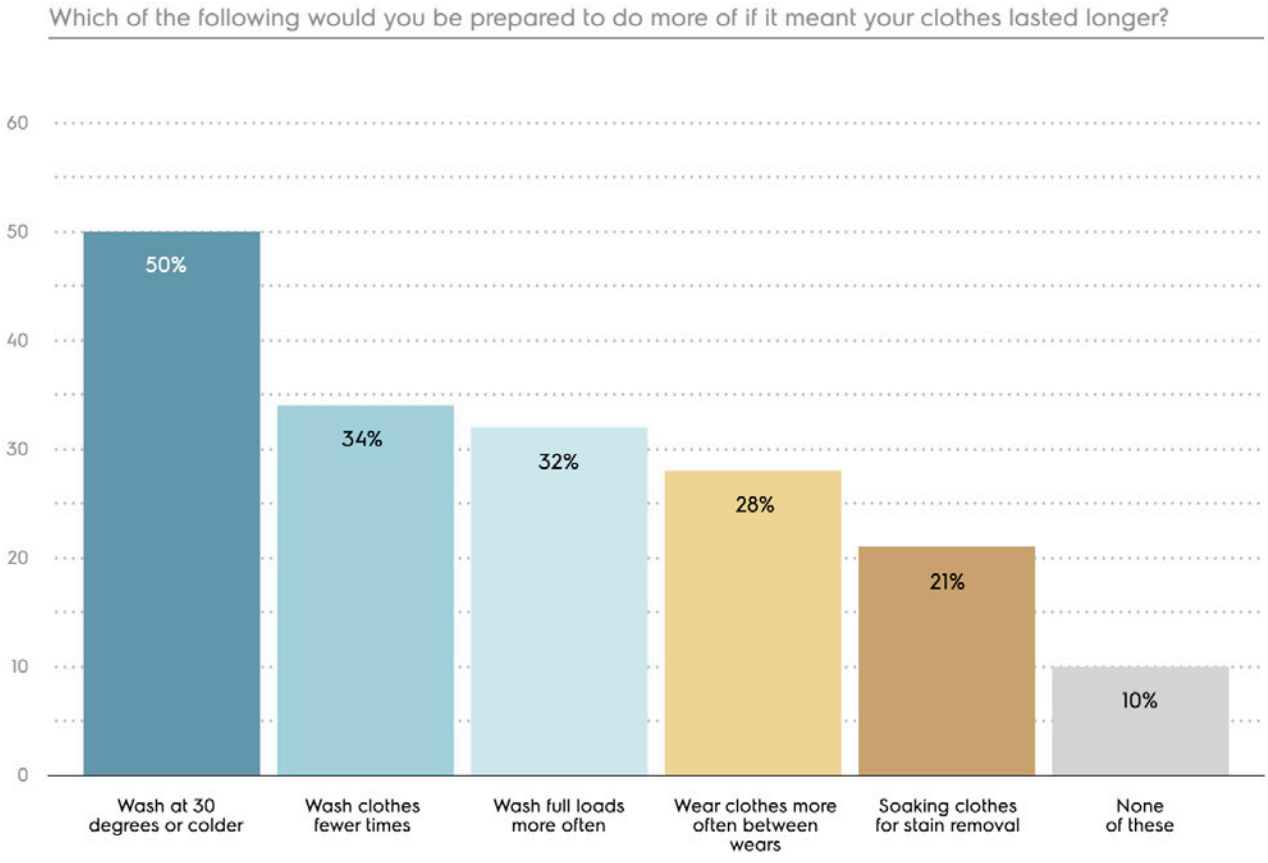
Would people behave differently to extend clothing life?

As well as understanding which change of behaviours might help reduce the amount and frequency of doing the laundry, the study group was asked what they might do differently, if the primary benefit was increasing clothing life.

For half of all respondents, temperature played the most important role in extending garment life. 50% said they would be willing to wash at 30°C or colder compared to 34% who would wash clothes fewer times, 32% who opted to wash full loads more often and 28% of people who also believed in wearing clothes more often between washes.

Only a fifth of respondents (21%) said 'soaking clothes for stain removal.' Given 'getting rid of stains' was the second most popular reason for washing garments, there could be merit in exploring this further.

It is widely accepted that removing stains promptly, via spot stain removal, for example, can result in more wears between washes. Once a stain is treated, the idea that it requires a higher temperature wash could be challenged resulting in significant benefits to garments and the environment.



The chart below shows the main preference per country with all, bar Sweden, opting to lower the temperature of the wash. For a number of countries, as we will see, this attitude is out of step with actual laundry behaviours. Switching the primary benefit of lowering temperatures to impact on clothes, rather than potential energy/ cost savings and benefits to the environment, could, on this evidence, be more persuasive in delivering change.

Which of the following would you be prepared to do more of if it meant your clothes lasted longer?

	Denmark	Finland	France	Germany	Italy	Norway	Poland	Russia	Spain	Sweden	Switzerland	UK
Wash at 30°C or colder more often	47%	46%	50%	48%	54%	44%	61%	59%	55%	39%	50%	52%
Wash clothes fewer times	24%	44%	29%	33%	22%	36%	40%	29%	37%	40%	32%	43%
Wash full loads more often	26%	35%	24%	32%	37%	31%	34%	30%	35%	33%	28%	36%
Wear clothes more often between washes	33%	38%	24%	27%	21%	38%	21%	15%	26%	31%	24%	35%
Soaking clothes for stain removal	18%	20%	16%	18%	21%	18%	28%	34%	21%	17%	20%	22%
None of these	14%	11%	11%	12%	6%	10%	4%	5%	5%	13%	14%	13%

OnePoll 2020; base n = 11620; total n = 12000; 380 missing

Full loads of washing

Washing full loads of laundry is generally accepted to be better for the environment. But there are certain fabrics, such as denim, delicates (e.g. wool, silk, viscose) and special

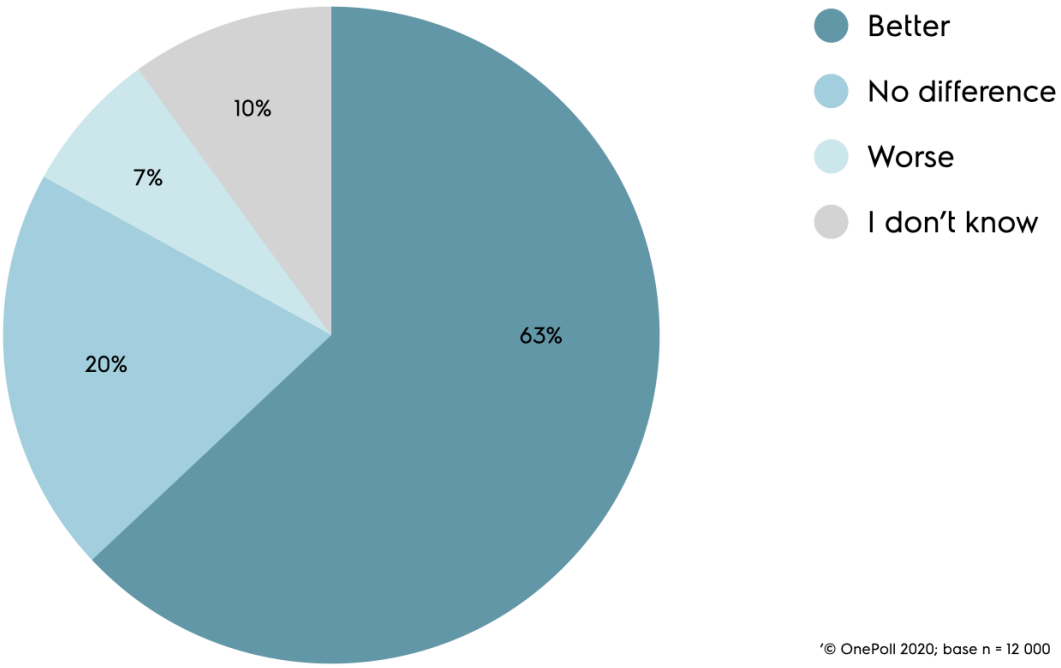
items, such as duvets and down jackets, which will degrade more quickly when washed in a full load. This can also be the case with garments with zips and rivets. Without room to move, these can snag and pull, stitching can break etc. which results in garments being thrown out before they need to be.

63% of respondents believed washing full loads of laundry is better for the environment, with 30% not convinced and 7% who claimed it to be worse. However, when asked how often they wash with full loads, only one in three (33%) replied 'always'. 45% said 'often', 16% 'sometimes', and 5% rarely or never.

The gap between an attitude that recognises a clear benefit to the environment and a behaviour which doesn't support it, could be explained by a number of factors. The discrepancy highlights one of a number of green gaps within laundry – the gap between recognising clear, green benefits and green actions.

The countries least likely to wash full loads are Russia, where only 15% always wash with full loads and France (22%). This might be explained by Russians and French also reporting they were most likely to wash their clothes because they 'love the feeling of wearing freshly laundered clothes'. The countries which top the list of always washing full loads are Spain (51%) and the UK (42%), both of which chose "getting rid of odours' as the main reason to launder.

Do you think doing full loads of laundry is better or worse for the environment?



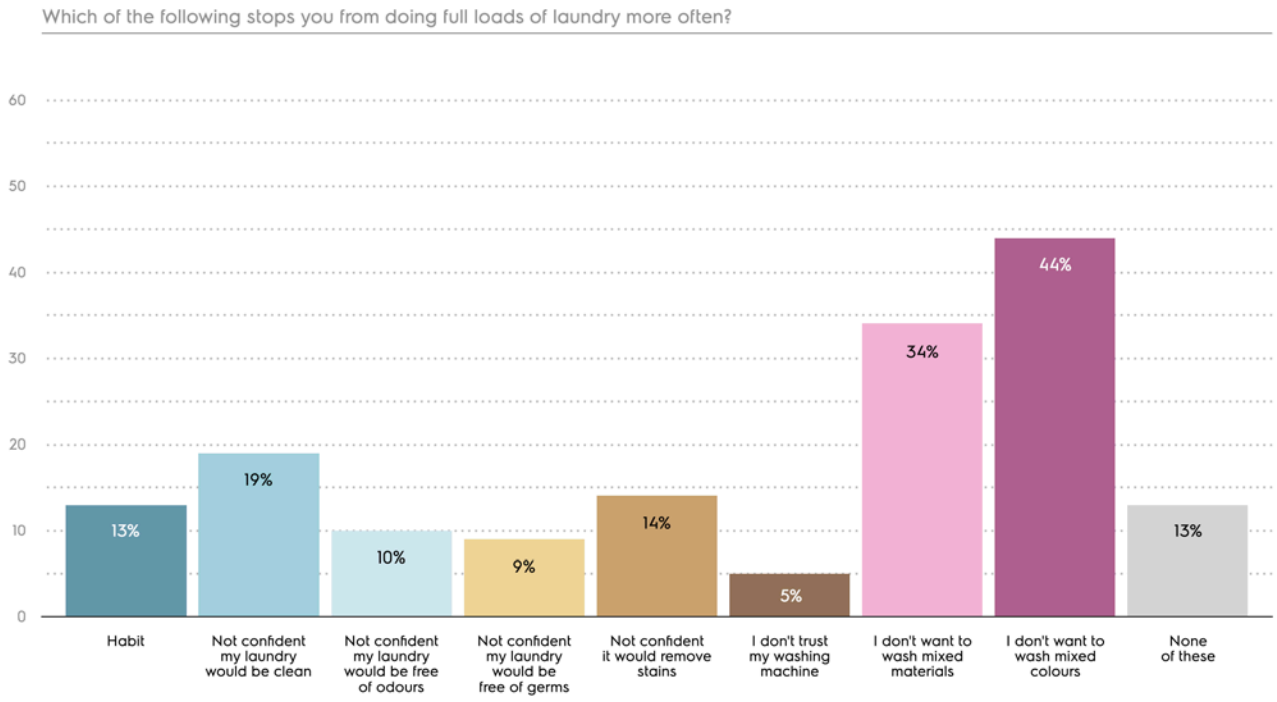
'© OnePoll 2020; base n = 12 000

What stops people from washing full loads more often?

Two main reasons were cited for not washing full loads more often. 44% of people do not want to wash mixed colours and 34% do not want to wash mixed materials.

The attitude towards not wanting to wash mixed colours is felt more keenly by women (49% than men (39%) and, in part, should be seen in context to temperature data. But, temperature might not be the only factor in explaining the results. Spain, for example, where 76% of people wash under 30°C, showed 41% of people concerned about mixing colours.

Many websites and organisations advocate separating colours and materials before washing. This, together with ingrained habits around the laundry process, might suggest a high degree of resistance among the 67% of people who do not always wash full loads, to do so more often.



The use of fabric conditioner

41% of all adults questioned in the study, reported using fabric conditioner when washing outdoor wear. In line with previous analysis, it was younger age groups who were more likely to use conditioner with these particular fabrics. 48% of 18-24 years old used it, increasing to 50% of 25-34 years old. Compared to only 31% of 55+ and 38% of 45-54 years old.

The countries which were least likely to add conditioner were Switzerland, where fewer than a quarter reported using it (22%) and Finland (28%). Conversely, nearly two thirds of people in Poland (64%) and Spain (63%) added fabric conditioner to the wash cycle.

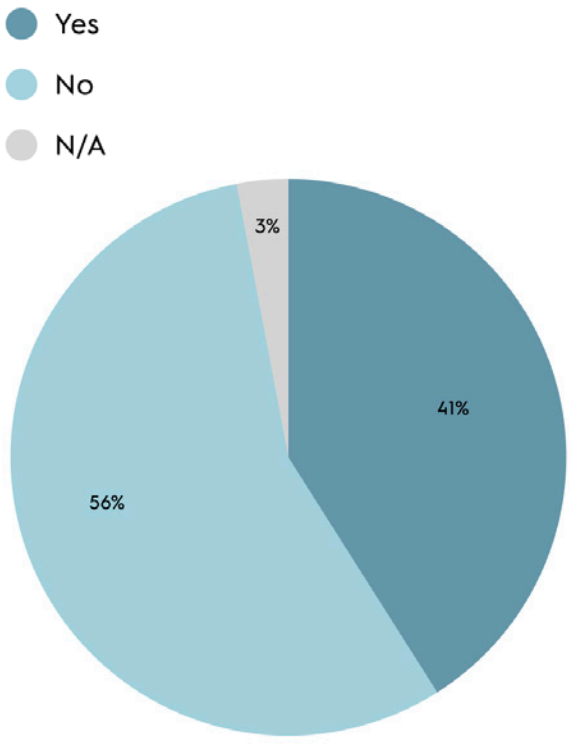
There is also a lot of anecdotal evidence of fabric conditioner having a negative impact on the performance of technical sports / yoga

wear. While the authors of this study have found no hard evidence of this, there are a notable number of websites, and brands, which state fabric conditioner can interfere with a garments wicking properties (i.e. fabrics that draw moisture away from the skin to the exterior of the fabric, making it easier to evaporate).

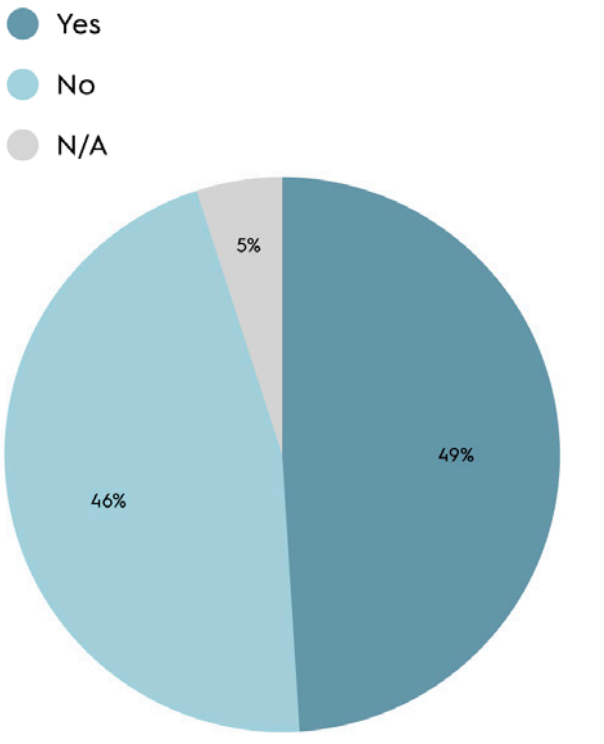
49% of all adults reported using fabric conditioner for sports / workout / yoga clothes. Again, younger age groups were at the forefront of driving the numbers. 57% of 18-24s and 59% of 25-34s reported using it, both statistically significant. The three countries where usage was highest were Spain (75%), Poland (72%) and Italy (62%)

The three countries where usage was lowest were Switzerland (33%), Finland (34%) and Denmark (38%). However, it should be noted that while they were the lowest scoring, each country still had more than a third of all adults potentially shortening the life of high performance fabrics by using fabric conditioner.

Do you use fabric conditioner when washing outdoor wear such as ski jackets, waterproof jackets etc.?



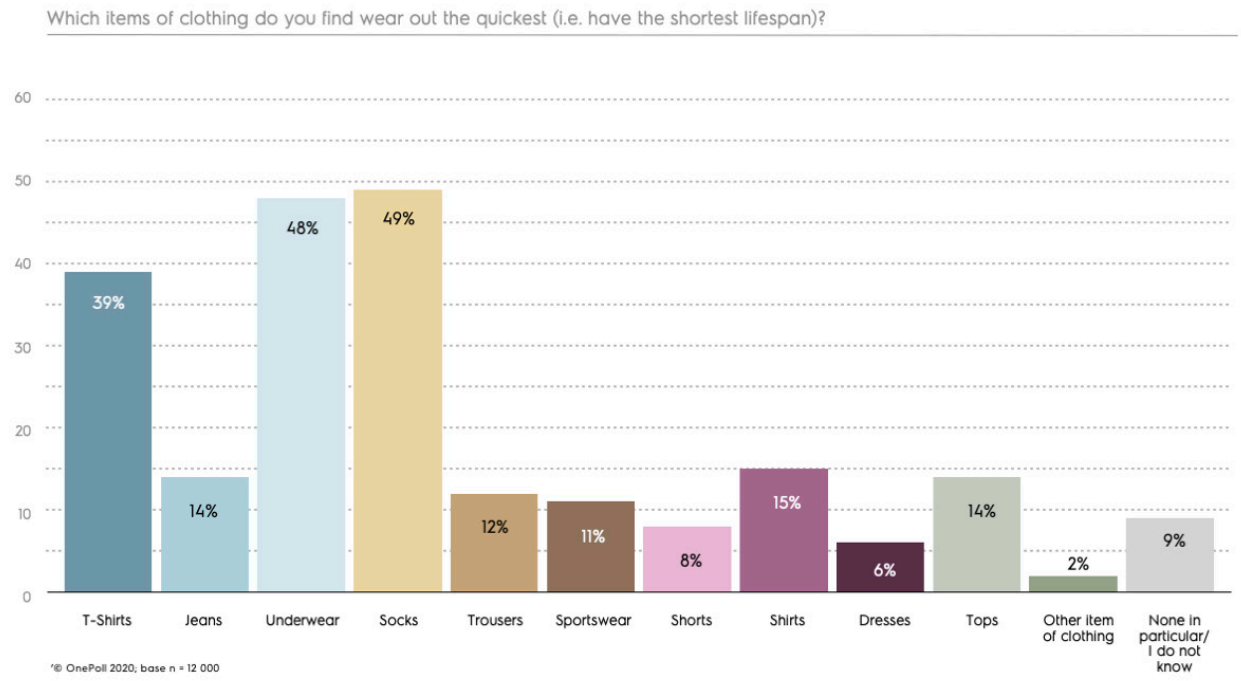
Do you use fabric conditioner when washing sportswear/workout, yoga and gym clothes?



Clothes which wear out the quickest

Understanding which garments people perceive to have the shortest life, could pave the way for targeted information and education programmes. For example, 49% of people believed socks wear out more quickly than any other item. Many websites advocate washing socks at 40°C and above, temperatures which have been proven to reduce garment life.

The same is true with underwear, the second most popular item to wear out the quickest (48%). In both cases, the addition of laundry sanitiser to the wash cycle can kill up 99.9% of bacteria and viruses when washed at 20°C with no negative impact on the fabric. Additional studies would be required, though, to evaluate environmental impact assessments before endorsing a change of behaviours such as these.



Attitudes towards garment care

During the study, attitudes to the environment, to garment care and to the relationship between the two were explored.

78% of all adults identified as being 'climate-conscious' but the strength of identity varies considerably. Only 31% of respondents strongly identified themselves as 'climate-conscious' while just over a fifth (22%) were either neutral or rejected the description. That leaves nearly half of all adults across Europe (48%) who did not strongly identify with the description.

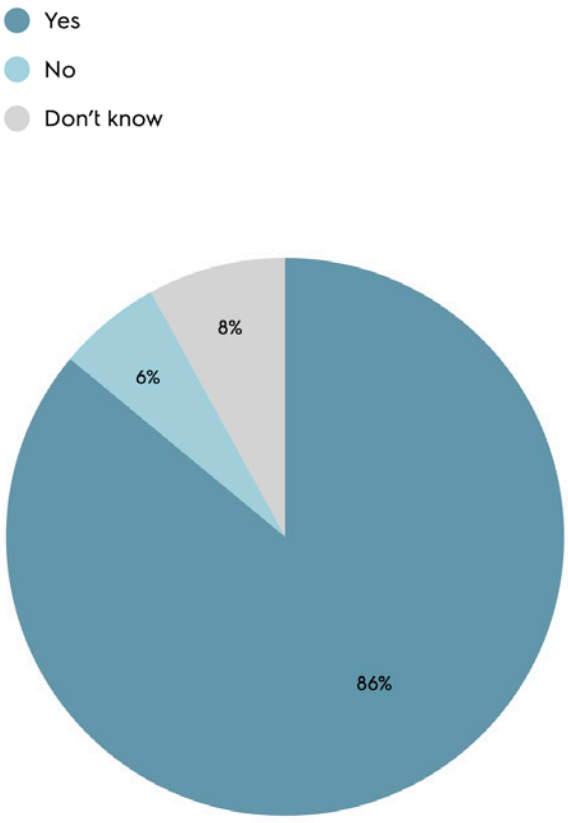
Of the twelve countries studied, respondents in Poland (51%) identified most strongly with being 'climate-conscious', closely followed by Russia (48%). Denmark ranked the lowest with only 14% of adults strongly identifying with the term.

Respondents were then asked if they believed that making clothes last longer is good for the environment. 86% of respondents agreed with 14% either disagreeing or saying they don't know. There were no statistically significant differences by age or gender.

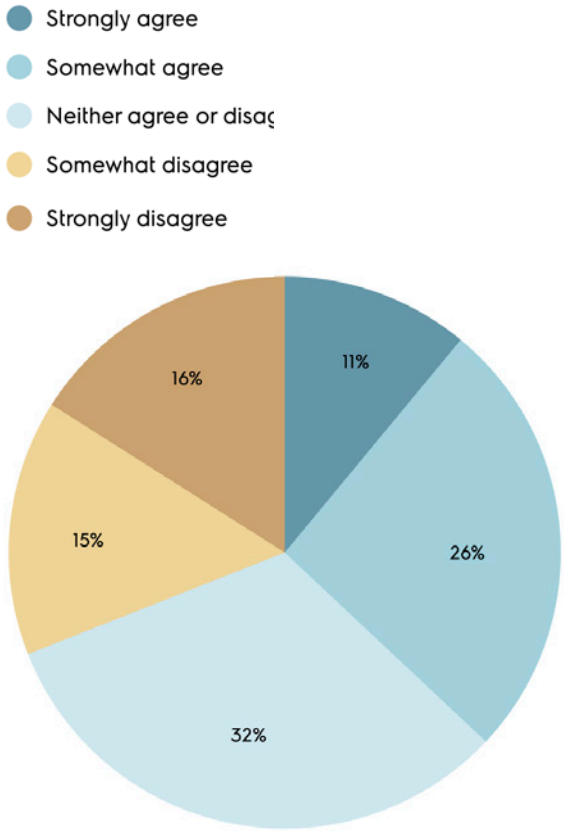
The countries which agreed most strongly were Finland and the UK (94%) while in France only 67% of respondents agreed, with 33% either disagreeing (16%) or saying they don't know (18%).

To understand if people made a conscious connection between laundry and the environment, they were asked whether they felt any guilt. More than a third of all adults (36%) felt some guilt towards the environment when doing the laundry, with 11% feeling strongly about it. Conversely, for 63% of respondents, there was either an absence, or a rejection of any guilt when it came to the impact on the environment.

Do you think making clothes last longer is good for the environment?



To what extent do you agree or disagree with the following statement? 'I often feel guilty about the impact of doing laundry on the environment/planet'.



(c) OnePoll 2020; base n = 11620; total n = 12000; 380 missing

How do people approach doing the laundry?

Two questions were asked to understand (a) how often do people follow care labels on all garments and (b) how have people learnt to do the laundry.

The reason why temperature shown on care labels is important, is because it represents the highest safe level for that particular fabric to be washed at, not the recommended setting to wash at. With modern appliances, most laundry can be effectively cleaned at 20-30°C lower than the specified maximum.[14]

In the study, just under a third (32%) of all adults claimed to always follow the washing instructions on the care label. An additional 40% said they often follow the guidelines, 16% reported 'sometimes' with 9% saying they rarely, if ever, followed them.

18-24s were less likely to follow the instructions (24% versus 32%) while 55+ year olds were significantly more likely to always follow the care label (40%). The country least likely to follow the advice was the UK (26%) compared to Italy (41%) which was most likely to follow the instructions.

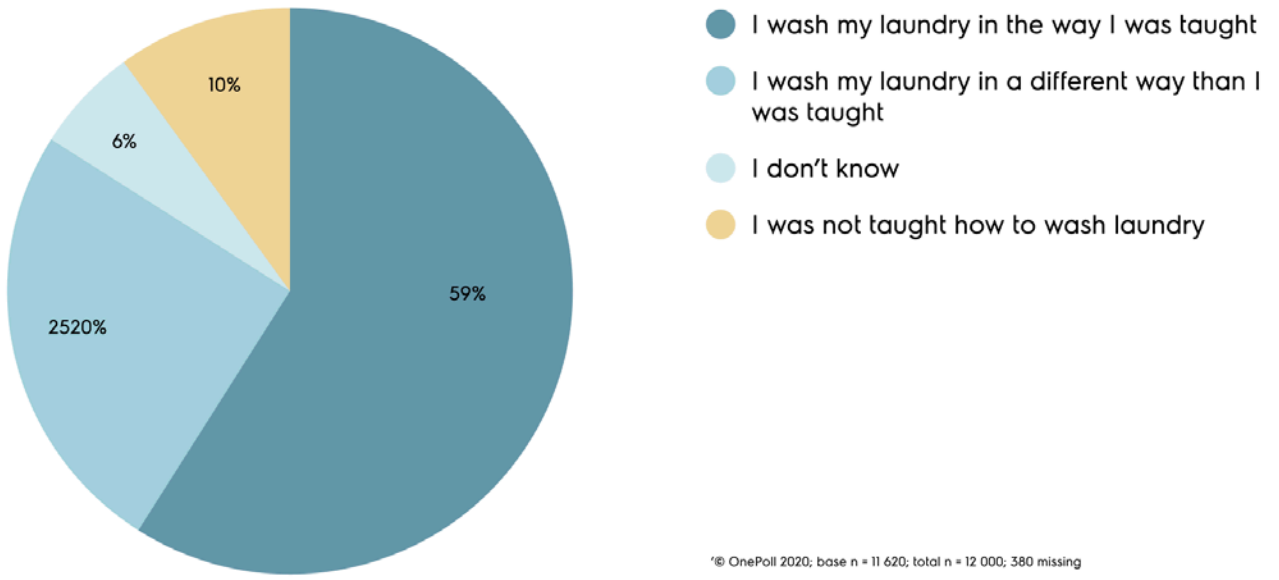
In terms of how people learn to do the laundry, nearly 6 out of 10 people (59%) claimed to have inherited their care habits from their parents Given the speed of technological advances within appliances and detergents, plus the increase in environmental awareness, it would be reasonable to assume the laundry practices of nearly 60% of the population could be outdated.

Again, there are biases with age. Younger people were significantly more likely to say they were taught laundry practices (69% of 18-24 year olds and 65% of 25-34 year olds) versus 52% of 55+ year olds.

Italians (69%) were the most likely to have been taught, Brits (47%) were the least likely, and Poles (35%) were the most likely to do their laundry differently to the way they were taught.

16% of respondents claimed to either not know (6%) or said they weren't taught (10%), meaning 84% of all adults having had some sort of tuition on how to do laundry.

Would you say that you mainly wash your laundry in the way that you were shown or taught to you?



'© OnePoll 2020; base n = 11 620; total n = 12 000; 380 missing

[14] https://www.aeg.co.uk/siteassets/common-assets/04.-care/inspiration/clp/lookbook_the_care_label_project.pdf/

CONCLUSIONS AND IMPLICATIONS

The Truth About Laundry is the first pan-European analysis of attitudes and behaviours towards laundry, fabric care and the environment. Through its study of 12,000 adults, it aims to help inform strategies and approaches to extending the life of clothes, thereby reducing the environmental impact.

The average consumer now owns 60% more items of clothing than they did ten years ago, and this appetite is showing no signs of abating. Current estimates reveal clothing consumption will increase by 63% to 102 million tonnes by 2030. The impact on the planet is immense and not just from the 10% of annual global emissions accounted for by the fashion industry.

There can be little doubt that the rise of throwaway fashion has helped to create an immense catwalk of environmental waste. More than half of all fast fashion produced in a year, is thrown away. The average garment is worn only ten times before being discarded. And 57% of all discarded clothing is sent to landfill. Ultimately, people are buying more clothes than ever, wearing them fewer times and discarding them at a faster rate.

Electrolux is on a mission to help tackle the problem. It wants to play its part by helping to make clothes last twice as long, with the half the environmental impact. By extending the active life of clothes by just nine months, it would reduce carbon, water and waste footprints by about 30% per garment.

The good news, and there is much to celebrate within the study, is that the majority of people do care about extending the life of clothes and 86% of Europeans believe it to be in the best interests of the planet. Just over a third of adults also feel a level of guilt about the impact of their laundry habits on the environment. But there is still much to be done, to close the gap between green words and green actions.

Nearly two thirds (63%) of Europeans regularly wash their garments at temperatures of 40°C and above. New research, published in this study, reveals that by simply washing more often at lower temperatures, there would be a sizeable, positive impact on Global Warming Potential. The benefit of temperature reduction would be also amplified, as it is also a critical factor in increasing the life span of garments.

But less than half (47%) of adults recognise this relationship which, given data around attitudes towards clothing care, could make it an effective route to encouraging change.

Changing laundry habits will not be a simple case of providing advice and hoping people will follow it. The analysis reveals a complex series of influences and decisions involved in the laundry process, many of which, for nearly 60% of all adults, have been passed down from previous generations. The reluctance to lower temperatures is also borne out of a disbelief in the cleaning efficacy of detergents and appliances at lower temperatures. Both of which are out of step with advances that have been made. The result is millions of garments being washed at higher temperatures than necessary which causes fabric and garment degradation, a key factor in what has been labelled, 'throw-away fashion'.

The type of detergent people use also has a considerable impact on Global Warming Potential and clothing life. 35% of people across Europe use powder as their main detergent of choice. Switching from powder to liquid would result in a substantial saving to the Global Warming Potential as well as increasing the lifespan of garments. But switching might not be a simple step for many people, as there could be strong economic reasons for powder preference. A further dilemma for people could be that powder, because of its more complete formulation, performs better than liquid.

71% of adults did the laundry between one and three times a week. There is a clear recognition from people, that wearing clothes more often between washes is a simple and effective way of reducing laundry, increasing the life of clothes and having a positive environmental impact.

To conclude, the challenges are clear. If sizeable benefits to the environment and to extending clothing life are to be realised, then a number of key areas must be addressed:

1. More people must wash at lower temperatures more often, and more research and analysis should be conducted to further understand overcoming the barriers to doing so.
2. Encouraging people to wear clothes more often between washes would extend garment life. This is already a recognised benefit to the majority of Europeans.
3. Making people aware of the pros and cons of powder versus liquid, while addressing potential economic barriers, could deliver an immediate environmental benefit.
4. Age appears to play a large part across a wide range of laundry behaviours and should be considered when developing solutions.
5. Understanding more about why and how people wash their clothes could lead to advancements in technology and detergent formulas which deliver the benefits people are looking for at a lower environmental cost.