

CONSUMER APPROACHES TO TACKLING MARINE POLLUTION IN CAPE TOWN, SOUTH AFRICA

MAY 2017

The report is written under the umbrella of and funded by Green Trust (GT) project 5548 – Beyond the Horizon: Consumer and restaurant approaches to tackling marine pollution. The contracted consultant is Aaniyah Ouardien, people and conservation consultant. John Duncan, senior manager of WWF's South Africa Marine Programme, oversees project execution.

Acknowledgements

The project executant thanks the team (Nicola Jenkin, Wendy Engel, Karoline Hanks and Diony Lalieu) for their input and advice, as well as Karen Knipscheer, Beverly Coles and Mark Webb that have assisted with this report pro bono. The project executant would also like to thank the students involved with the consumer research – Nicole Vorster, Keanu Martin and Dean Erasmus.

Disclaimer

The project team takes full responsibility for the report's contents and conclusions produced in the report. Aaniyah Ouardien was the lead author.

Report citation

Ouardien, A. & Knipscheer, K. 2017. Consumer approaches to tackling marine pollution in Cape Town, South Africa. Unpublished report. Cape Town: The Beach Co-op.

Contents

List of abbreviations and acronyms	i
List of figures	i
Background.....	1
Research design, objectives and methodology	1
Research objectives	1
Research methodology.....	2
Summary of main findings.....	3
Awareness of the term recycling.....	3
Source of awareness of recycling	3
Messages regarding marine or ocean plastic litter	3
Recycling at home	3
Responsibility and impact.....	4
Do consumers have the power to influence restaurants in terms of packaging?	4
Could restaurants play a role in reducing pollution that ends up in the ocean?	5
Supporting restaurants that make changes to reduce pollution.....	6
Influence of environmentally friendly packaging.....	6
Influence of drinking straws, beverage lids and individual sweet wrappers	7
Additional cost.....	10
Conclusions	10
References	11

List of abbreviations and acronyms

Kg	Kilogram
Km	Kilometre
WWF	World Wide Fund for Nature

List of figures

Figure 1: Demographic sample of 80 consumers	2
Figure 2: Respondents on recycling at home	4
Figure 3: Respondents on their power to influence restaurants in terms of packaging	5
Figure 4: Respondents on whether restaurants could play a role in reducing pollution.....	5
Figure 5: Respondents on supporting restaurants using environmentally friendly packaging	6
Figure 6: Respondents on charging more for packaging	7
Figure 7: Respondents (by race and gender) on charging more for packaging.....	7
Figure 8: Respondents on support for restaurants that do not have straws	8
Figure 9: Respondents on scrapping sweets after a meal	9
Figure 10: Respondents on the bring-it-back system.....	9
Figure 11: Respondents on bringing their own containers to a restaurant	10

Background

A recent paper published in *Science* estimated that South Africa was the 11th worst offender in the world when it comes to releasing plastic waste into the sea (Jambeck et al. 2015). South Africa scored badly, coming in ahead of heavyweight polluter India, because of the unfortunate combination of a high per capita production of waste (estimated at 2 kilograms (kg) per person per day, almost as much as the United States) and the high proportion of 'mismanaged' waste not entering a formal disposal scheme (56% compared to 11% in Brazil or 2% in the United States). More than 80% of the annual flow of plastic litter into the oceans, such as drink bottles and plastic packaging, comes from land-based sources (Ecowatch.com 2016).

A report provided by United Kingdom-based Eunomia Research & Consulting found that despite the high profile of projects intended to clean up plastics floating in mid-ocean, relatively little ends up in this location (Ecowatch.com 2016). Barely 1% of marine plastics are found floating at or near the ocean surface, with an average global concentration of less than 1 kg/kilometre² (km) (Ecowatch.com 2016). This concentration increases at certain mid-ocean locations, with the highest concentration recorded in the North Pacific Gyre at 18 kg/km² (Ecowatch.com 2016). By contrast, the amount estimated to be on beaches globally is five times greater and, importantly, the concentration is much higher at 2 000 kg/km² (Ecowatch.com 2016). While some may have been dropped directly or have been washed up, it is clear there is a 'flux' of litter between beaches and oceans. By removing beach litter, we are, therefore, cleaning the oceans.

The findings from this report support other research undertaken in South Africa. A survey of beach litter around South Africa in 2015 led by Professor Peter Ryan and Professor Coleen Moloney found that 94% of litter washing up on South African beaches is plastics, of which 77% is packaging (Ryan & Moloney 2016). It follows that most marine litter is plastic packaging – single-use applications – that is particularly prone to inappropriate disposal. The amount of litter washing up each day in Cape Town's Table Bay tripled between 1994 and 2011, far outstripping the 60% growth in population in Cape Town over the same period (Ryan & Moloney 2016). It follows that we urgently need effective solutions to curb the increase of plastic waste.

Research design, objectives and methodology

The aim of this component of the project was to interview consumers from the Cape Town area and gain insights into and an understanding of the problems associated with key harmful and non-essential plastic pollutants, and consumers' willingness to change behaviour in response. The research also explored how consumers felt about recycling and the extent to which they would be willing to change their behaviour when consuming food and drinks away from home, with a specific focus on plastic packaging.

Research objectives

In more detail, the research was designed to understand the following from the perspective of the average middle-class Capetonian consumer:

- Levels of awareness of the local and global marine litter problem.
- Levels and source of awareness of the purpose and means of recycling.
- Their understanding of their ownership of/responsibility for the problem.

- Their likelihood of changing their purchasing behaviour to using an alternative to plastic packaging.
- Levels of understanding of and willingness to act to find solutions to the marine litter problem.

Research methodology

Aaniyah Omardien and Charmaine Adams approached Professor Peter Ryan of the University of Cape Town to investigate how they could develop and be involved in a project related to marine conservation in 2015. Ryan suggested monthly beach clean-ups at Muizenberg Corner in the intertidal zone to complement his research work focused on sandy beaches. Ryan has been collecting data along the South African coastline related to marine litter, specifically plastics, since the late 1980s.

Ryan and Moloney’s (2016) research has indicated a few key plastic items that need to be refused and/or banned to start reducing the amount of plastic entering our oceans:

- Styrofoam.
- Earbud sticks and plastic lolly sticks.
- Plastic straws and individual sweet wrappers.
- Sports drink bottle lids.

Anecdotal understanding, research and discussion of the marine plastic pollution problem formed the basis for the design and sequencing of the interview and survey questions. Diony Lalieu of Mesh Research was tasked to design the consumer questionnaire, comprising multiple choice and open-ended questions, with input from Aaniyah Omardien. The draft questionnaire was tested with 23 individuals and informed the final questionnaire design. The team, with the help of three students, conducted 80 interviews with consumers over a period of three weeks from 1–24 February 2017. The sample comprised 80 respondents with the demographic characteristics described below.

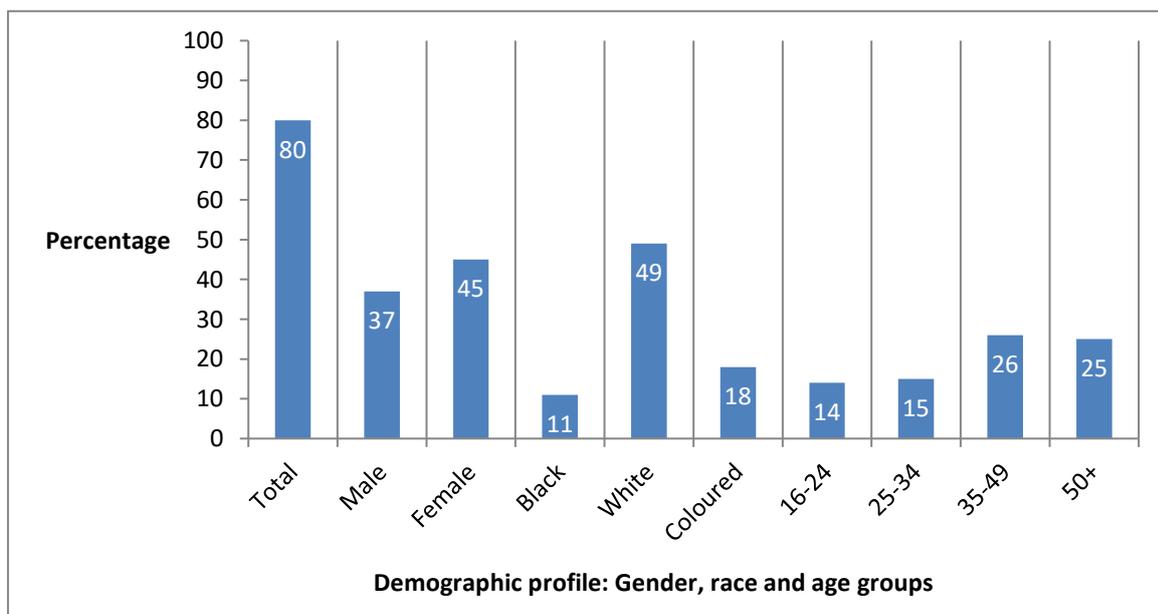


Figure 1: Demographic sample of 80 consumers

Note: One respondent did not indicate race and one respondent was Indian

Mark Webb of Targetlink Research provided an initial analysis of the questionnaires. Karen Knipscheer of Karen Knipscheer Research and Aaniyah Omardien performed further analysis and compiled this report.

Summary of main findings

The main findings arising from the analysis of the questionnaire are summarised below.

Awareness of the term recycling

All respondents had heard of the term 'recycling'. When asked what it meant to them, a variety of interpretations were given:

- Most (48 respondents/60%) confirmed that they reuse, meaning a product is used again for its originally intended purpose, while 13 respondents/16% mentioned that they reduce their waste.
- Twenty-one respondents (26%) try to limit the impact of litter on the environment.
- Only 15 people (19%) included in their responses a description of the action of getting their waste collected and processed: "Separating plastic, paper, tins, bottles for re-use", "We reuse and repurpose everything we can to alleviate the burden on the ecosystem."

Source of awareness of recycling

Respondents were asked how they became aware of recycling. The options provided were the newspaper, radio, television, school and/or friends.

- Respondents had been informed about recycling both at school and through the media.
- More than half the respondents (51%) mentioned television and radio and 30 (38%) mentioned newspapers. Thirty-five respondents (44%) mentioned school as an influence, and 24% mentioned family, friends and/or colleagues.

Messages regarding marine or ocean plastic litter

The kind of messaging that consumers are open to receiving, related to creating more awareness on the marine plastic debris issue, can be divided into hard-hitting imagery, statements of facts and information around the lifecycle of single-use plastics. Broadly equal numbers of respondents were in favour of each category.

Recycling at home

Most consumers (90%) claimed to recycle at home. The demographic breakdown below reveals that this is evident across gender, all age groups and races included in the sample.

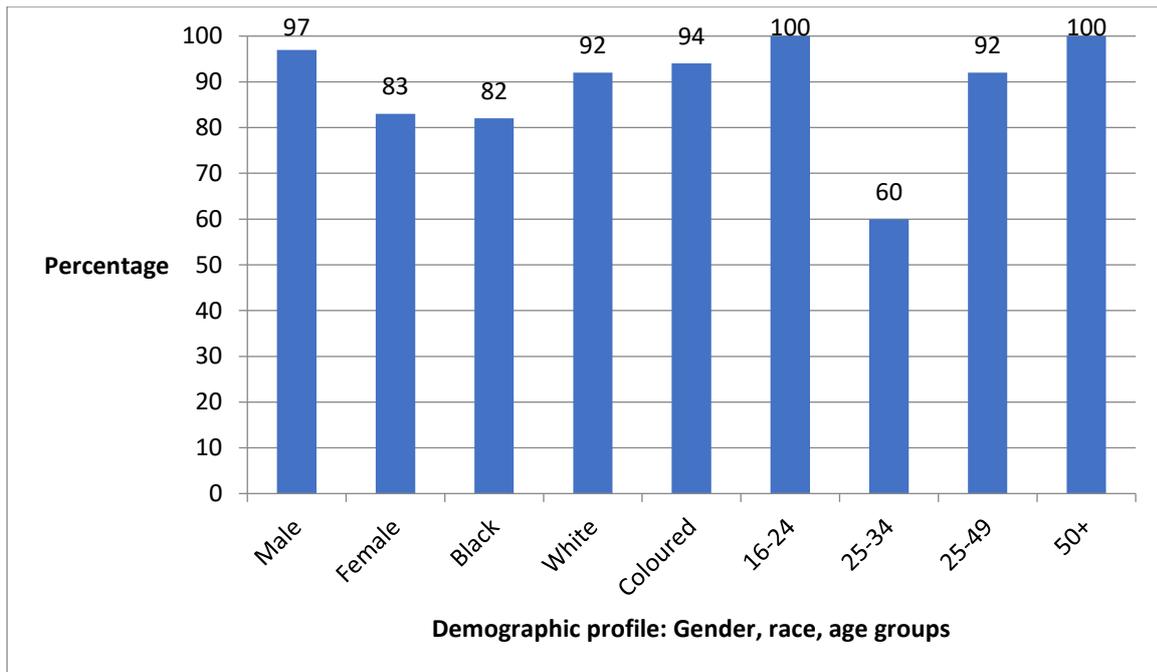


Figure 2: Respondents on recycling at home

When asked why they recycle:

- 50% mentioned a desire to reduce their impact on the environment or to “save the planet”.
- 31% mentioned their motivation as fulfilling their duty as responsible citizens.
- 15% said their reasons for recycling were related to reducing waste and 4% because of what they learned from the school and media.

About 10% of respondents do not recycle and mentioned logistics and a lack of municipal support and recycling facilities as the reason.

Responsibility and impact

Respondents took personal ownership of recycling.

- 88% did not believe that it was solely the government’s responsibility to recycle.
- 98% felt their personal recycling efforts to be worth it and that it made a positive impact.
- 94% of respondents accepted that they were to some extent responsible for the waste that ends up in the ocean.

Do consumers have the power to influence restaurants in terms of packaging?

Although most respondents (72%) felt that they do have the power to influence restaurants in terms of packaging, 28% felt that they had no influence in this regard. Younger respondents appeared to be more likely to feel that they could influence restaurants. This demographic is represented in the following figure.

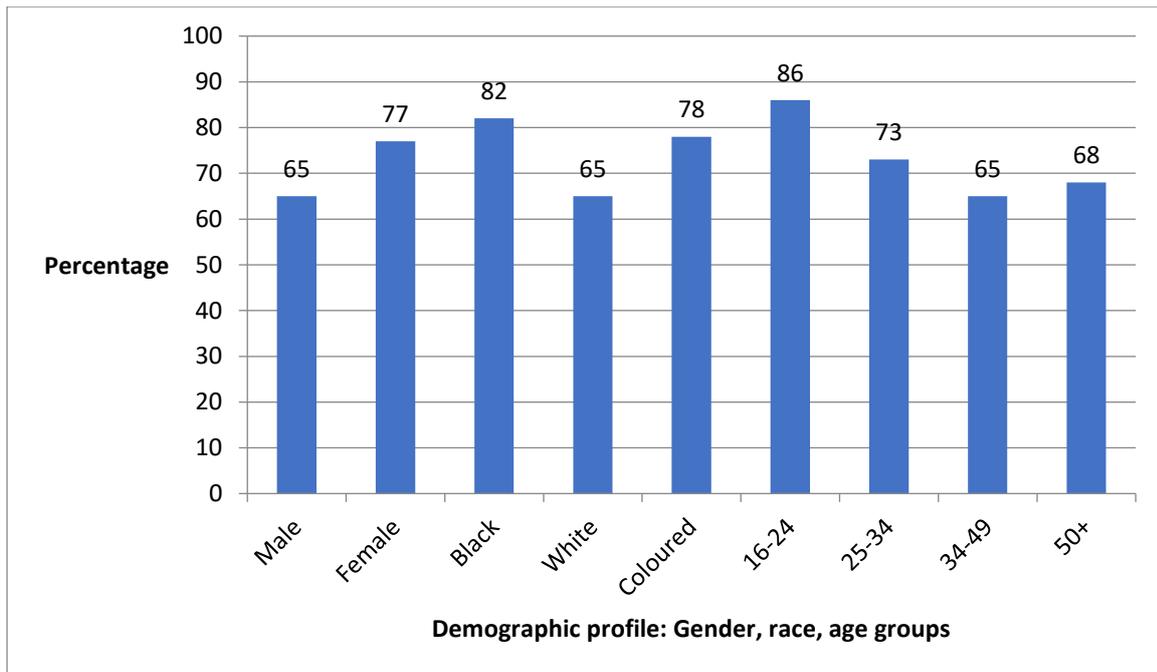


Figure 3: Respondents on their power to influence restaurants in terms of packaging

Could restaurants play a role in reducing pollution that ends up in the ocean?

- 83% felt that restaurants can really make a difference when it comes to reducing ocean pollution.
- More than 90% of respondents within both genders and all races, and all respondents between the ages of 25 and 34, felt that restaurants could play a role in reducing ocean pollution.

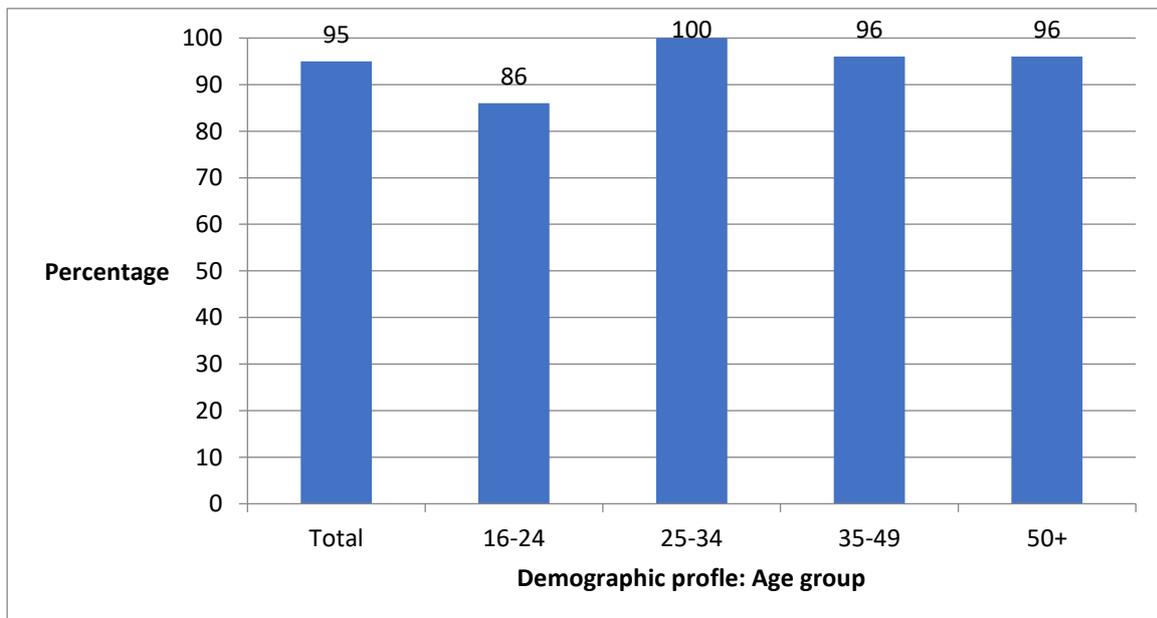


Figure 4: Respondents on whether restaurants could play a role in reducing pollution

When asked what method or methods restaurants could use to reduce their contribution to ocean pollution, respondents made the following recommendations (each respondent could select more than one option):

- 39% mentioned improving the recycling of the products and packaging used.
- 29% mentioned switching to biodegradable packaging.
- 29% mentioned doing away with single-use plastics like drinking straws.
- 11% mentioned switching to returnable containers and using less packaging.

Supporting restaurants that make changes to reduce pollution

Consumers were unanimous in saying they would support restaurants that made positive changes in this regard and most (81%) had heard of environmentally friendly packaging.

Influence of environmentally friendly packaging

- Some respondents (21%) claimed that they had been influenced in the choice of where to eat by the availability of such packaging, but most had not (79%).
- If restaurants use environmentally friendly packaging, over half of respondents (56%) say they would be more likely to support them, with males (73%) and older respondents (76%) more likely than female and younger respondents.

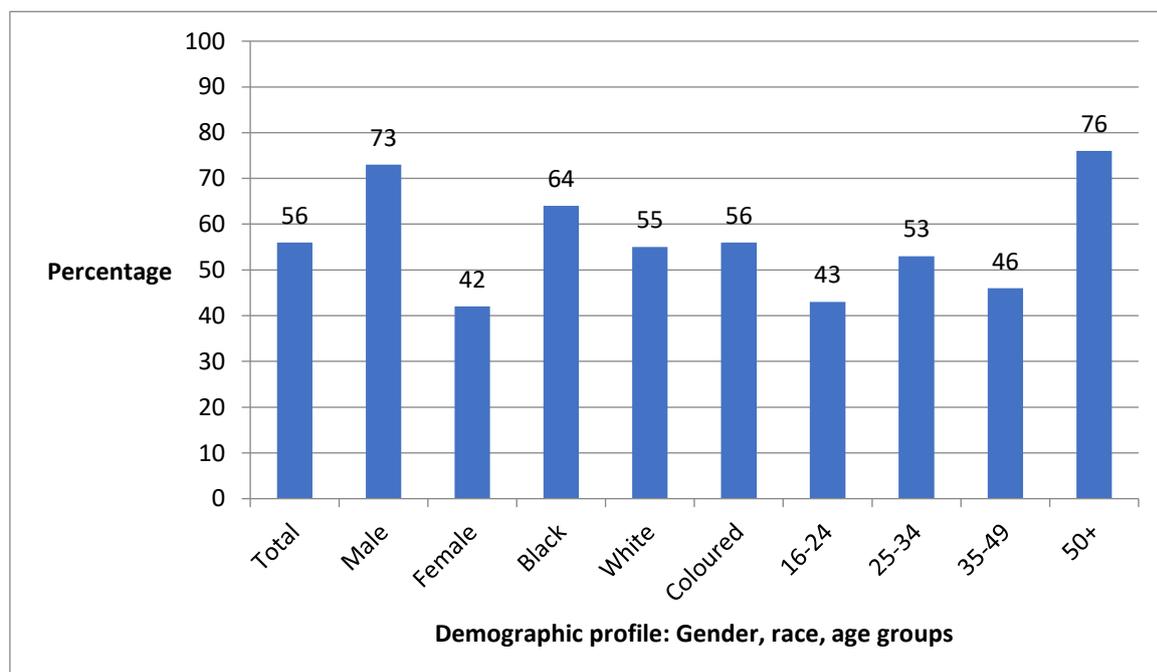


Figure 5: Respondents on supporting restaurants using environmentally friendly packaging

If restaurants were to charge extra for packaging, just under half of the respondents would be more selective about packaging (47%) and a large portion (43%) would pay and continue to support the restaurant. Only one in ten would avoid the restaurant in future.

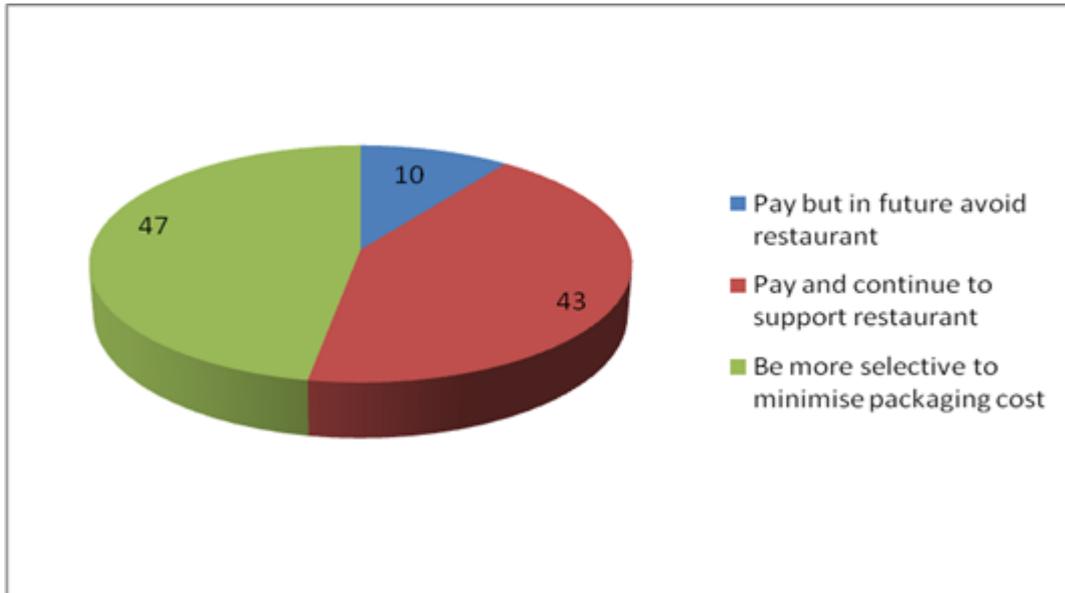


Figure 6: Respondents on charging more for packaging

Women and African respondents, in particular, would be more selective about packaging to minimise cost. Men are more inclined to pay and return to the restaurant in future.

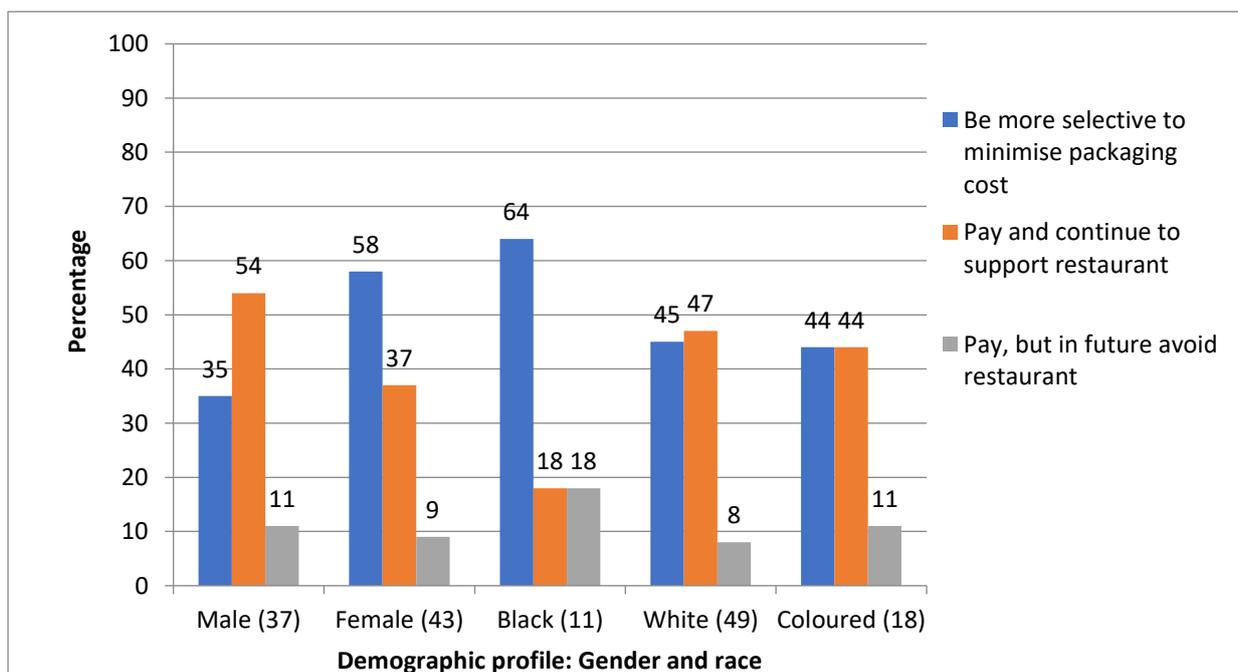


Figure 7: Respondents (by race and gender) on charging more for packaging

Influence of drinking straws, beverage lids and individual sweet wrappers

Drinking straws

About three-quarters of respondents claimed to ever have drunk, or that their children had ever drunk, a cooldrink without a straw. When asked whether they had an issue with not using drinking straws:

- 46 (58%) of the respondents said they had no issue.

- 18 (23%) had hygiene concerns about drinking from cans and bottles without a straw.
- 11 (14%) had a preference for the ease of use of drinking their beverages with a straw.
- 4 (5%) had safety concerns.

It is very encouraging to note that most respondents would continue to go to restaurants that did not offer straws.

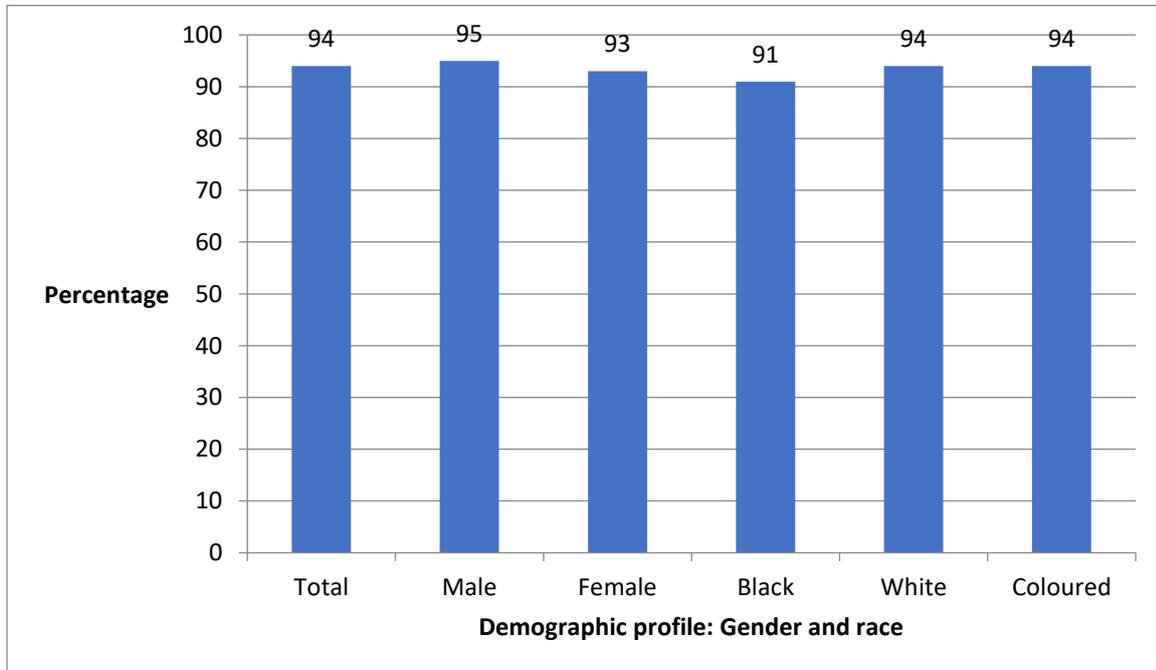


Figure 8: Respondents on support for restaurants that do not have straws

If they had to pay for a straw, the average price the respondents would be willing to pay was R0.85 compared to the existing price retailers pay of R0.07–R0.09 a straw, that is about 12 times more expensive than the current price.

Beverage lids

- More than one in six might choose not to take the lid of a takeaway coffee cup if they were charged for it.
- The average acceptable cost for the lid would be about R1.30, with female respondents being willing to pay R1.70, and men R0.89 compared to the current price of a lid at R0.50 for a 250ml or R0.53 for a 350ml cup. The difference between the average acceptable cost and the average current cost for a non-biodegradable lid is about 2.5 times the current price.
- For an environmentally friendly takeaway meal container, respondents would be willing to pay an average price of R3.50, with females being willing to pay more (R4.10) than males (R2.90). The current cost of a takeaway container is R2.21.

Individual sweet wrappers

Almost all of respondents would not let the lack of after-meal sweets put them off from going to their favourite restaurant.

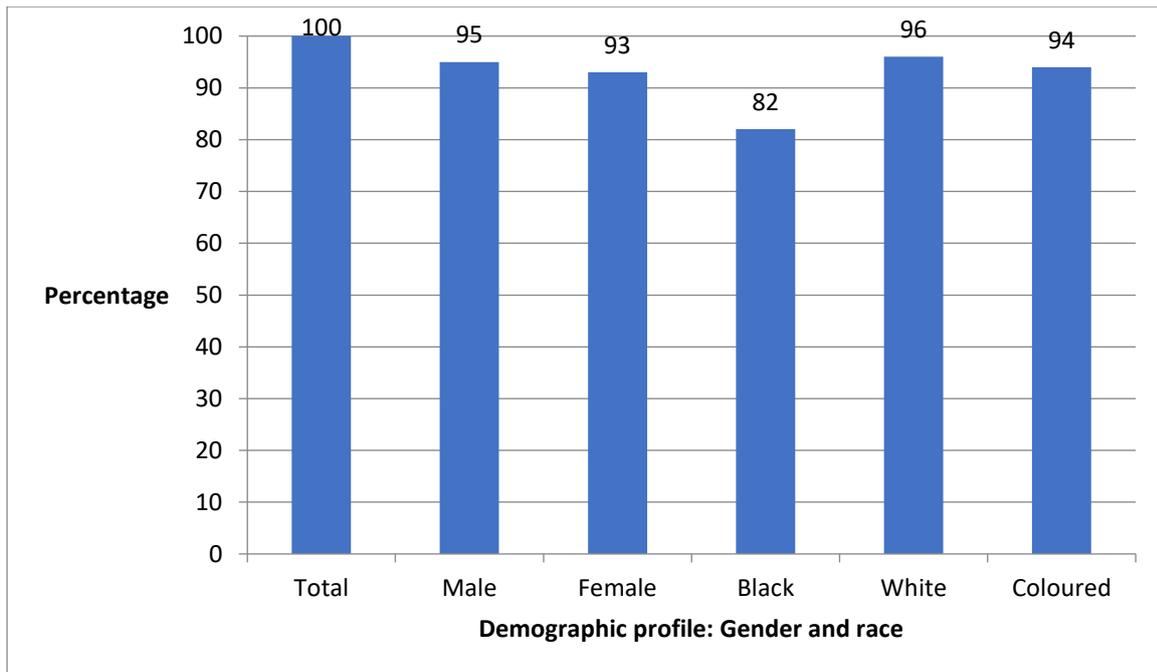


Figure 9: Respondents on scrapping sweets after a meal

Bring-it-back deposit system

About half of the respondents claimed to be open to paying a deposit that is reimbursed on return of the restaurant's containers.

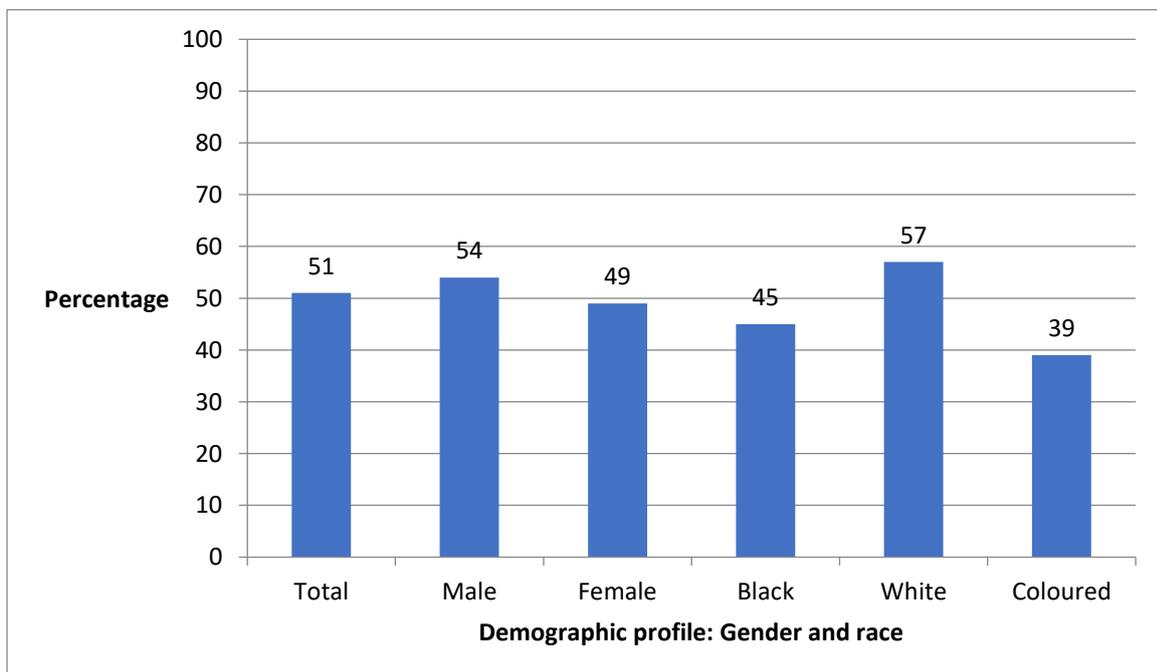


Figure 10: Respondents on the bring-it-back system

- Some had concerns about how such a system would work: 44 (55%) were concerned about the 'admin' burden, feeling it would be too time-consuming, and 7 (8%) had hygiene concerns.
- 80% of respondents were in favour of bringing their own takeaway container (e.g. mug) and getting a discount/loyalty points.

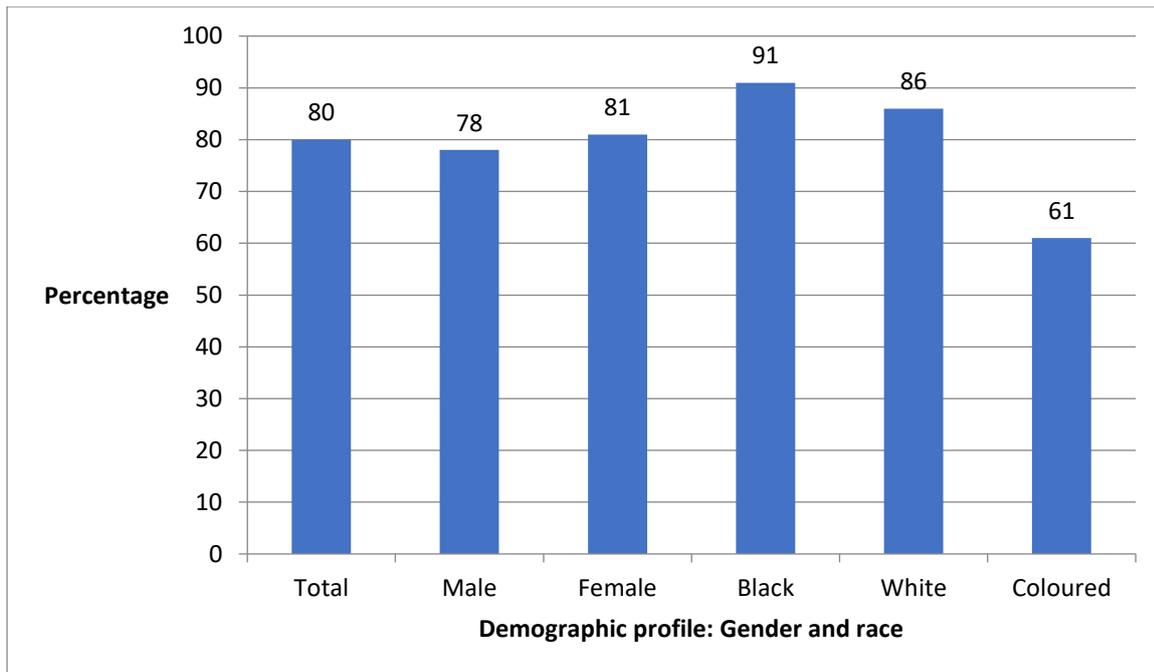


Figure 11: Respondents on bringing their own containers to a restaurant

Additional cost

Respondents were asked whether the additional cost for environmentally friendly packaging should be itemised on their receipt or kept unseen and built into the cost.

- About half would prefer the cost to be shown explicitly on their bills. Their reasons included encouraging accountability, transparency and awareness.
- Thirty-three respondents (41%) felt it would be better to hide the cost. They felt it best to keep things simple, and that the high cost of being environmentally friendly, if continually brought to their attention, might deter them.

Conclusions

For almost all respondents, recycling is familiar to them and they do it at home. This is encouraging, but this study seeks to learn more about their behaviour when they eat out, especially with respect to single-use plastic items and or items that cannot be recycled in South Africa.

The following recommendations are drawn from the findings above:

- A campaign that engages with consumers should emphasise **refusal** (e.g. declining the offer of straws or lids) as a way to reduce environmental impact. This is evident from the outcomes of this consumer research as most of the 80 respondents (94%) would continue to support restaurants that discontinued the use of straws.
- Furthermore, it should **redefine the meaning of the term recycling** because, despite marketing campaigns emphasising 'reduce, reuse & recycle', many respondents confuse the term recycling with reusing.

- Campaigns on this topic should **encourage a sense of ownership** because:
 - Respondents feel that they can influence the product choices that restaurants make and that they would support restaurants that make environmentally friendly decisions, even at their own cost.
 - In particular, it appears that restaurants can safely stop giving sweets to patrons with their bill; almost no respondents said this would affect their choice of restaurant. This may significantly reduce packaging volumes and costs.
 - They are divided though on, and possibly not really aware of, what the extra cost might be, and on whether the cost should be shown explicitly when making purchases.
 - There may be scope to reduce said costs if restaurants offered cash discounts to customers who bring their own containers.

In conclusion, this project research may assist with conservation efforts, motivate the business case for educational campaigns and support policy analysis to develop specific instruments related to single-use plastics in South Africa.

References

Ecowatch.com. 2016. *80% of ocean plastic comes from land-based sources, new report finds*. [Online] Available: <http://www.ecowatch.com/80-of-ocean-plastic-comes-from-land-based-sources-new-report-finds-1891173457.html>.

Jambeck, J.R., Geyer, R., Wilcox, C., Siegler, T.R., Perryman, M., Andrady, A., Narayan, R. & Law, K.L. 2015. Plastic waste inputs from land into the ocean. *Science* 347:768.

Ryan, P. & Moloney, C. 2016. *Five applications where plastic is not fantastic*. [Online] Available: <http://www.science.uct.ac.za/news/five-applications-where-plastic-not-fantastic>.