



Rethinking Rubbish & Recycling

Final Report

Organisation: WasteMINZ

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1.0 Executive Summary

This survey for WasteMINZ measured respondents' current commitment towards correct recycling behaviours, and their performance of these. 1,741 online interviews were conducted with adults aged 18+ who have a kerbside rubbish and recycling collection (either by council or private provision).

1.1 Levels of commitment

Using the Kantar Commitment segmentation¹, respondents were grouped into one of six segments based on their commitment to recycling. Only 26% of respondents are committed to recycling correctly. The majority of respondents (64%) are in the middling segments, while 10% are clearly not committed.

The research suggests that people know and think that recycling is the correct thing to do but are not yet committed to perfectly sorting and preparing their recyclables. The middling segments are mostly driven by social influences. As such, thought should be given to the creation of new social norms that reach inside the home and support positive recycling behaviours that are 'out of sight' from the neighbours (such as sorting).

1.2 Influences on commitment to recycling correctly

The single biggest influence on commitment to recycling correctly is the belief that it is worth taking the time to do so. Encouragingly, a very high proportion of respondents share this belief. It is critical to maintain this belief as any erosion would negatively impact on New Zealanders' commitment to recycle perfectly.

The second key influence is finding recycling easy. There is more scope to increase the dial on this and so it should be a focus for action, both in terms of perception and the reality of the system (which as noted below does result in confusion and contamination).

1.3 Perceptions of the recycling system

Respondents have a general lack of confidence in the recycling system. Only 40% are confident that items they put in their recycling actually get recycled, and 35% think that most recycling just ends up in landfill. Exporting recycling is not seen as a valid solution. Most respondents (62%) think this simply moves the problem to other countries. One in five (18%) incorrectly believe that all New Zealand's recycling is sent off-shore.

1.4 Knowledge of recyclability

Respondents were tested on their knowledge of the recyclability of 30 different items. The average number correct was 20.8 (out of 30). This lack of knowledge could result in higher chances of contamination. Mostly when respondents get items incorrect they are 'wish-cycling'. This is particularly notable for compostables (with 64% believing compostable bottles and cups are recyclable). There appears to be a clear heuristic that compostables are considered recyclable. Other problematic items include takeaway coffee cups (and lids), as well as meat trays.

1.5 Performance of recycling behaviours

When respondents are unsure of an item's recyclability, they are more likely to put it in the general rubbish than recycle it (83% vs. 17%). While the majority of respondents will rinse recyclables, comparatively fewer will remove lids or sleeves. In general, those more committed to recycling and more confident in their recycling ability are

¹ Kantar is the parent company of Colmar Brunton. The segmentation algorithm is the property of Colmar Brunton.

more likely to sort and prepare their recycling. Conversely, groups to focus on (who are less likely to sort and prepare) include those less committed, less confident, those with children or higher incomes, as well as Pacific peoples and Asian New Zealanders.

1.6 Knowledge of recycling symbols

Over half of respondents who recycle (53%) say they look for a symbol or number to decide what to do with plastic containers they have not seen before. Those who used the symbol or number were then asked to identify which symbols tell them an item is recyclable. The symbols shown included:



While the majority of respondents use the symbols presented correctly, there is evidence that many respondents pay more attention to the ‘recycling’ sign that encases the numbers than the numbers themselves. Most respondents correctly identify that Number 1 indicates a plastic item can be recycled anywhere (76%) and whether or not Number 5 plastic can be recycled in their area (67%). However, 46% did not realise Number 8 plastic is a ‘fake’ symbol and thought it indicated an item could be recycled. This suggests a heavy reliance on the triangular symbol as a cue that an item can be recycled, with respondents paying less attention to the number. In addition, only 29% of respondents get all three (Numbers 1, 5, and 8) correct.

Overall, these findings highlight the need for education around what can and cannot be recycled to reduce contamination, as well as the need for improved labelling on items. It should also be noted these findings only relate to those respondents who currently use symbols, and further research would be required to determine the knowledge of those who don’t (but it seems feasible their knowledge would be lower).

1.7 Behaviour change prompts

Over half (54%) of respondents learnt something new in the past two years that changed the way they recycle. For this group, the majority (54%) learnt this through council information, while 34% learnt something either through word-of-mouth, or traditional media.

Council information is an important channel for those more committed to recycling, who look for something more official that they can role model for others. For those less committed, word-of-mouth is the channel to focus on, as they take more of their cues from their social networks and the perceived norms.

1.8 Messaging

Overall, respondents shared positive perceptions about the messages tested in the survey design to support behaviour change. For each message, at least one in three respondents said it would make them much more likely to perfectly sort and prepare their recycling, with relatively few saying it would make them less likely. There is relatively little variation in how respondents perceive the messages. That said, the ones which have broadest appeal across the less committed segments of the population include:

- *There’s no recycling fairy. Real people handle your dirty recycling. Rinse your containers before recycling.*
- *Most of us are doing a great job of recycling but here are the top three things we are putting in the wrong bin. Paper cups, tissues and juice cartons belong in the rubbish.*
- *Recycled right = recycling. Recycled wrong = rubbish. If it’s dirty, tiny or soft plastic it can’t be recycled at kerbside.*

2.0 Introduction

2.1 Background and objectives

Colmar Brunton was commissioned by WasteMINZ to undertake a piece of research among the New Zealand public to understand perceptions of recycling and how to change behaviours around it.

Given the rising awareness of the impact of waste, it is clearly imperative that the waste sector in New Zealand has an up-to-date understanding of how respondents think, feel and behave around the recycling that they do in their homes. WasteMINZ recently conducted a waste audit, giving them a clear picture of how and what the public recycles. As such, there is a need to understand why the public are doing what they do (e.g. why all those drinks bottles don't get recycled!) and how those behaviours can be most effectively influenced to create better household recycling outcomes.

This research follows work done for the Australian NSW EPA², which found that even people who have the right intentions towards recycling cannot necessarily be relied upon to get it right.

An area of particular focus is behaviours around contamination - either 'wish-cycling' (putting something in the recycling and hoping for the best) and incorrect presentation (putting the right thing in the recycling but in an unsuitable condition).

The overall objectives of the research are to explore the public's knowledge, attitudes, behaviours, and motivations in regards to their recycling, in addition to highlighting opportunities and factors that act as levers or barriers to good recycling behaviours.

The key research questions are:

- What are the public's attitudes towards recycling? Do they have understanding and belief in the system?
- What level of knowledge do they have about what can be recycled and how they need to prepare items for recycling?
- How do both these attitudes and knowledge impact upon their recycling behaviour?
- What information sources do the public use around recycling?
- Which messages could be most effective to change their behaviour?

² Ipsos, (2016). *Household waste and recycling research report*. Prepared for NSW EPA. <https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/waste/ipsos-waste-and-recycling.pdf>

2.2 Methodology

The research was conducted as an online survey. 1,741 respondents were surveyed online between 10th and 23rd March 2020. This sample comprised a main, nationally representative sample of 1,000 adults, and a series of boosts for specific council areas (see below).

Questionnaire development

The questionnaire was developed in consultation with WasteMINZ. It was developed in light of the research conducted in Australia for the NSW EPA.

A significant advantage of online research is the ability to display images to respondents. Within the current questionnaire, images of recyclables and recycling symbols and labels were presented to respondents both individually and *in-situ*. This approach facilitated respondent recognition, and helped those unaware of some recycling labels being discussed to understand where they may see it on products.

Sampling approaches

All respondents were recruited either through Colmar Brunton's panel, or Dynata (our panel partners). Respondents were invited to participate via an email invitation containing a link to the survey.

The panels were sampled in order to be representative of the national population by age within gender, ethnicity, and region. In addition to this certain Councils around the country commissioned booster samples in order to have a robust enough sample size for comparisons between the council area and the national average.

The councils that commissioned booster samples, and the boosted sample sizes, are as follows:

- Tauranga City (n=100)
- Gisborne District (n=100)
- Hasting District (n=100)
- Palmerston North City (n=100)
- Lower Hutt City (n=100)
- Wellington City (n=300)
- Nelson / Tasman (n=100).

To ensure representation within the boosted sample areas, quotas were set for age within gender within region.

Weighting

Respondent data was post-weighted in order to be in line with the 2018 Census figures. Data was weighted on age x gender, region (or council area for the boosts), and ethnicity. The over-sampling of the boosted council areas was corrected in the weighting.

Sampling Error

The margin of error for a total sample size of 1,741 is +/-2.3% at the 95% confidence level.

Sample profile

A demographic profile of the sample is provided in Appendix A.

2.3 Notes to reading this report

The reader should consider the following when reading and interpreting the report.

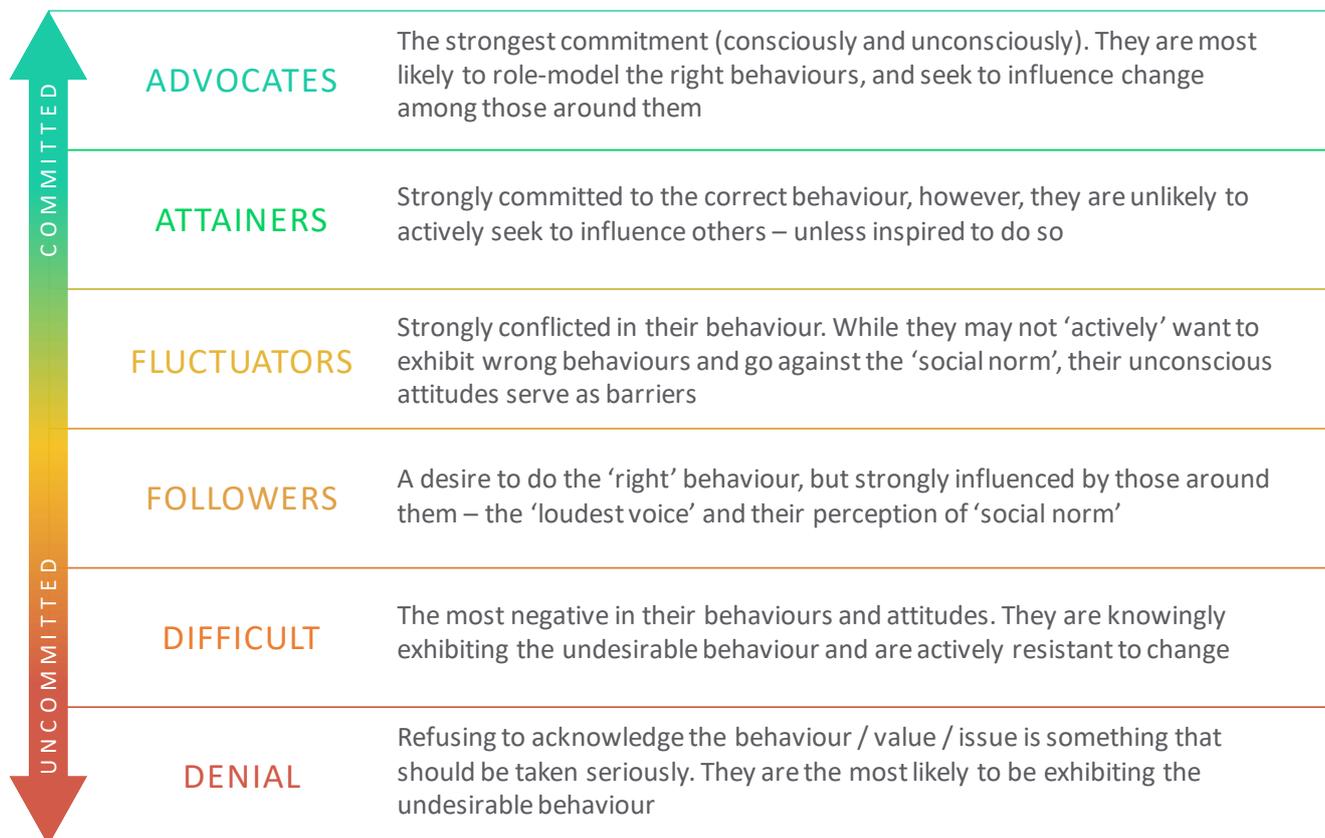
- The sample does not represent the entire New Zealand population as we screened out people who did not have a kerbside recycling collection. For the sake of brevity, we simply refer to the total sample as ‘respondents’ throughout this report.
- In a number of the figures (or charts) that present results to open-ended questions, categories that are similar have been grouped together and presented as a ‘nett category’ – each nett category figure gives the percentage of respondents that gave at least one of the more detailed reasons (which are listed below the nett category).
- Please note that occasionally the percentages in the charts and tables do not add up to the nett percentages presented within the report. This is because each percentage in the charts and tables has been rounded to a whole number. When calculating the nett percentages, only the final result has been rounded to a whole number. This reduces the influence of rounding error in the final result.
- The base sizes shown in the tables and graphs are unweighted.
- Throughout this report, only statistically significant differences **of note** (i.e. greater than five percentage points) at the 95% confidence level between sub-groups of the survey populations are presented, unless otherwise specified. **All sub-groups differences presented throughout the report are statistically significant unless otherwise noted.** In general, z-tests have been used to identify significant differences between proportions. The formula uses the ‘effective base’.³ Using the effective base reduces the likelihood of statistical tests producing significant results because of the adjustments made by weighting. In testing for significance, the sample size of each sub-group is taken into account to allow for comparisons.

³ The ‘effective base’ is an estimate of the base size after accounting for weighting. It is calculated by dividing the weighted base by the sum of the squared weights.

Commitment segmentation

Respondents have been segmented into one of **six groups** that show their level of commitment to recycling correctly. This segmentation is based on Kantar's commitment segmentation questions⁴. Throughout the report we refer to each of the groups below as part of sub-group analysis.

Figure 1 – Commitment Segments



⁴ Kantar is the parent company of Colmar Brunton.

3.0 Conclusions & Recommendations

3.1 Key areas of focus

Maintaining the belief that taking the time to recycle correctly is worthwhile

The belief that it is worth the time to recycle correctly is the single biggest influencer on commitment levels. While this is currently a ubiquitous belief, it is important that any further communications both highlights this importance while not have any negative impact on its pervasiveness.

Reducing confusion and perceived effort

Key motivational barriers to correctly recycling include the perceived time and effort involved, and a sense of confusion around what can and cannot be recycled. Indeed, finding recycling easy is a key influencer on commitment

There are many items that most of the sample correctly identify as being recyclable or not, however for many, more thought is required to reach that conclusion. Such items include frozen vegetable bags, courier bags, clothing, and plastic straws. In order to reduce the perceived effort involved in correctly sorting recycling, work should be done to increase these intuitive associations.

Implementing simple, quick ways for people to double-check if an item is recyclable or not is paramount. For the public, the most useful ways to do this are immediate and tangible – either labels on packaging, or information at / on recycling bins for them to reference as they recycle.

Perceptions around compostable items

Compostable items, such as packaging, bottles, cups, and plates are items that respondents often incorrectly think can be recycled. Many understand that compostable items still have a negative environmental impact as they degrade, and thus need to be disposed of properly. However, many are of the belief that correct disposal of compostables includes recycling. This increases the risk of ‘wish-cycling’ and collection contamination.

For many respondents compostables is intuitively associated with recyclables. Work should be done to inform the public on how best to identify and dispose of compostable items, particularly given that most are not home compostable and should go in the rubbish.

Messaging

People generally believe that it’s worth taking the time to recycle correctly. However, this is not always translating into behaviour. Those already committed to doing the right thing respond positively to all the messaging (this is not to say they don’t help / support in doing this). We believe it is more important to focus on those less committed and the key messages with broadest appeal across these group include:

- *There’s no recycling fairy. Real people handle your dirty recycling. Rinse your containers before recycling.*
- *Most of us are doing a great job of recycling but here are the top three things we are putting in the wrong bin. Paper cups, tissues and juice cartons belong in the rubbish'*
- *Recycled right = recycling. Recycled wrong = rubbish. If it’s dirty, tiny or soft plastic it can’t be recycled at kerbside.*

3.2 Key groups to focus on⁵

Advocates / Attainers (26%)

Advocates and Attainers are currently committed to performing the desired behaviours. They want to do well, and are receptive to new information and messaging, particularly from council sources.

While there is not the greatest change to be made within these groups, they are key vectors within the community to increase uptake of correct recycling behaviours. Advocates are the most likely to role-model the correct behaviours, and Attainers will influence others if inspired to.

Therefore, the key move to make within these groups is to encourage them to encourage others.

Fluctuating / Followers / Deniers (74%)

These three groups have lower levels of commitment and are less likely to be correctly recycling. Fluctuators and Followers are heavily influenced by social norms and those around them, so a key move to focus on is building up social norms within their communities.

Active Advocates and Attainers will be important players in influencing these groups – particularly Followers. This group is more likely to learn things via word-of-mouth, and they are more likely to ask their peers for advice if they are unsure of whether to recycle something or not.

For Fluctuators, it's important to focus on breaking down barriers to recycling correctly by highlighting how incorrect behaviour contaminates recycling collections.

Deniers require an almost 'tough-love' approach to break down their current nonchalant approach to recycling. They currently are unaware of the impacts that their behaviour has, as they believe it all gets fixed on the other end for them. Messaging highlighting the part that we all play as citizens will help to alleviate this, as well as humanising the system (showing the real people who have to sort the waste).

People with communal recycling bins

People with communal recycling bins (such as those living in apartment buildings) are a key group to focus on. They are less likely to feel that it is worth spending the time to recycle correctly and are less likely to recycle overall. In terms of behaviour, they are more likely to put their recycling into cardboard boxes or plastic bags (reflecting their need to move their recycling to a communal bin). The increased time and effort as a result of using a communal bin is likely to be driving their lower recycling rates.

They are less confident in their own recycling ability, and this is reflected in them getting a lower than average number of items correct at the recycling exercise. Consideration needs to be given to how this knowledge and confidence can be built.

⁵ More detailed information on the commitment segments can be found on Page 17.

3.3 Characteristics of the main ethnic minorities in New Zealand

Our ethnic minority communities are of particular interest to WasteMINZ. Below we have summarised the key ways in which their attitudes and behaviours are different from the wider population.

Māori

Māori have lower confidence in the recycling system than average, and they are less likely to be confident that their recyclables are getting recycled.

Māori (who use symbols to determine if a 'new' plastic item is recyclable) also have lower knowledge than average of how to correctly use the numbers in plastic symbols. They are less likely to get Number 5 and Number 8 plastics correct. This suggests many simply use the recycling triangle rather than the numbers to determine recyclability.

Positively, Māori are more likely to be positively influenced by a number of the recycling messages tested in the research. These include:

- *Wherever you are in NZ, there are six things every council recycles. Always recycle soft drink bottles, milk bottles, glass jars, glass bottles, aluminium cans and tin cans. (45% vs. 39% on average)*
- *Small items like bread tags and straws can't be recycled. If it fits in your fist, bin it. (45% vs. 39% on average)*
- *Most of us are doing a great job of recycling but here are the top three things we are putting in the wrong bin. Paper cups, tissues and juice cartons belong in the rubbish. (43% vs. 36% on average)*
- *Recycled right = recycling. Recycled wrong = rubbish. If it's dirty, tiny or soft plastic it can't be recycled at kerbside. (42% vs. 35% on average)*

Pacific peoples

Pacific peoples need additional support as they are less likely than average to prepare their recycling correctly. This is compounded by the finding that they are more likely to put items straight into the recycling when they are unsure whether it is recyclable or not, resulting in possible contamination.

Asian New Zealanders

Asian New Zealanders are also less likely to prepare their recycling correctly and so require additional support.

They also appear to hold some conflicting attitudes around the recycling system. They are more likely to feel confident that all the recyclables items they put in the recycling get recycled yet believe that most recycling ends up in landfill. One possible explanation is that Asian New Zealanders are answering this second statement from a more global perspective (in terms of recycling ending up in landfill) but they have greater confidence about the New Zealand recycling system. Further work would be needed to determine this.

There is evidence Asian New Zealanders have lower knowledge of the recycling system than average. They get fewer items correct in the sorting exercise (19.9 vs. 20.8 on average). They are also more likely to believe some recycling 'myths' such as the idea that any incorrect items result in a collection getting dumped, or that someone will let them know if they are recycling incorrectly.

Positively, Asian New Zealanders are more likely to be positively influenced by a couple of the recycling messages tested in the research. These include:

- *Most of us are doing a great job of recycling but here are the top three things we are putting in the wrong bin. Paper cups, tissues and juice cartons belong in the rubbish. (45% vs. 36% on average)*
- *When we recycle, we're getting it right 85% of the time. Know what to throw and help us reach 100%. (45% vs. 37% on average).*

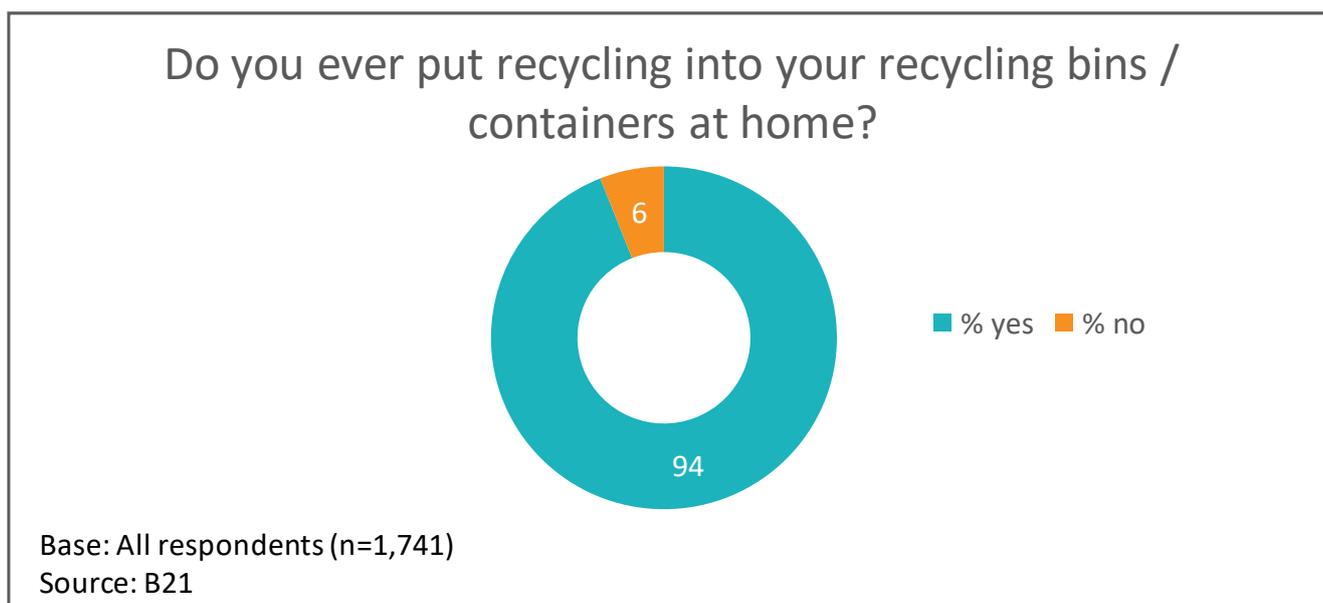
4.0 General recycling behaviours

This section covers the performance of recycling behaviours in general within households.

4.1 General recycling behaviour

Positively, almost all respondents (94%) say that they, or someone in their household, puts recyclables into recycling bins at their home (see Figure 2). This is in line with other research⁶ that recycling is near universal.

Figure 2 – General recycling behaviour



Sub-group differences⁷

Attainers⁸ are **more** likely than average to put recyclables into recycling bins / containers at home (99% vs 94%).

The following groups are **less** likely than average (94%) to put recyclables into recycling bins / containers at home:

- Those not confident in their recycling ability (81%)
- Those who have communal recycling bins (85%)
- Deniers (88%)
- Bay of Plenty residents (89%).

The differences in these groups reflects some of the barriers found in previous research. That is, if time / effort is required to recycle (such as moving recycling to a communal bin, or putting more thought into recycling), it is less likely to happen⁹.

⁶ Colmar Brunton's annual Better Futures report: <https://www.colmarbrunton.co.nz/latest-thinking/better-futures/>

⁷ All sub-group differences presented in the report are statistically significant unless otherwise noted. In testing for significance, the sample size of each sub-group is taken into account.

⁸ Refer to the reading notes (Section 2.3) for an explanation of the commitment segments

⁹ Ipsos, (2016). *Household waste and recycling research report*. Prepared for NSW EPA. <https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/waste/ipsos-waste-and-recycling.pdf>

4.2 Household recycling

Respondents who live in multi-person households were asked who in their household ever recycles, double checks recycling, or encourages others in the household to recycle.

By-and-large, respondents say that they do the recycling themselves (87%), alongside their partners (59%). A majority also say they double check that others in the household recycle correctly or encourage others to do so. This finding is consistent across different household compositions (see Figure 3, Figure 4, and Figure 5).

Children become more involved in recycling the older they are. Over half (58%) of those households with school-aged children say their children recycle. There is evidence this might be under duress at times. Parents of school-aged children are most likely to be encouraging or nagging others to recycle.

Positively, 99% of respondents, regardless of household composition, say that someone in the household does the recycling, and 85% of households have someone double check the recycling. Someone encourages others to recycle in 68% of adult-only households, but this increases to 79% in households with children.

Figure 3 – Who in the household puts recyclables into the recycling bins

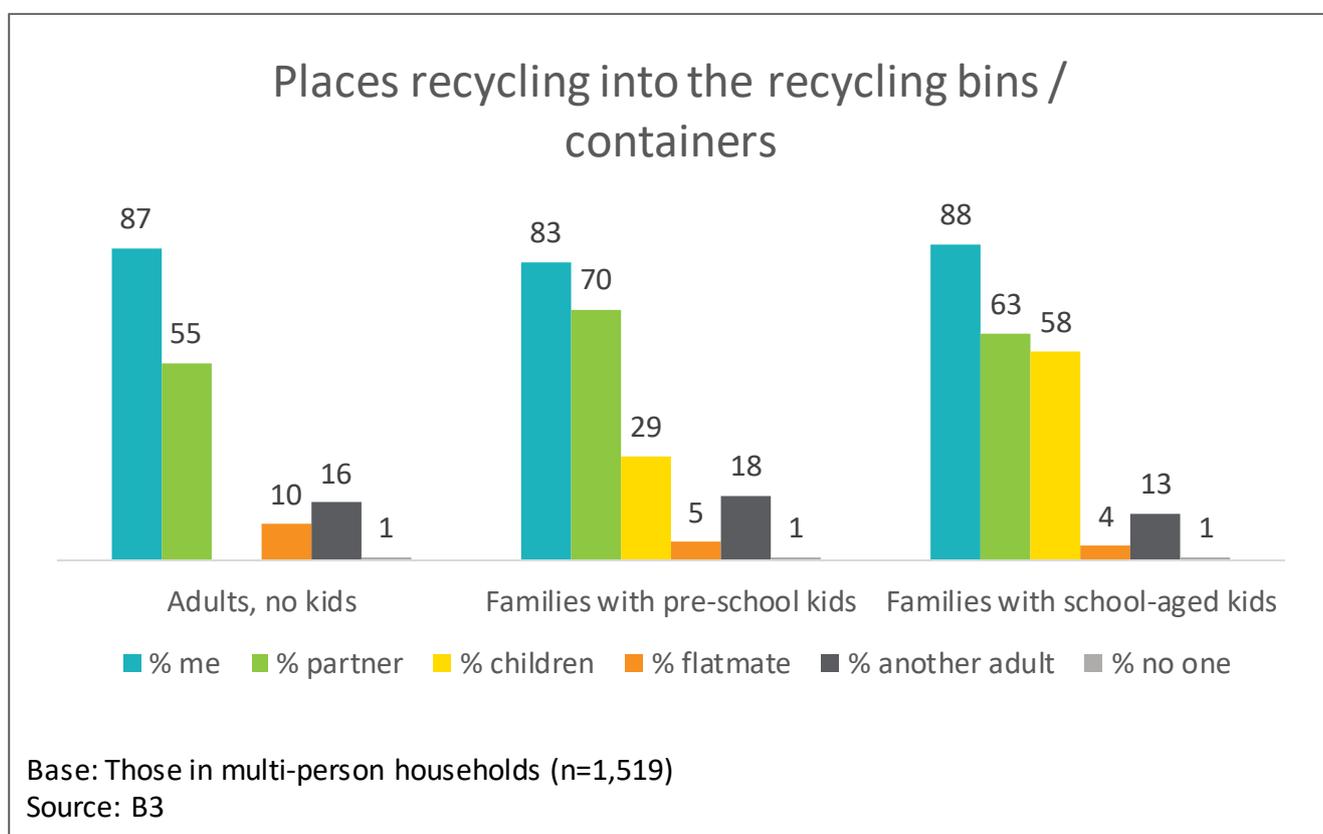


Figure 4 – Who in the household double checks recycling is correct

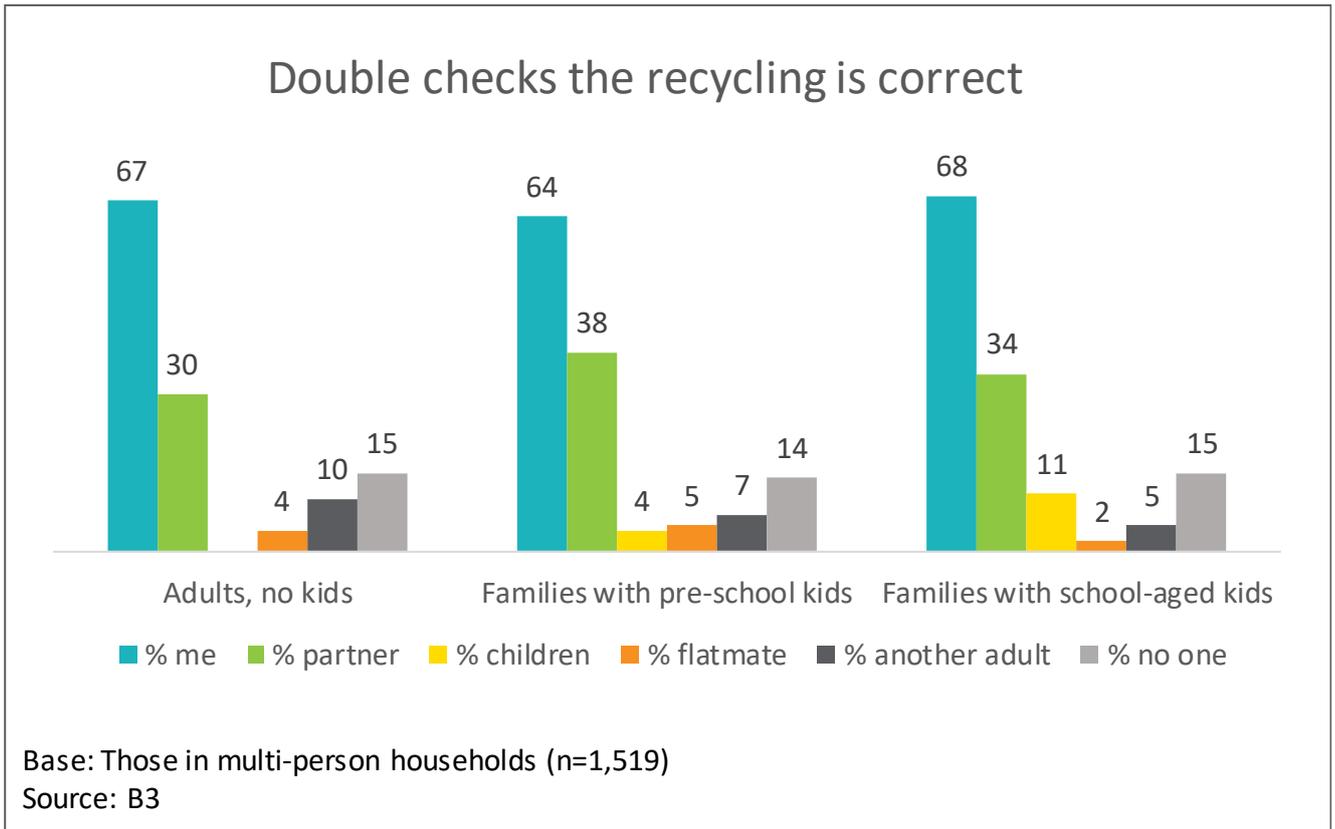
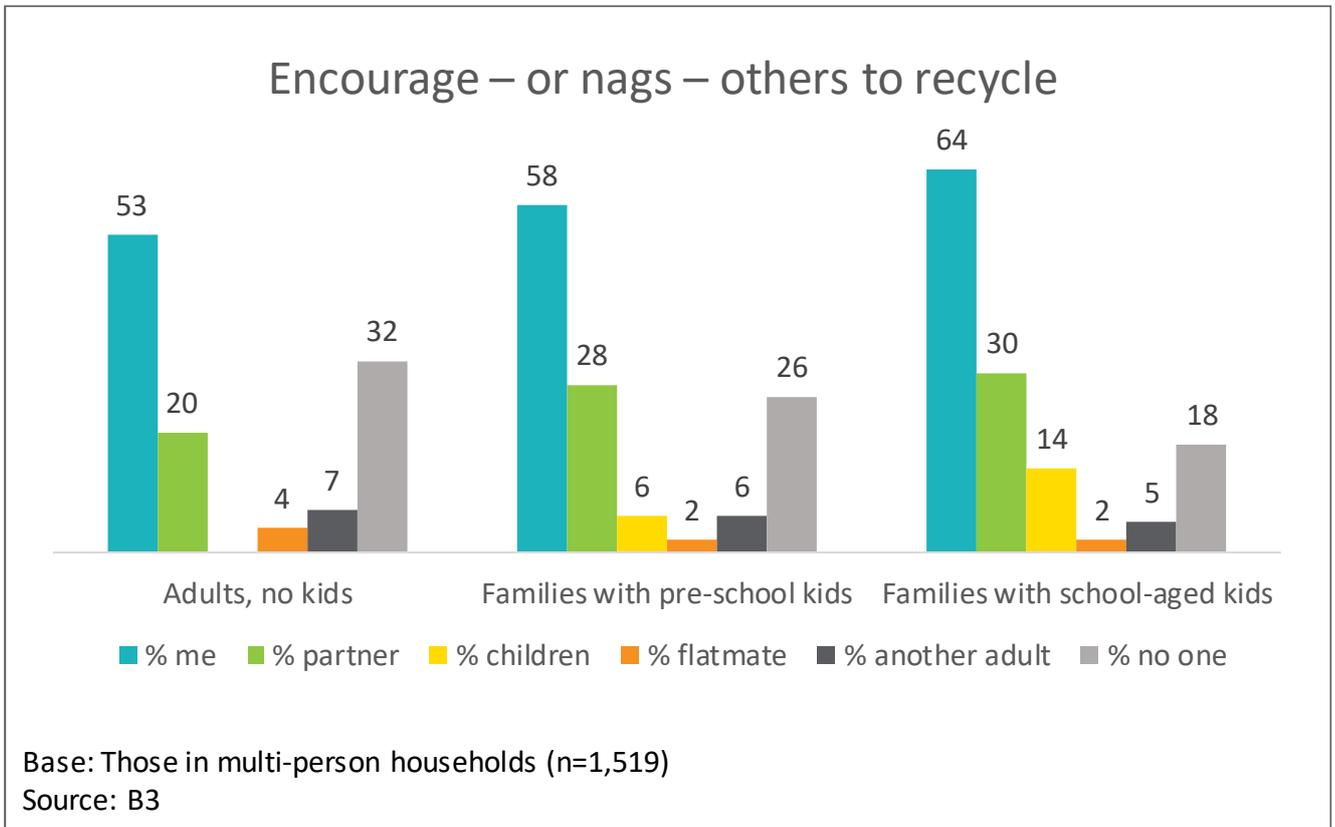


Figure 5 – Who in the household encourages / nags others to recycle



Sub-group differences

Places recycling into the recycling bins / containers

The following groups are **less** likely than average (99%) to have someone in their household place recyclables into recycling bins:

- Those not confident in their recycling ability (93%)
- Bay of Plenty residents (94%).

Double checks the recycling is done correctly

The following groups are **more** likely than average (85%) to have someone in their household double check the recycling is done correctly:

- Bay of Plenty residents (96%)
- Advocates (93%)
- Those very / extremely confident in their recycling ability (91%).

The following groups are **less** likely than average (85%) to have someone in their household double check the recycling is done correctly:

- Deniers (72%)
- Otago / Southland residents (72%)
- Those not / fairly confident in their recycling ability (78%)
- Wellington residents (80%).

Encourages – or nags – others in the household to recycle

The following groups are **more** likely than average (72%) to have someone in their household encourage / nag others to recycle:

- Asian New Zealanders (86%)
- Advocates (82%)
- Auckland residents (79%)
- Families with children (79%)
- Those aged 30-49 (78%)
- Those with a household income over \$100k (77%).

The following groups are **less** likely than average (72%) to have someone in their household encourage / nag others to recycle:

- Deniers (48%)
- Those aged 70 and over (55%)
- Waikato residents (61%)
- Those with a household income under \$50k (65%)
- Wellington residents (66%).

5.0 Recycling commitment

5.1 What level of commitment do respondents have?

Respondents were placed into six different segments¹⁰ based on their level of commitment to recycling correctly¹¹. 'Recycling correctly' was described as a scenario where they perfectly sorted and prepared their recycling. We measured different aspects of their commitment in order to determine their commitment level.

Less than 1% of respondents are in the 'difficult' segment and consequently our analysis is focused on the five remaining segments.

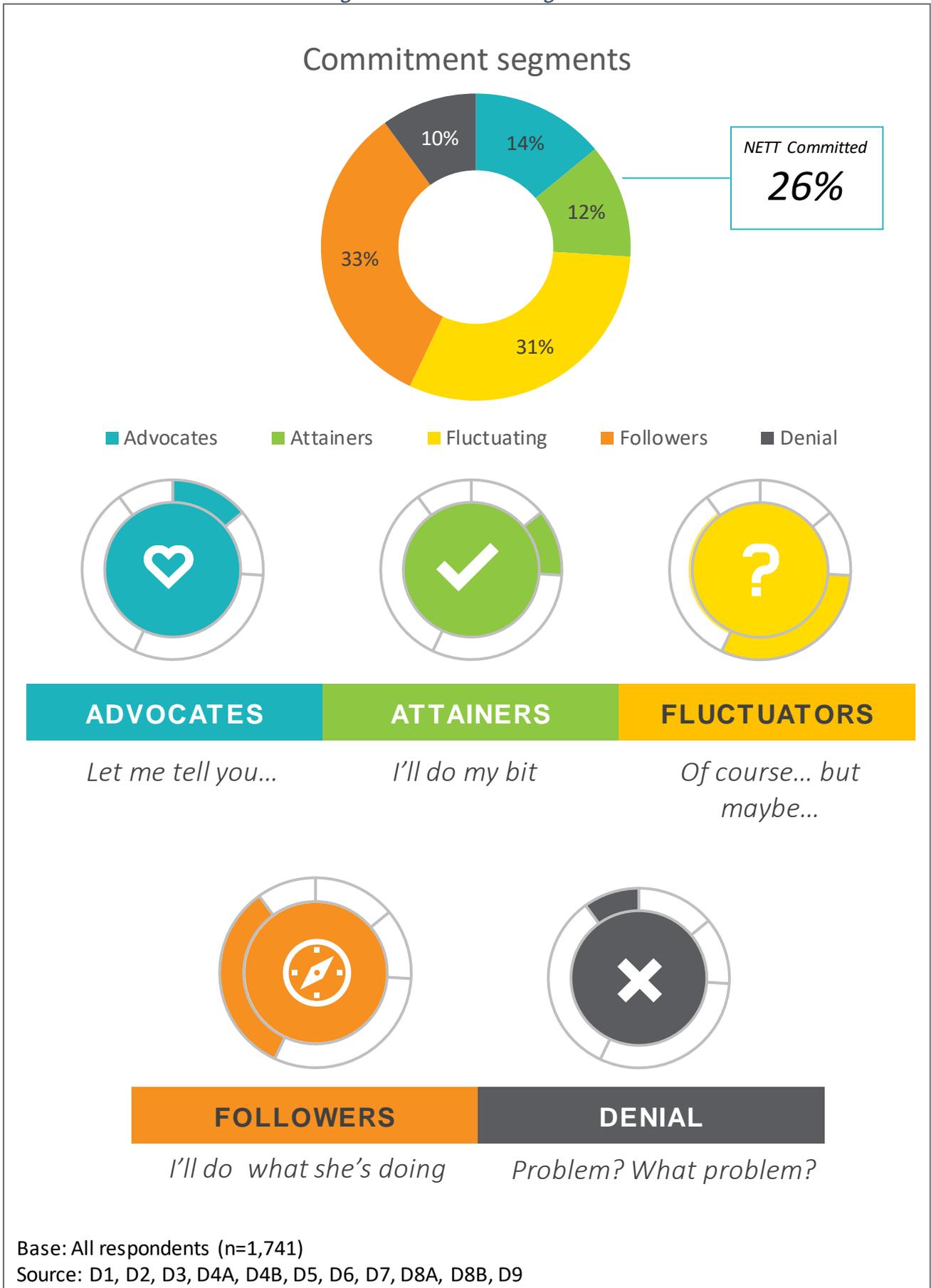
The majority of respondents fall into the middle levels of commitment – 64% are either Followers or Fluctuators, meaning that they are conflicted in their behaviour, and influenced heavily by those around them, and unconscious attitudes (see Figure 6).

Twenty-six percent of respondents fall into the 'committed' segments of Advocates and Attainers. These groups have the strongest levels of commitment, both consciously and unconsciously. So, while recycling is almost universal, only around one in four respondents are committed to doing it correctly. Figure 6 also gives a high-level summary of each of the segments' outlooks.

¹⁰ Please note that <1% of the sample fell into the 'difficult' segment.

¹¹ The segments are based on a segmentation algorithm derived from survey questions asked in relation to recycling behaviours. The algorithm is the property of Kantar and Colmar Brunton.

Figure 6 – Commitment segments



5.2 Brief profiles of each segment and how to approach them

A full demographic breakdown of each segment can be found in Appendix A.

Advocates & Attainers

Advocates and Attainers are those respondents who have higher compliance with correct recycling behaviour. They actively sort their recycling, including rinsing, and removing both lids and other non-recyclable parts. They often encourage others in their household to recycle and are likely to be touchpoints for New Zealanders who seek the advice of others. They strongly believe that taking the time to recycle correctly is important and will try to role model this behaviour for others.

The only difference between Advocates and Attainers demographically is that they are more likely to be women and have school-aged children. In terms of behaviours the groups are largely the same (and how to approach them is consistent, hence they have been grouped together.)

Advocates and Attainers also feel more strongly than average that compostable packaging is better for the environment than plastic packaging. This potentially reflects a wider concern about the impact of plastic on the environment. That said, there is no evidence from the research that this attitude leads to a higher level of 'wish-cycling' of compostables amongst Advocates and Attainers.

These groups are receptive to information given to them – they are more likely to have learnt something that has changed the way they recycle and are more likely to learn through council information. They are more receptive to messaging designed to ensure better recycling behaviour (see Section 11) – they both respond more positively and are more likely to say this would influence them.

Advocates and Attainers are more likely to:

- Be older women (50+) (this is particularly true for Advocates)
- Have a lower household income
- Have higher confidence in their recycling ability
- Live in households with children (this is particularly true for Attainers).

There is some evidence that the higher level of confidence that they express in their recycling ability is reflected in their behaviour. Attainers are more likely to correctly sort 30 waste items, on average they get 21.6 items correct compared to 20.8 overall. Advocates score an average of 21.1, which is not a statistically significant difference when compared to the results overall. The number of recycling symbols these two segments can correctly interpret is also slightly higher, but the differences are not statistically significant.

Fluctuating

Fluctuators tend to be very conflicted in their behaviour. They are heavily influenced by social desirability – they do not want to be seen as actively doing the wrong thing. In fact, the fluctuating respondents are more likely than average to do **some** of the behaviours (such as removing non-recyclable parts). At the same time, they often hold attitudes which act as barriers to recycling 'perfectly'. This includes the idea that recycling is difficult, confusing, and time-consuming.

Fluctuators largely believe that it's important to recycle correctly and are aware that contamination means that recycling must go into the rubbish. They have a general understanding of the recycling system, and our impact on it, yet are not strongly committed to recycling correctly. Therefore, the key area of focus should be breaking down those attitudes that act as barriers – by highlighting clearly what can / cannot be recycled, and the preparation actions that need to happen for each item. It is also important for this group to see that society-at-large is following these norms. They are more likely to think that incorrect recycling leads to the entire collection

getting dumped, so there is perhaps a sense of defeatism. Showing Fluctuators that there is a purpose to them recycling correctly will help remedy this.

There are no demographic differences of note for Fluctuators.

Followers

Followers are less likely to be correctly sorting and preparing their recycling. They want to do the right thing but are strongly influenced by those around them and social norms – whether these are positive or negative.

Followers differ from Fluctuators in that they have lower levels of knowledge and understanding of the recycling system. They are less likely to realise that they need to rinse and sort recyclables, as machines do not do this for them. They are also more likely to find recycling difficult, and think that knowing what can and cannot be recycled is confusing. Most notably, they are less likely to think that it is worth the time to recycle correctly (the biggest influence on commitment). In short, they largely recycle only because those around them do.

They are less likely to be positively influenced by messaging, and more likely to get information via word-of-mouth. What is paramount is instilling the belief in Followers that it is worth taking the time to recycle correctly. To reach them, it's therefore important to create a norm around the correct behaviours being the socially right thing to do, by having their peers become a 'loud voice'.

Followers are more likely to:

- Be younger women (aged under 50)
- Be men
- Have lower confidence in their recycling ability

Denial

Deniers typically refuse to acknowledge that the behaviour is something to be taken seriously. Indeed, they are less likely to be positively influenced by messaging, and less likely to pay attention to it. Deniers also feel less personal responsibility for their recycling. As a group, they are less aware of the consequences of contamination, and take a more laissez-faire attitude to what they do recycle. They are more likely to believe that, post-collection, their recycling will be cleaned and sorted for them. These beliefs will be key to focus on when approaching Deniers.

Deniers are more likely to:

- Be older men (aged 50+)
- Be NZ European / Pākehā
- Have low confidence in their recycling ability.

It is also worth noting that Asian New Zealanders are less likely to be in the Denial segment (2%).

6.0 Attitudes and barriers to recycling

6.1 How do attitudes impact commitment to recycling?

A regression analysis was conducted to look at the relationship between respondents' attitudes around recycling and their commitment to recycling correctly (see Figure 7).

We used a combination of statistical techniques (regression and correlation) to look at the relative importance of these attitudes in determining respondents' commitment to recycling correctly. By 'recycling correctly' we mean their commitment to ensuring recyclable items are perfectly sorted and prepared. This does not mean they get it 'correct', but it does mean they are committed to pursuing this behaviour.

Figure 7 shows how important these attitudes are in determining commitment to recycling correctly, as well as how widespread the attitude is across respondents. This enables us to best identify attitudes which we can potentially focus on to increase the public's commitment to recycling correctly.

Figure 7 also indicates for each attitude whether the relationship is a positive or negative one in terms of its impact on commitment to recycling correctly.

- If the attitude is positive (above the horizontal line) then it is likely to encourage commitment levels. The higher the attitude is above the line the greater the positive impact it has. We want to promote or maintain these key attitudes (depending on the level of agreement).
- If the attitude is negative (below the horizontal line) then it means it is more likely to act as a barrier to commitment levels. The lower the attitude is below the line greater the negative impact it has. We want to challenge these attitudes as necessary (depending on the level of agreement).

Attitudes which influence commitment to recycling correctly

The analysis reveals two primary attitudes which influence commitment to recycling correctly and a wider set of secondary attitudes. These attitudes either need to be challenged or supported (depending on the statement).

Primary attitudes influencing commitment to recycling:

I believe it's worth taking the time to recycle right

Not surprisingly, there is a very strong correlation between believing it's worth taking the time to recycle right and being committed to recycling correctly. In addition, a very high proportion agree with this statement, so there is limited scope for shifting the dial. It is therefore critical to maintain this belief as any erosion would negatively impact on New Zealanders' commitment to recycle perfectly.

I find recycling easy

As highlighted in previous research, the perceived effort it takes to recycle correctly is a strong indicator of a person's likelihood to recycle¹². Additionally, this research found that one of the biggest pain points respondents have when recycling is confusion around what can and can't be recycled (see Section 6.4.3). Therefore, it is imperative to make recycling as easy as possible in people's minds (and in reality) in order to increase levels of commitment.

¹² Ipsos, (2016). *Household waste and recycling research report*. Prepared for NSW EPA. <https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/waste/ipsos-waste-and-recycling.pdf>

*Secondary attitudes influencing commitment to recycling:**Knowing what I can and cannot recycle at home is confusing*

While this and the other secondary attitudes are not as important in influencing commitment to recycling correctly, it is a widely held view. Only a minority of respondents disagree with the statement (as shown on the chart). Section 7 demonstrates this is not just perception, but actual knowledge is also lacking when it comes to a number of 'challenging' items. Making the system simpler, and / or providing the public with tools to demystify recycling will support them in their commitment to doing it correctly.

I am confident that all the recyclable items I put in the recycling actually get recycled

Confidence in the waste system itself can also shape commitment to recycling correctly. Again, there is an opportunity to move the dial here with less than half of respondents agreeing with this statement.

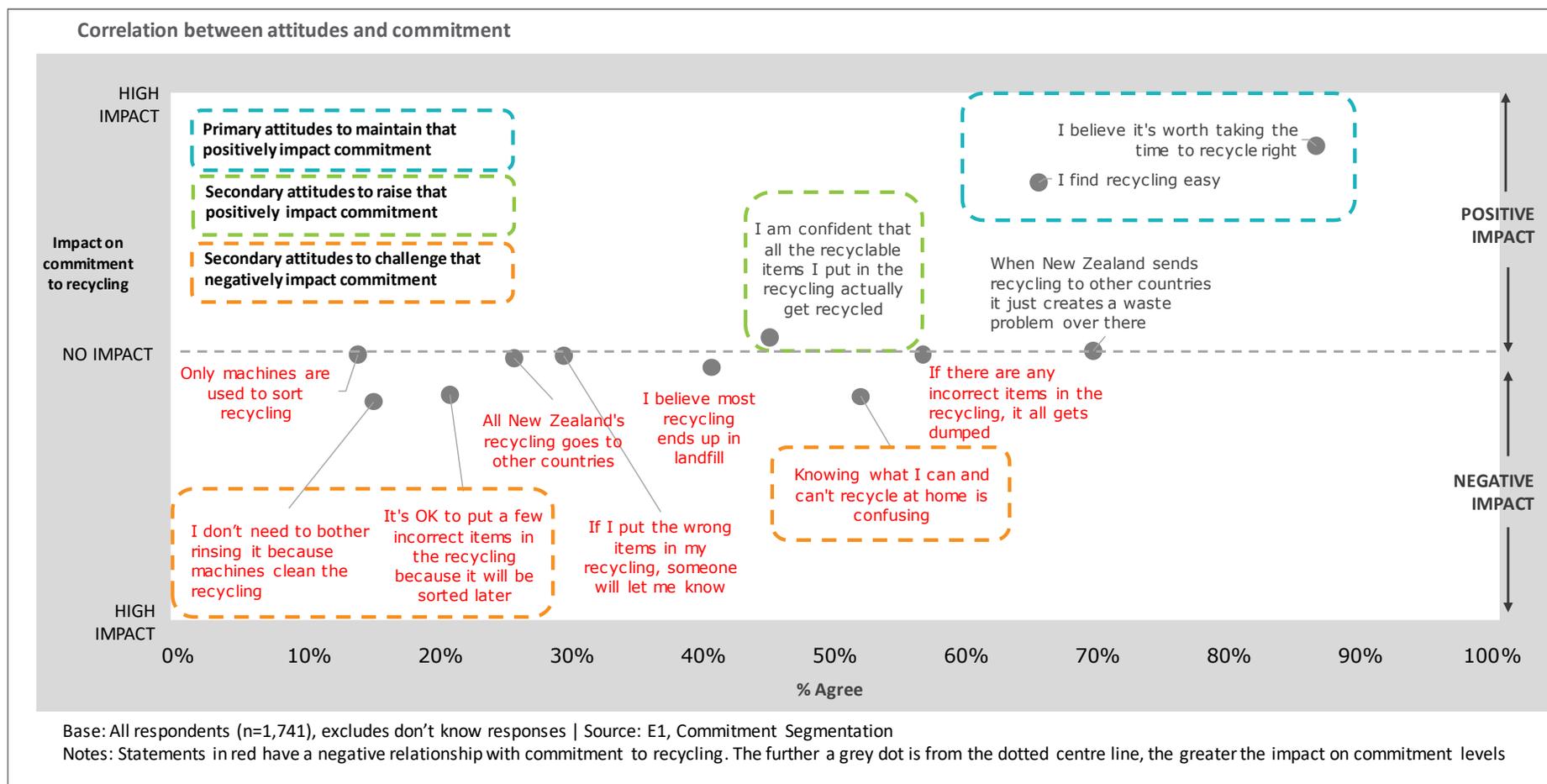
It is OK to put a few incorrect items in the recycling because it will be sorted later

This attitude and the following one on rinsing items, reveals the importance of the public taking personal accountability for their recycling. If they think someone else will sort it then they will be less vigilant.

I don't need to bother rinsing it because machines clean the recycling

Those respondents with a greater appreciation that the recycling system is not wholly automated, and that their own effort can save time and labour down the line, are more likely to be committed to recycling correctly. This demonstrates the importance of fostering personal accountability, as well as 'humanising' the recycling system i.e. if householders don't prepare their waste correctly then another *person* will need to deal with it (not a machine).

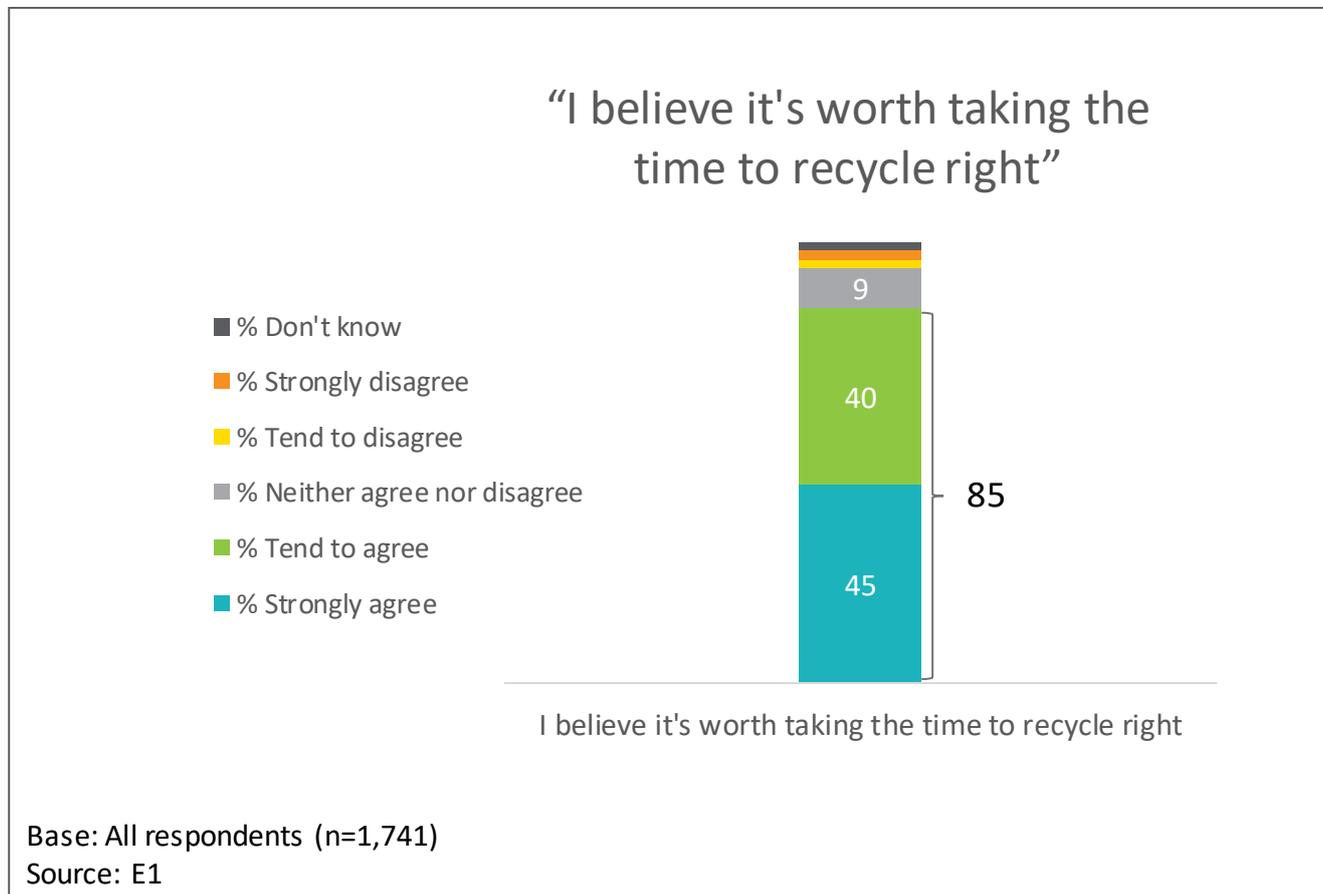
Figure 7 – Attitudes with the largest impact on commitment to recycling



6.2 Support for recycling correctly

Respondents broadly agree that it is worth taking the time to recycle correctly (85%), with few actively disagreeing (4%) (see Figure 8).

Figure 8 – Support for recycling correctly



Sub-group differences

The following groups are **more** likely than average (85%) to believe that it is worth taking the time to recycle correctly:

- Advocates (98%)
- Attainers (96%)
- Those aged 70 and over (93%)
- Those extremely confident in their recycling ability (92%)
- Women (91%)
- Fluctuators (90%).

The following groups are **less** likely than average (85%) to believe that it is worth taking the time to recycle correctly:

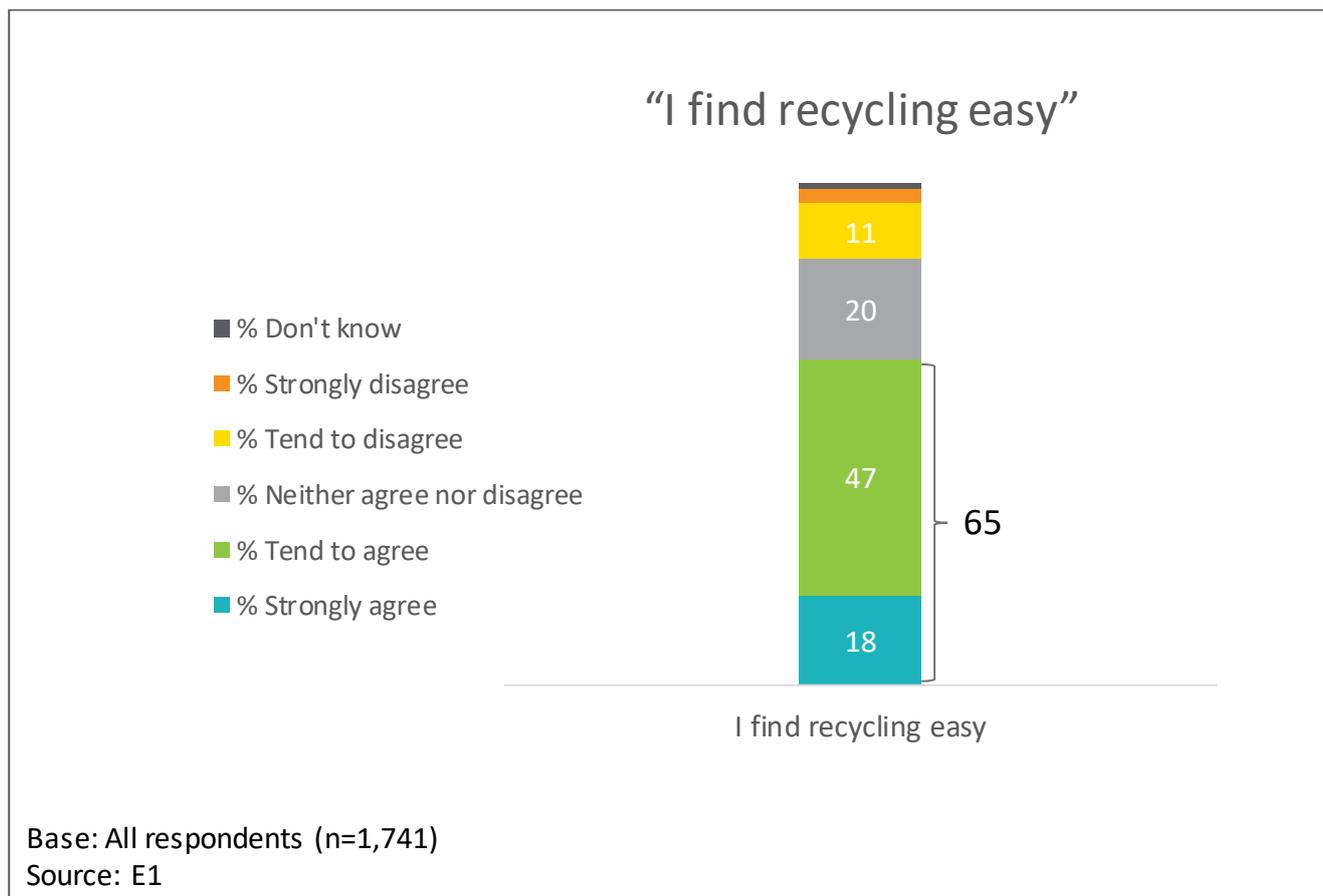
- Deniers (53%)
- Those not confident in their recycling ability (70%)
- Those with communal recycling bins (78%)
- Families with pre-school children (79%)
- Those aged 18-29 (80%)
- Men (80%).

6.3 Ability to recycle

6.3.1 Ease of recycling

Two thirds (65%) of respondents find recycling easy, while only 14% actively disagree (see Figure 9). However, this perception is potentially at odds with actual knowledge (as set out in Section 7.1). On average respondents are only able to correctly identify whether 20 out of 30 items are recyclable or not. The perception that recycling is easy is a key one to build going forward in order to increase commitment (see Section 6.1). It will be important to increase actual knowledge further in order to strengthen this belief.

Figure 9 – Ease of recycling



Sub-group differences

The following groups are **more** likely than average (65%) to agree that they find recycling easy:

- Advocates (92%)
- Attainers (88%)
- Those very / extremely confident in their recycling ability (79%)
- Those aged 50 and over (75%).

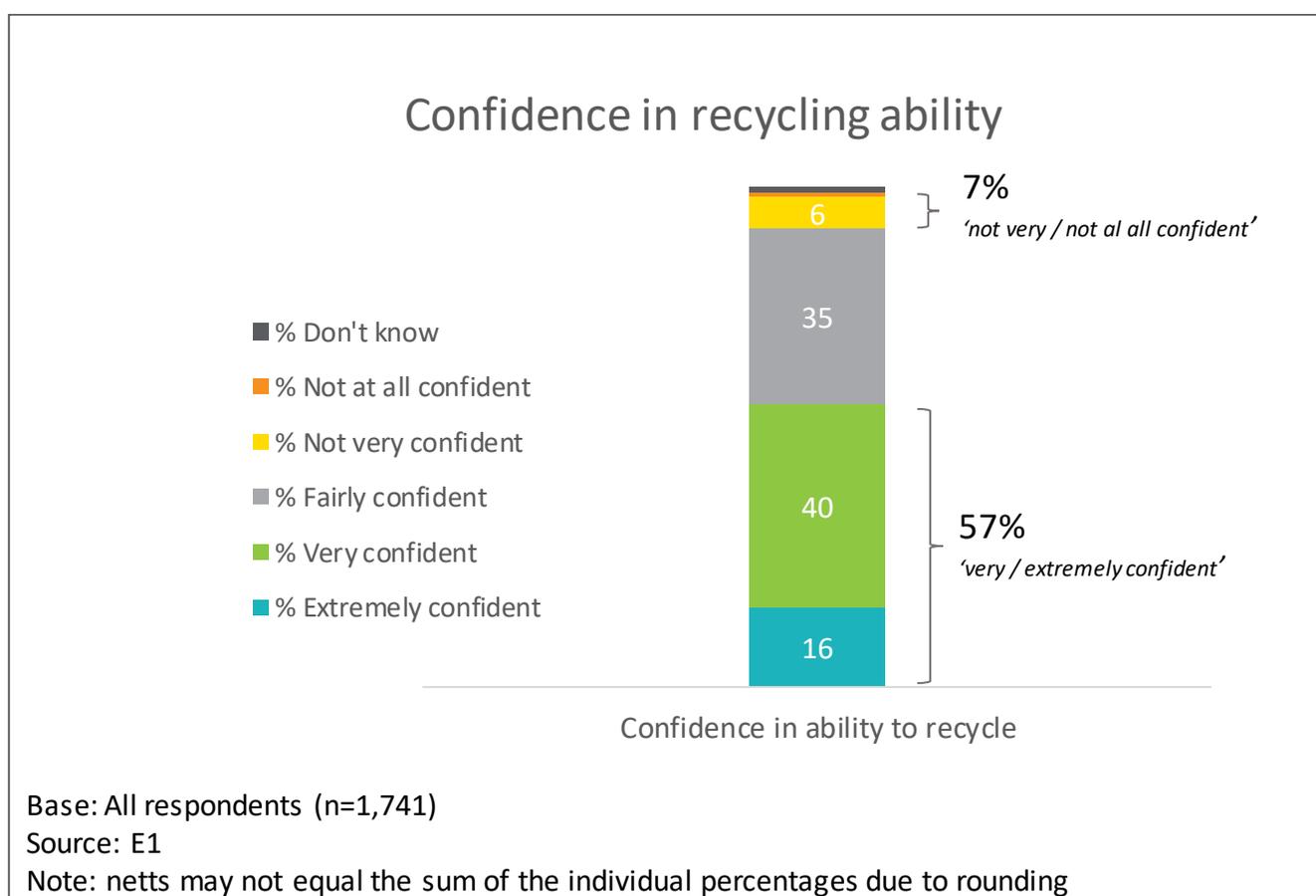
The following groups are **less** likely than average (65%) to agree that they find recycling easy:

- Deniers (33%)
- Those not / fairly confident in their recycling ability (47%)
- Followers (53%)
- Families with pre-school children (54%)
- Those aged under 50 (57%)
- Wellington residents (57%).

6.3.2 Confidence in ability to recycle

We asked respondents to rate how confident (or not) they are that they place the correct items in the recycling. The majority (92%) of the sample say they are at least 'fairly confident', with over half (57%) being 'very / extremely confident' (see Figure 10).

Figure 10 – Confidence in recycling ability



Sub-group differences

The following groups are **more** likely than average (57%) to be 'very / extremely confident' in their recycling ability:

- Advocates (79%)
- Attainers (77%)
- Nelson / Tasman / West Coast residents (69%).

The following groups are **less** likely than average (57%) to be 'very / extremely confident' in their recycling ability:

- Deniers (41%)
- Followers (43%)
- Wellington residents (49%).

There is further evidence that people who use communal recycling bins have a weaker relationship with recycling – only 86% of this group are at least fairly confident, compared to the average of 92%.

6.4 Barriers to recycling generally

Respondents were asked how much they agreed or disagreed with a range of statements surrounding their confidence in the recycling system that could lead to attitudinal barriers to correct recycling behaviour.

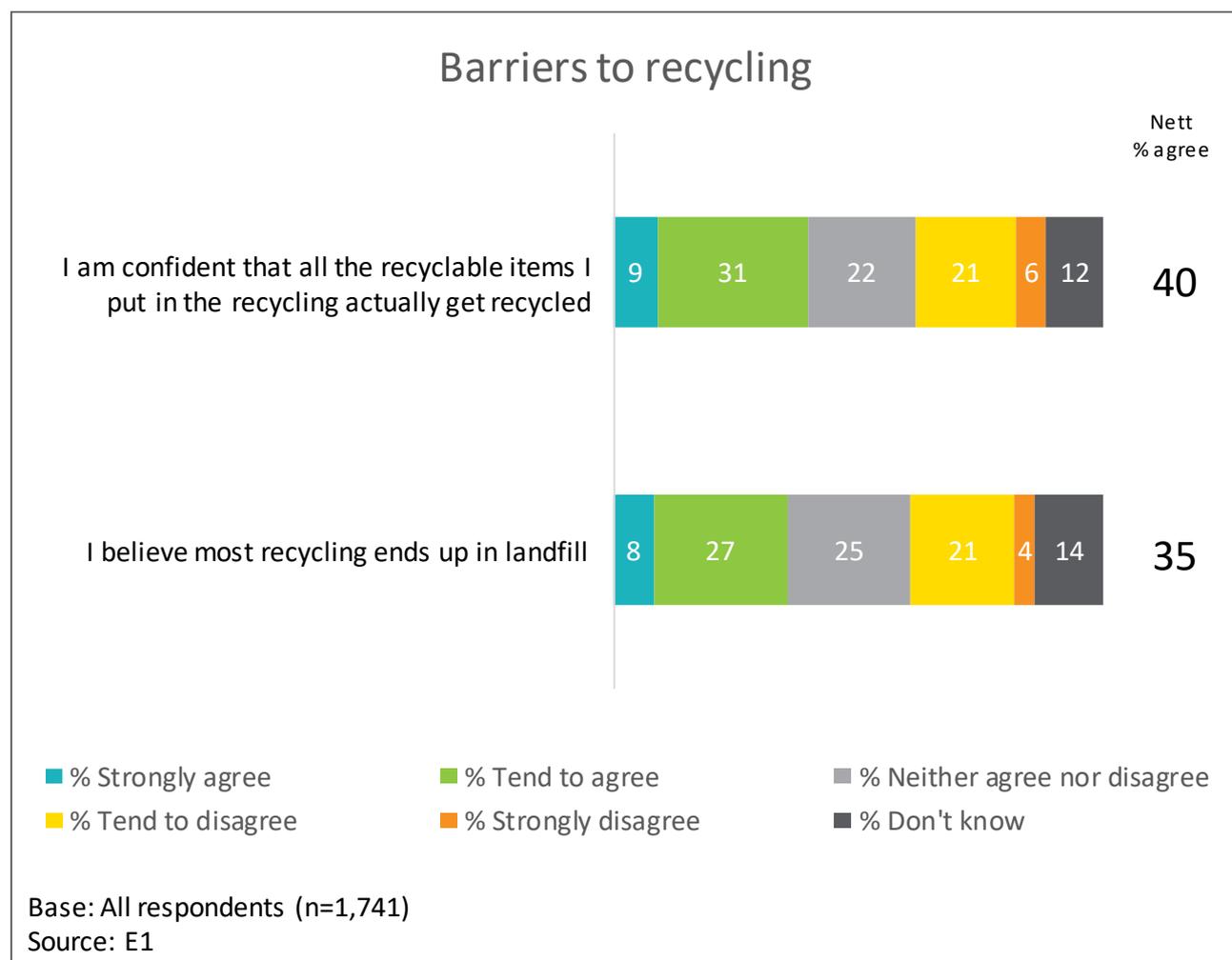
Deniers and respondents with lower confidence in their recycling ability appear to be more likely to face barriers to recycling (full breakdowns of sub-groups differences are provided after each section).

6.4.1 Confidence in the system

Respondents have mixed confidence levels when it comes to the recycling system. Less than half (40%) are confident that all the recyclable items they put in their recycling are actually getting recycled. Twenty-seven percent disagree, while the remainder either sit on the fence or are unable to provide an opinion.

Additionally, one in three (35%) think that most recycling ends up in landfill, while only a quarter (26%) disagree with this (see Figure 11). Twenty-five percent remain on the fence, while a further 14% feel that they do not know enough to provide an opinion.

Figure 11 – Barriers to recycling (confidence)



Sub-group differences

Respondents who have lower levels of confidence in their recycling ability also have lower levels of confidence in the recycling system as a whole. These perceptions could lead to a sense of defeatism when it comes to actively recycling or not.

The full breakdown of sub-group differences is provided below:

Recycling ending up in landfill

The following groups are **more** likely than average (35%) to agree that most recycling ends up in landfill:

- Those not confident in their recycling ability (62%)
- Asian New Zealanders (51%)
- Deniers (47%).

The following groups are **less** likely than average (35%) to agree that most recycling ends up in landfill:

- Attainers (24%)
- Those aged 70 and over (25%)
- Single person households (25%).

Recyclables actually getting recycled

The following groups are **more** likely than average (40%) to be confident that their recyclables are getting recycled:

- Advocates (58%)
- Those with communal recycling bins (53%)
- Asian New Zealanders (52%)¹³
- Attainers (51%)
- Those very / extremely confident in their recycling ability (48%)
- Auckland residents (46%).

The following groups are **less** likely than average (40%) to be confident that their recyclables are getting recycled:

- Deniers (17%)
- Those not / fairly confident in their recycling ability (29%)
- Wellington residents (33%)
- Māori (34%)
- NZ Europeans / Pākehā (35%).

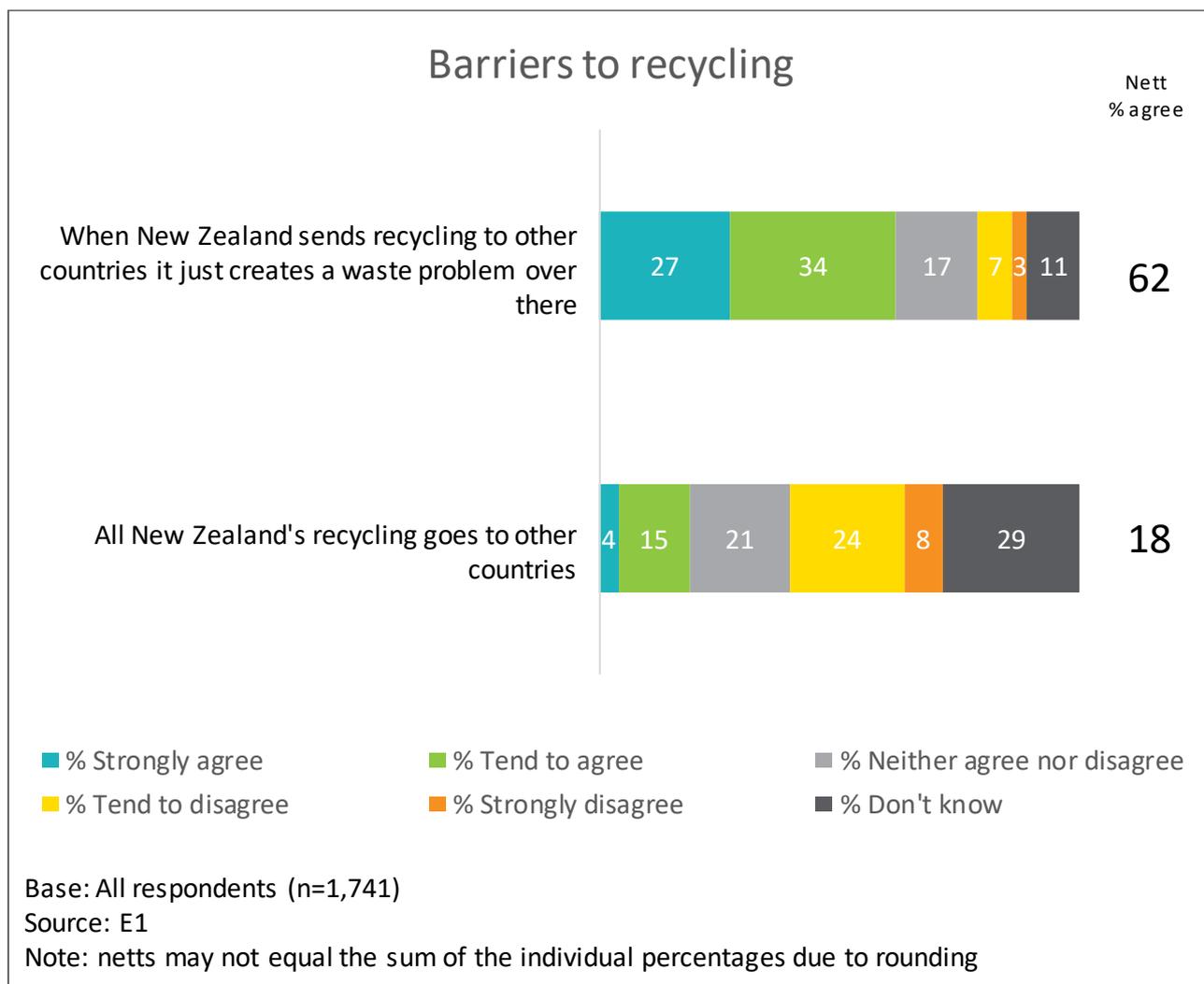
¹³ While for the most part a lack of confidence in the recycling system (indicated by these two statements) is correlated with a lack of confidence in one's recycling, this is more nuanced when it comes to Asian New Zealanders. This may reflect their lived experience.

6.4.2 Exporting the problem

Misperceptions of how we deal with waste, and its impacts, can deter recycling. Exporting waste is not seen as a solution by most respondents; 62% think it merely shifts the problem elsewhere (see Figure 12).

While only one in five respondents (18%) mistakenly believe all of New Zealand's recycling goes to other countries, around half express uncertainty, sitting on the fence (21%) or not providing a response (29%).

Figure 12 – Barriers to recycling (exporting the problem)



Sub-group differences

All New Zealand's recycling goes to other countries

The following groups are **more** likely than average (18%) to think that all New Zealand's recycling goes to other countries:

- Those with communal recycling bins (27%)
- Those whose default behaviour is to recycle when unsure (26%)
- Asian New Zealanders (26%)
- Those aged under 50 (23%).

The following groups are **less** likely than average (18%) to think that all New Zealand's recycling goes to other countries:

- Those aged 50-69 (12%).

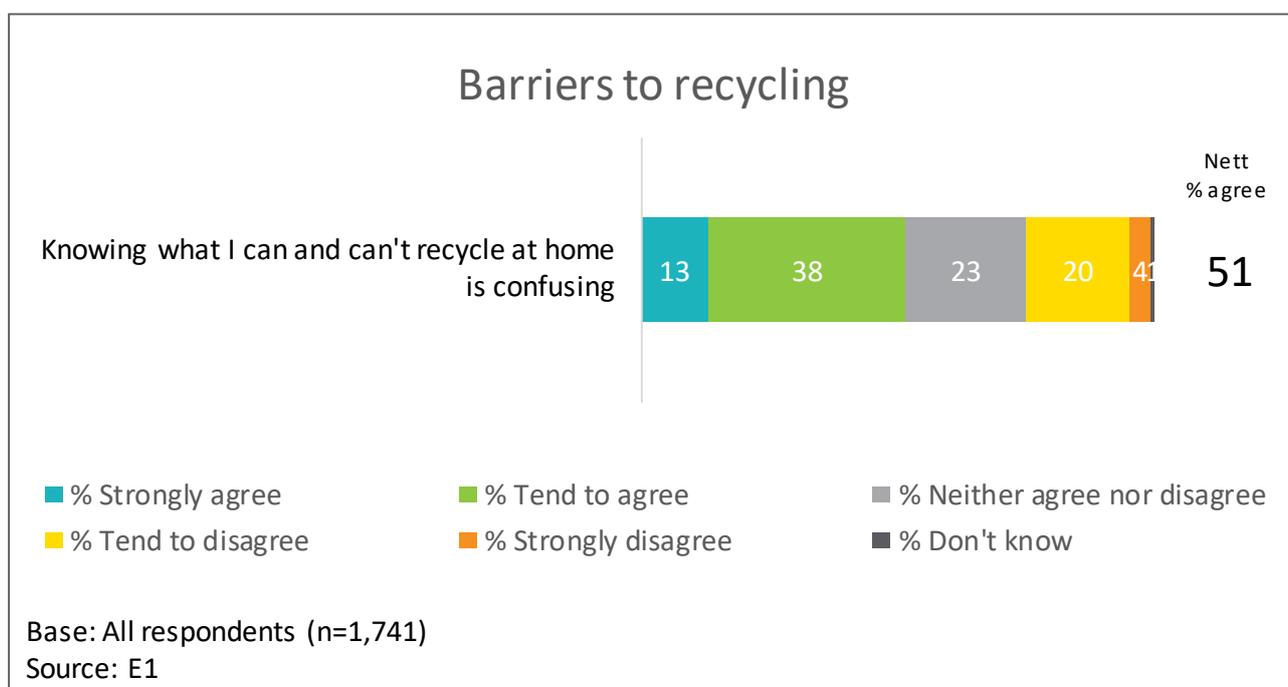
Sending our recycling to other countries just creates a waste problem over there

Younger people, aged 18-29, are **less** likely than average to agree that sending our recycling to other countries just creates a waste problem there (51% vs. 62%). There are no other sub-group differences of note.

6.4.3 Confusion around recycling

Half of respondents (51%) feel that knowing what they can and cannot recycle at home is confusing (see Figure 13). As highlighted in other sections of the reports, this illustrates that knowledge around recyclability is an important barrier to overcome to encourage correct recycling behaviour. For example, those who find recycling easy (a key influencer of recycling behaviour) are less likely to think that knowing what they can and cannot recycle is confusing than those who find recycling difficult (42% vs. 85%).

Figure 13 – Barriers to recycling (confusion)



Sub-group differences

The following groups are **more** likely than average (51%) to agree that knowing what can and cannot be recycled is confusing:

- Those not / fairly confident in their recycling ability (68%)
- Those with a private kerbside collection (62%)
- Followers (57%).

The following groups are **less** likely than average (51%) to agree that knowing what can and cannot be recycled is confusing:

- Attainers (37%)
- Advocates (39%)
- Those very / extremely confident in their recycling ability (39%).

These findings suggest that if we can ensure recycling information is communicated clearly than we will build the public's confidence in what they are recycling.

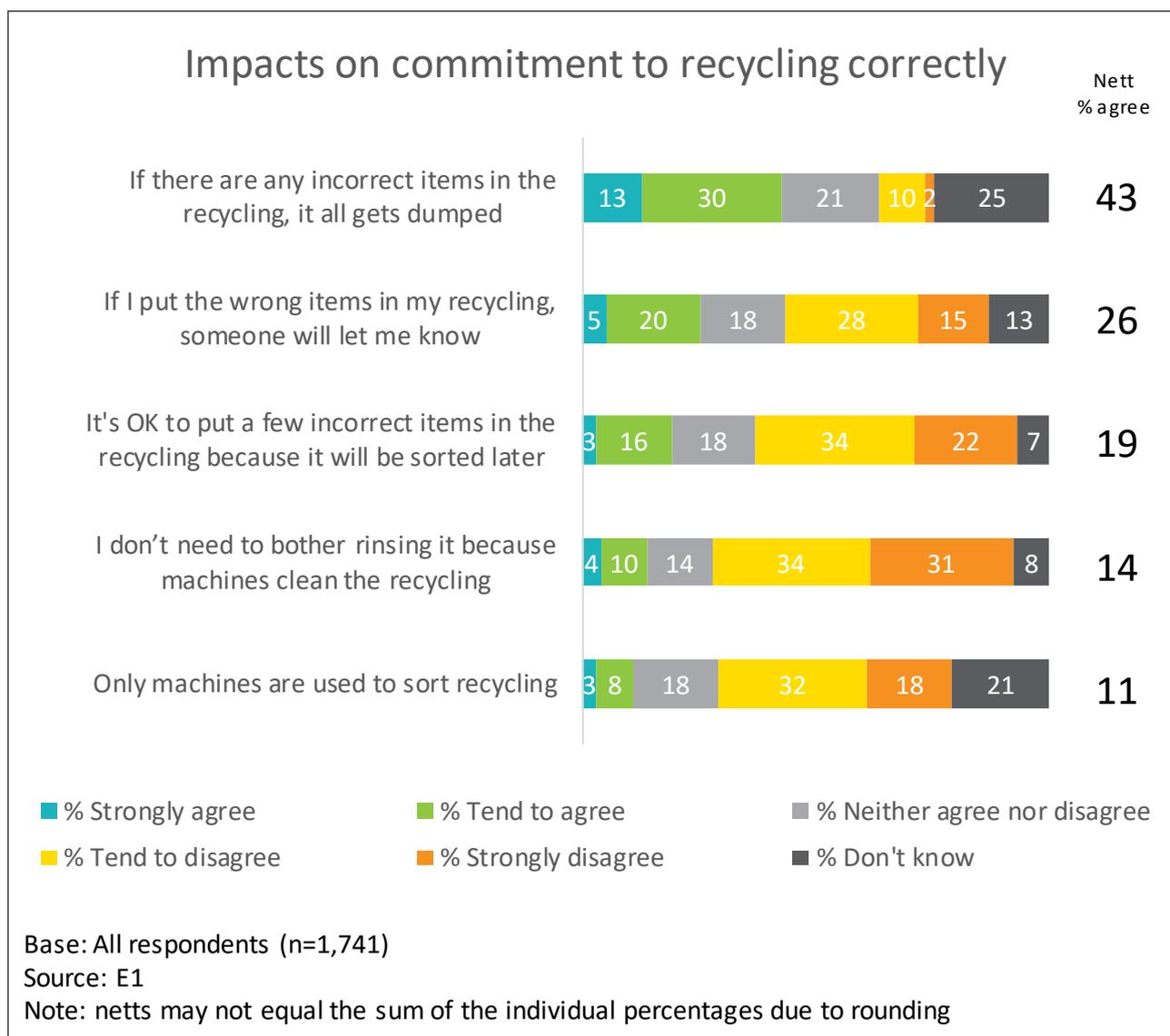
6.5 Mis-perceptions around contamination and automation in the recycling system

There are a number of myths around contamination and automation which are relatively widespread. The most pervasive is that *any* contamination can lead to all recycling getting dumped (43% believe this – see Figure 14). While this is not generally true, when recycling is placed in kerbside wheelie bins it is not possible to easily determine the extent of contamination in the bin. If many households' recycling going into the same truck is *heavily* contaminated then the recycling does get taken to landfill.

Some respondents also devolve responsibility when it comes to contamination. One in four think that someone will let them know if they put the wrong items into their recycling, while one in five think it's okay to put incorrect items in the recycling because it will be sorted later. Again, these perceptions are largely untrue. Where recycling is sorted by hand at kerbside the incorrect items will be left behind in the crate. Some councils who use kerbside wheelie bins have cameras in the trucks so drivers can pull out any contaminated items and sticker the bin, whereas some conduct occasional audits to inspect the recycling for contamination visible by looking into the bin. However, for the majority of households if incorrect items were recycled they would not be informed. Additionally, recycling is processed on a conveyor belt making it difficult to remove incorrect items. Some incorrect items can jam the machinery as it passes through. Challenging these myths could support improvements in recycling correctly – as it helps to increase personal accountability.

There are also some myths around the use of machines in the recycling system, albeit they are not widely held. One in ten respondents think they don't need to bother rinsing as machines clean the recycling, and that machines alone are used to sort recyclables. However, recycling does need to be rinsed as when the contents are dirty they can spill out onto other recyclables (such as paper and cardboard) which then affects their ability to be recycled. People are involved in sorting recycling (whether it is hand sorted or sorted at a facility) so it also impacts on their health and safety if recycling is dirty. In many recycling facilities around New Zealand staff manually sort the recycling and even in the most automated facilities there are staff working to remove any large or soft plastic items to prevent jams on the conveyor belt.

Figure 14 – Impacts on commitment to recycling correctly



Sub-group differences

A full breakdown of the sub-group differences is provided in the following section.

Broadly speaking, the following groups are **more** likely than average to buy-into these myths. This could impact their commitment to recycling correctly:

- Those aged 18-29
- Men
- Asian New Zealanders
- Auckland residents
- People with pre-school or school aged kids
- Segments:
 - Deniers
 - Fluctuators

The following groups are **less** likely than average to believe these myths:

- Those aged 50 and over
- Women
- NZ European / Pākehā
- Māori
- Wellington residents
- Segments:
 - Advocates
 - Attainers

Full breakdown of sub-group differences

If there are any incorrect items in the recycling, it all gets dumped

The following groups are **more** likely than average (43%) to think that if there are any incorrect items in the recycling, it all gets dumped:

- Asian New Zealanders (52%)
- Fluctuators (48%)

Deniers are **less** likely than average to think that if there are any incorrect items in the recycling, it all gets dumped (31% vs. 43%).

If I put the wrong items in my recycling, someone will let me know

The following groups are **more** likely than average (43%) to think that if they put the wrong items in their recycling, someone will let them know:

- Asian New Zealanders (35%)
- Those aged 18-29 (32%).

Wellington residents are **less** likely than average to think that if they put the wrong items in their recycling, someone will let them know (18% vs. 26%).

It's OK to put a few incorrect items in the recycling because it will be sorted later

The following groups are **more** likely than average (19%) to think that it's OK to put a few incorrect items in the recycling because it will be sorted later:

- Asian New Zealanders (32%)
- Deniers (27%)
- Those aged 18-29 (14%)
- Men (24%).

The following groups are **less** likely than average (19%) to think that it's OK to put a few incorrect items in the recycling because it will be sorted later:

- Advocates (10%)
- Attainers (12%).

I don't need to bother rinsing it because machines clean the recycling

The following groups are **more** likely than average (14%) to think that they don't need to bother rinsing recyclables because machines will clean it:

- Asian New Zealanders (22%)
- Auckland residents (21%)
- Those aged 18-29 (20%).

The following groups are **less** likely than average (14%) to think that they don't need to bother rinsing recyclables because machines will clean it:

- Attainers (4%)
- Wellington residents (9%)
- Māori (9%)
- Those aged 50 and over (9%).

Only machines are used to sort recycling

The following groups are **more** likely than average (11%) to think that only machines are used to sort recycling:

- Asian New Zealanders (25%)
- Auckland residents (16%)
- Those aged 18-29 (16%).

6.6 Recycling pain points

We asked respondents to identify, in their own words, anything that annoys them about recycling. Responses to this open-ended question were coded to determine the main themes in the responses, and these themes have been grouped into 'nett categories.' These are shown in Figure 15 (themes are colour-coded, with the nett categories shaded darker).

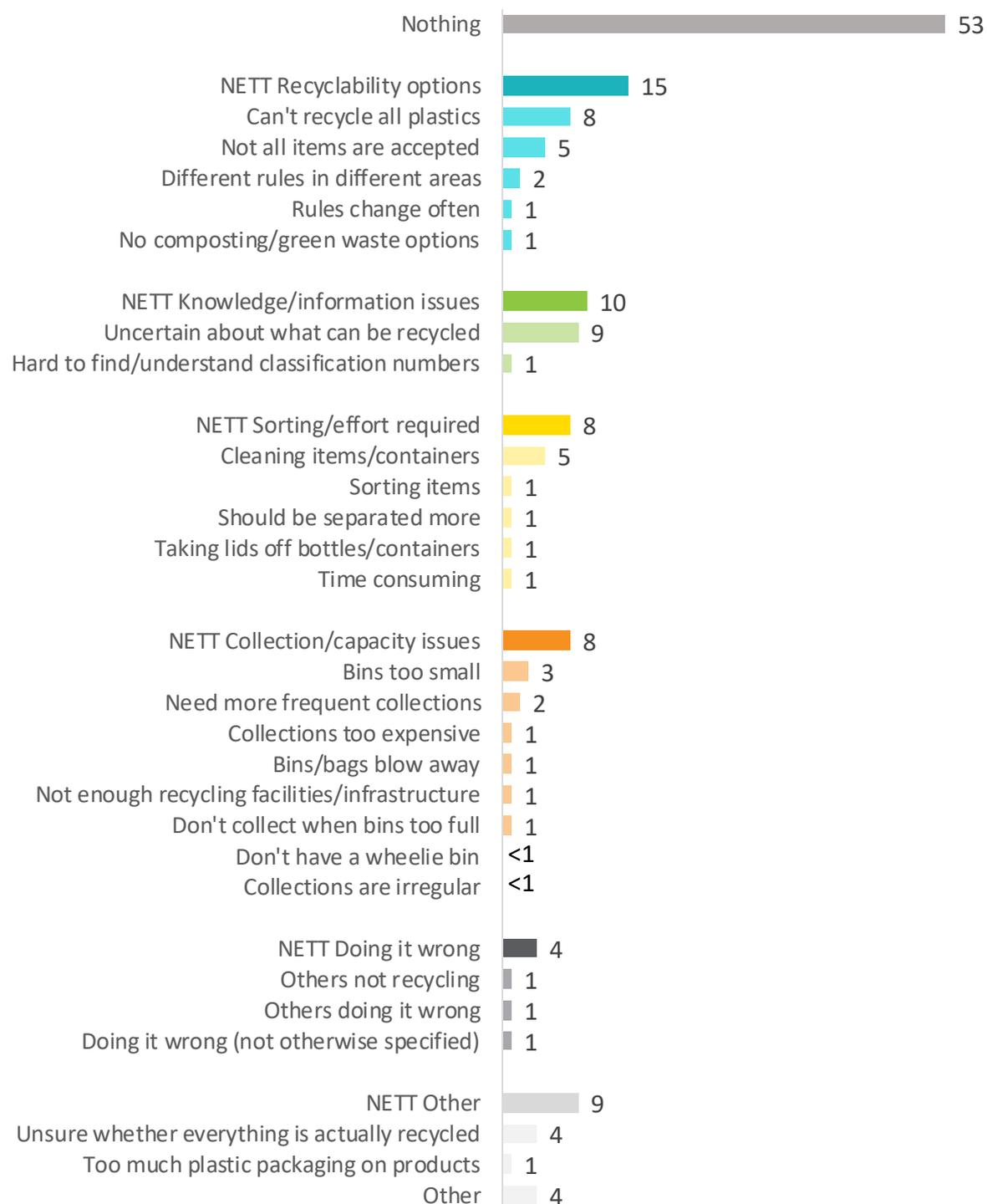
Half of respondents (53%) said that nothing annoys them about recycling. However, the main pain point for respondents surrounds what can and cannot be recycled in their area (15%). Broadly, this indicates a desire to recycle more than is currently possible.

This is followed by a lack of knowledge / information around what can be recycled in general (10%), the effort required to sort recycling (8%), and collection / capacity issues (8%).

Figure 155 – What annoys people about recycling

What, if anything, annoys you about recycling?

(% of all New Zealanders)



Base: All respondents (n=1,741)

Source: B4

Note: 1% were not able to be coded and are not displayed on the chart. Netts may not equal the sum of the individual percentages due to rounding and multi-responses.

7.0 Recycling Knowledge

This section looks into respondents' knowledge around what can and cannot be recycled in their Council area. It also highlights perceptions around compostable packaging.

7.1 Recycling Knowledge

Respondents were provided with a series of items and asked to select if they would typically recycle them. Their response was timed so we could measure the strength of their response. In other words, is this something they intuitively believed, or did they take more time to deliberate over their answer?

Responses were then coded as correct or incorrect, based on what is recyclable in each respondent's council area. Only respondents who have a council provisioned kerbside collection have been included in the analysis. This is because we could not be certain what is and is not recycled in the private waste collections. The exception is Tauranga City Council, where there isn't council provision except for glass, but we were able to identify what is accepted for recycling by private collection. As such respondents in Tauranga were included in the analysis.

Responses are then broken down into the following categories: Nett correct, fast correct, slow correct, Nett incorrect, fast incorrect, slow incorrect, don't know (see Table 1).

Table 1 – Definitions of response categories

Category	Definition
Nett correct	All those who gave a correct response to the item (either fast or slow)
Fast correct	The proportion of respondents who provided a fast-correct response. 'Fast' means that the response was quicker than their average response time across all of the items. The average was calculated at a respondent-level.
Slow correct	The proportion of respondents who provided a slow correct response. 'Slow' means that the response was slower than their average response time across all of the items.
Slow incorrect	As with slow correct, but when an incorrect response was provided
Fast incorrect	As with fast correct, but when an incorrect response was provided
Nett incorrect	All those who gave an incorrect response to the item (either fast or slow)
Don't know	Respondents were coded to a 'don't know' when no response was provided for an item in the allotted time.

For example, 87% of respondents provided a 'fast correct' response for milk bottles. This means people strongly associate milk bottles with being recyclable (they don't need to think about it).

However, for foil food pouches, 61% of respondents provided a 'slow correct' response. This indicates that while the majority of respondents do not believe this item is recyclable (the correct response), they need more time to think about it, and the association is not so strong. Indeed, a slower response could well indicate that respondents are guessing and guessing could potentially lead to contamination in the real world.

We have charted the responses for each item, dividing them into three charts:

- Those items which are accepted for recycling across all councils (Figure 16).
- Those items which are not accepted for recycling across any councils (Figure 17).
- Those items which are not accepted across for recycling across some councils but not all (Figure 18).

Knowledge of items which are recyclable across all councils

At least four in five respondents correctly identify that items which can be recycled anywhere, are recyclable (Figure 16). In addition, many of these items are highly intuitive for respondents, with the majority providing a ‘fast correct’ response. This demonstrates the importance of consistency in the system in making recycling easy for people.

Knowledge of items which are not recyclable across any councils

This is where respondents’ knowledge starts to falter, and wish-cycling kicks in. At least two in five respondents incorrectly believe they can recycle the following items when they can’t (Figure 17). More needs to be done to address this in the public’s mind.

- Compostable bottles and cups (64% incorrectly say this can be recycled)
- Till receipts (54%)
- Plastic cutlery (46%)
- Compostable packaging (45%)
- Compostable plates and cutlery (49%)
- Coffee cups (45%)
- Coffee cup lids (42%).

It is notable that the highest proportion of fast incorrect responses is for the three compostable items (between 21% and 28%). This suggests there is a relatively strong heuristic that compostable is recyclable, which needs to be addressed. Another potential heuristic is that bottles are recyclable which helps to explain why almost two in three respondents (incorrectly) think that compostable bottles and cups can be recycled.

Knowledge of items which can be recycled in some councils, but not in others

There is mixed knowledge when it comes to those items that are accepted for recycling in some councils but not in others. At least 70% of respondents correctly know whether they can (or can’t) recycle the following items in their area:

- Ice cream containers (77%)
- Margarine tubs (76%)
- Frozen vegetable bags (73%)
- Pizza boxes (71%).

However, it is worth noting that with frozen vegetable bags there is a very high proportion of slow correct responses (40%) indicating people need to think harder about this, or are potentially guessing.

The most problematic items in this chart are meat trays, soya milk cartons, tomato sauce bottles and yoghurt containers, with at least 30% of respondents getting these incorrect.

Extent to which incorrect responses are due to ‘wish-cycling’

Table 2 (following Figure 18) provides evidence on the extent to which those respondents who incorrectly sort items, are wish-cycling or not. For each item, the table splits the incorrect responses between councils where the item can be recycled (indicating the respondents are ‘binning’ it when they shouldn’t) and those councils where it can’t (indicating the respondents are wish-cycling).

Generally speaking, when items can be recycled in some councils (but not in others) the respondents who sort it incorrectly are wish-cycling (i.e. their council does not accept it, but they think it can be recycled). Respondents are significantly under-recycling meat trays in areas where they can be accepted, but are wish-cycling Numbers 4, 5, and 6 plastics, as well as soft plastics. This wish-cycling of Number 4, 5, and 6 plastics potentially reflects the changes in what can be accepted at kerbside by many councils over the last two years.

Figure 16 – Intuitive Association scores for items that are accepted for recycling across all local councils



Figure 17 – Intuitive Association scores for items not accepted for recycling across any councils

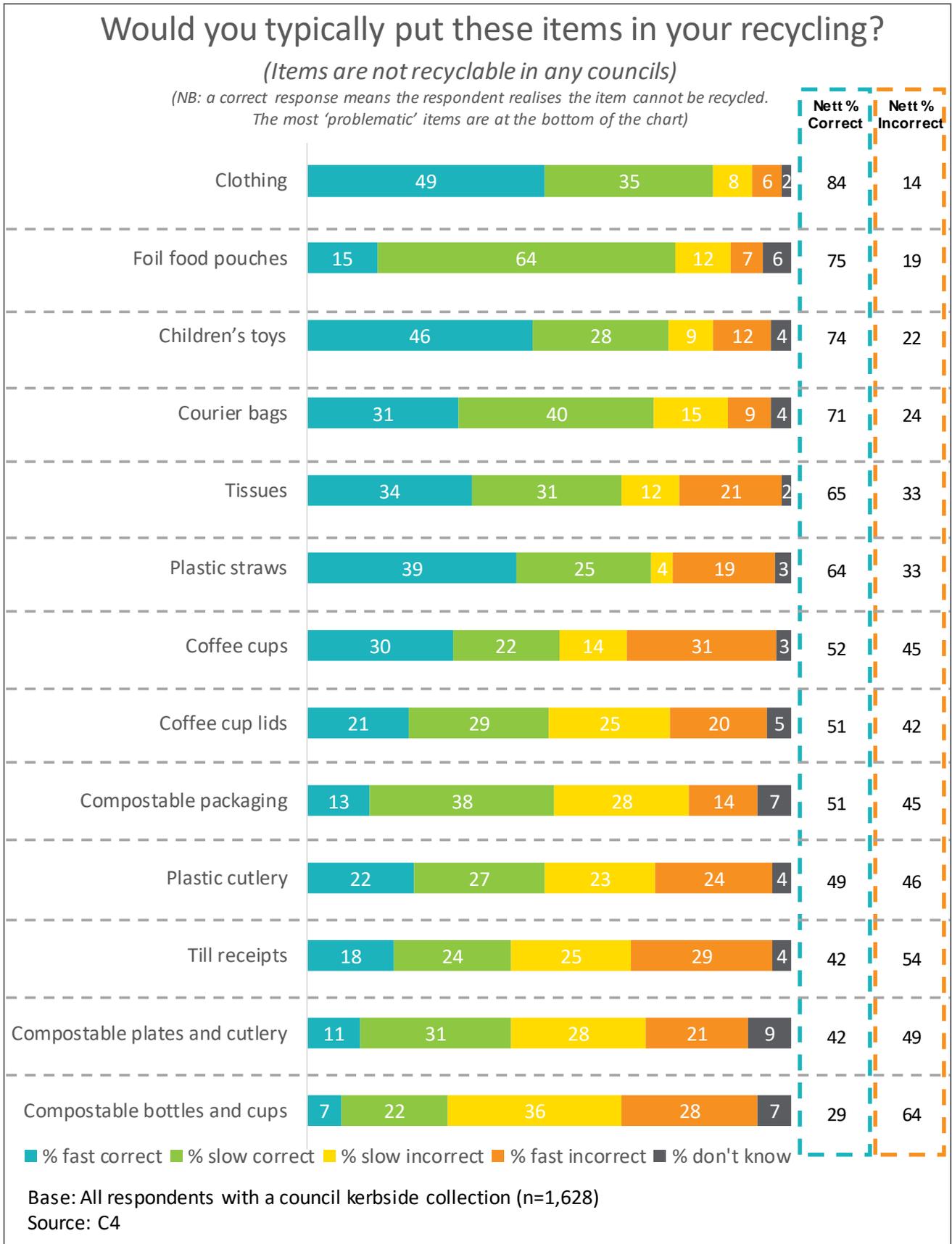


Figure 18 – Intuitive Association scores for items which are accepted in some councils for recycling but not others

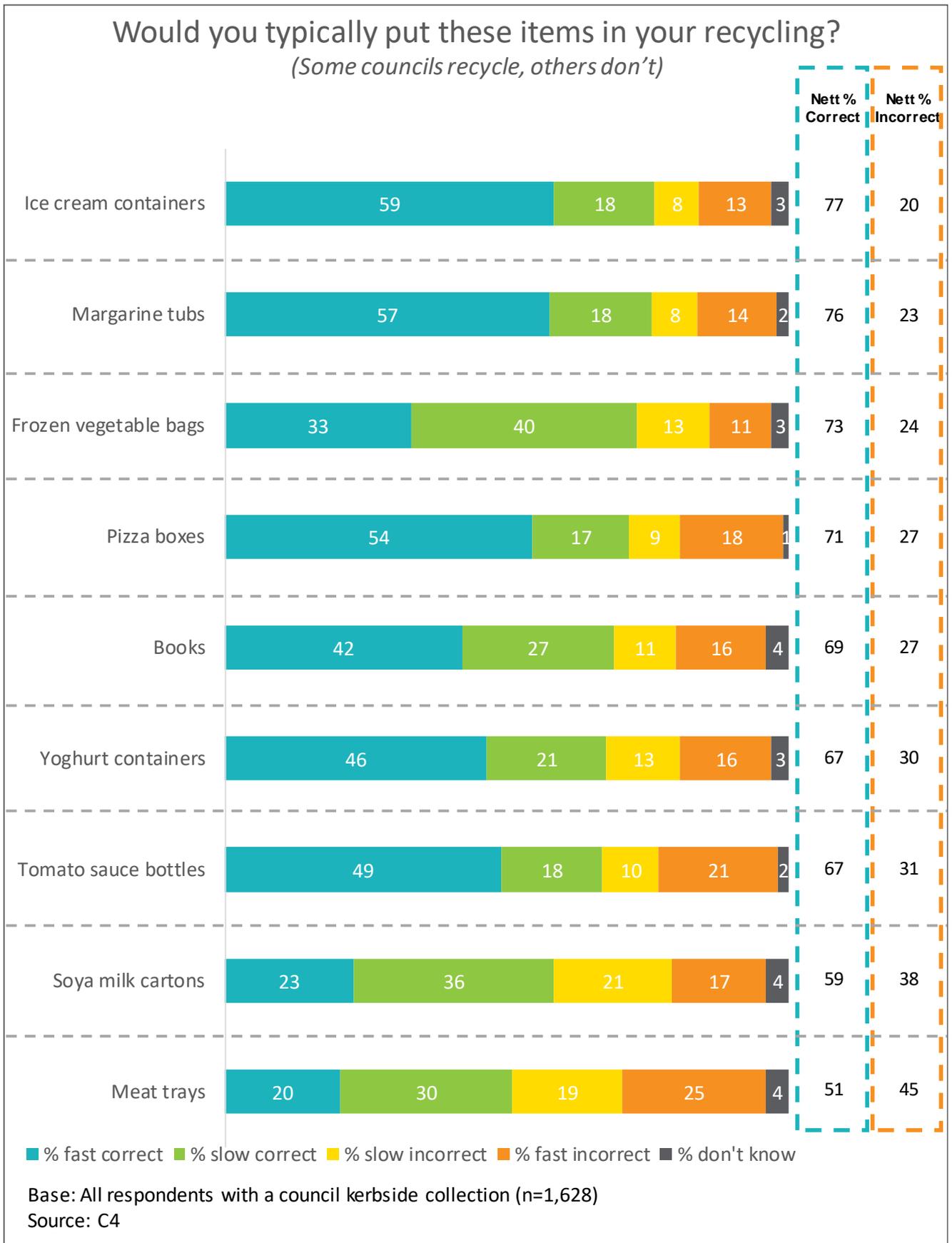


Table 2 – The profile of those who get items incorrect where the item is recycled in some councils but not others

Items with mixed recycling acceptance by councils	% of total base that got each item incorrect	Number of people (n=) that got each item incorrect	Bin it -	Wish-cyclers
			The proportion of those who get the item incorrect that live in areas where it can be recycled	The proportion of those who get the item incorrect that live in areas where it cannot be recycled
n=1628			%	%
Ice cream containers	20	399	26	74
Margarine tubs	23	424	38	62
Frozen vegetable bags	24	374	3	97
Pizza boxes	27	418	64	36
Yoghurt containers	30	497	42	58
Tomato sauce bottles	31	567	35	65
Soya milk cartons	38	657	25	75
Meat trays	45	737	88	12
Books	27	472	92	8

7.2 Intuitive association with recyclability

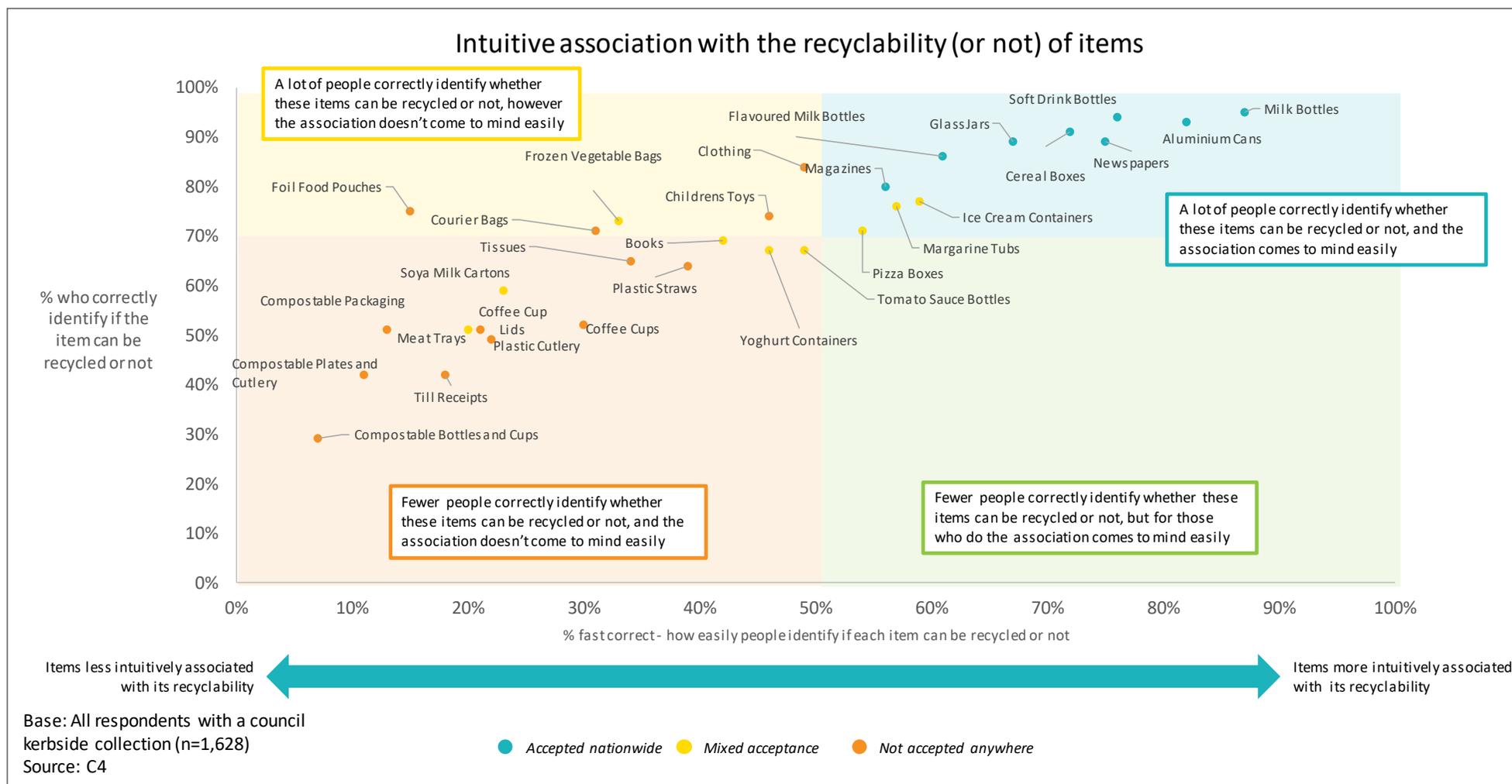
Figure 19, on the following page, segments the items into four quadrants – highlighting where most respondents get it right, and if this association with recyclability is strong or not. Key areas to focus on are the yellow and orange quadrants.

The yellow quadrant includes those items which a high proportion of respondents correctly sort, but they need more time to think about it. This may indicate that they are guessing. Therefore, work can be done to increase the strength of the association as to whether an item is recyclable or not. Previous studies have found that when recycling requires time and effort, it won't be done¹⁴. Consequently, if an item's recyclability is more intuitive, there is a higher likelihood that it will get correctly recycled.

The orange quadrant includes those items where a higher proportion of respondents sort them incorrectly. Therefore, work needs to be done around these items to increase levels of knowledge around recyclability.

¹⁴ Ipsos, (2016). *Household waste and recycling research report*. Prepared for NSW EPA. <https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/waste/ipsos-waste-and-recycling.pdf>

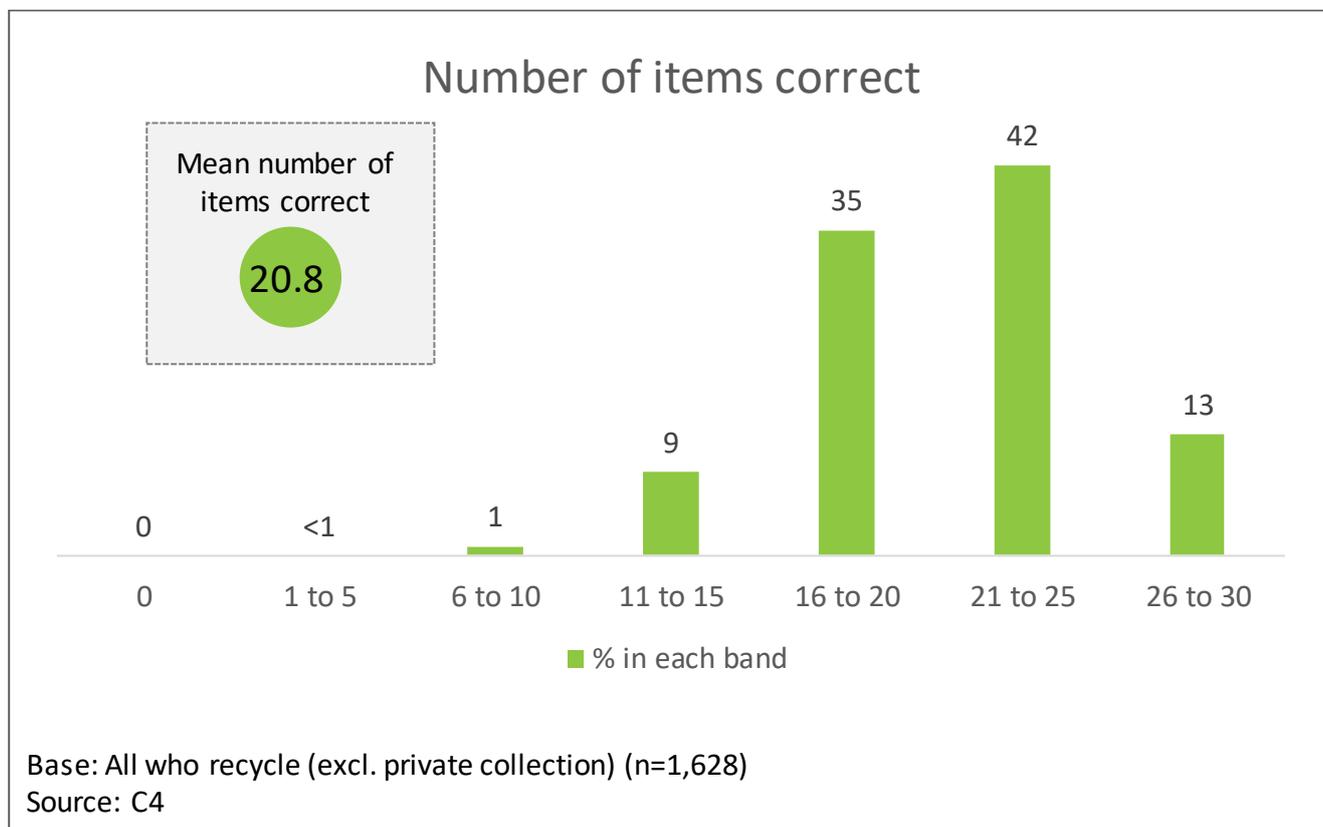
Figure 19 – Intuitive association with recyclability (or not) of items



7.3 Number of items correctly answered

Following the coding of responses to the items as correct or incorrect, we then created a count of correct responses for each respondent. On average respondents got 20.8 out of 30 items correct (see Figure 20). Only 10% got at least 26 correct. These findings indicate the potential for contamination and 'wish-cycling' is high.

Figure 20 – Number of items correct



Sub-group differences

The following groups have a **higher** than average (20.8) mean score:

- Attainers (21.6)
- Women (21.5)
- NZ Europeans / Pākehā (21.3)
- Those with a household income over \$100k (21.2)
- Those who use personal recycling bins (21.0)
- Those whose default behaviour is to use the rubbish bin when unsure (21.0).

The following groups have a **lower** than average (20.8) mean score:

- Those who use communal recycling bins (18.8)
- Those who default behaviour is to recycle when unsure (19.8)
- Asian New Zealanders (19.9)
- Bay of Plenty residents (19.9)
- Those with a household income under \$50k (19.9)
- Men (20.0).

7.4 Cues that incorrectly tell people an item is recyclable

Respondents who incorrectly said that items were recyclable were asked to explain, in their own words, what told them that the item was recyclable. These responses were then coded into themes.

For compostable items, such as bottles, plates, cups, and packaging, people are generally conflating being compostable with being recyclable (around a third said each is recyclable because it is compostable) (see Table 3).

For items such as till receipts, the heuristic that all paper types are recyclable prevails (83% say till receipts are recyclable because of this).

Table 3 – Top reasons cited for why items are recyclable, when they are not

Item*	Base: (number who incorrectly said item can be recycled) (n=)	1 st reason	%	2 nd reason	%
Compostable bottles	522	It's compostable	25%	It's plastic	14%
Till receipts	495	It's paper	83%	-	-
Compostable plates and cups	348	It's compostable	29%	-	-
Coffee cup lids	318	It has a recycling symbol / number	33%	It's plastic	27%
Coffee cups	312	It's paper / cardboard	41%	-	-
Compostable packaging	304	It's compostable	33%	It says so on the label / packaging	13%

*please note this table only shows the top items that respondents incorrectly said can be recycled. In addition, only the top two reasons with over 10% mentions are shown in the table.

7.5 Beliefs around compostable items

Respondents generally believe that compostable packaging is better for the environment than plastic packaging (74% agree) (see Figure 21). This potentially reveals more about respondents' concerns around plastic than it does their support for compostable (per se)¹⁵. When considering the truth behind this, there is no clear-cut answer. For any individual product the full life cycle impacts would need to be taken into account before determining whether plastic or compostable packaging is a preferred option. The waste hierarchy and the circular economy prioritises reusable packaging and recyclable packaging over compostable packaging as all compostable packaging is currently single use; however not all plastics are reusable or recyclable. Industrial composting facilities that can take compostable packaging are very limited in New Zealand and home composting systems may not be able to process large amounts of compostable packaging.

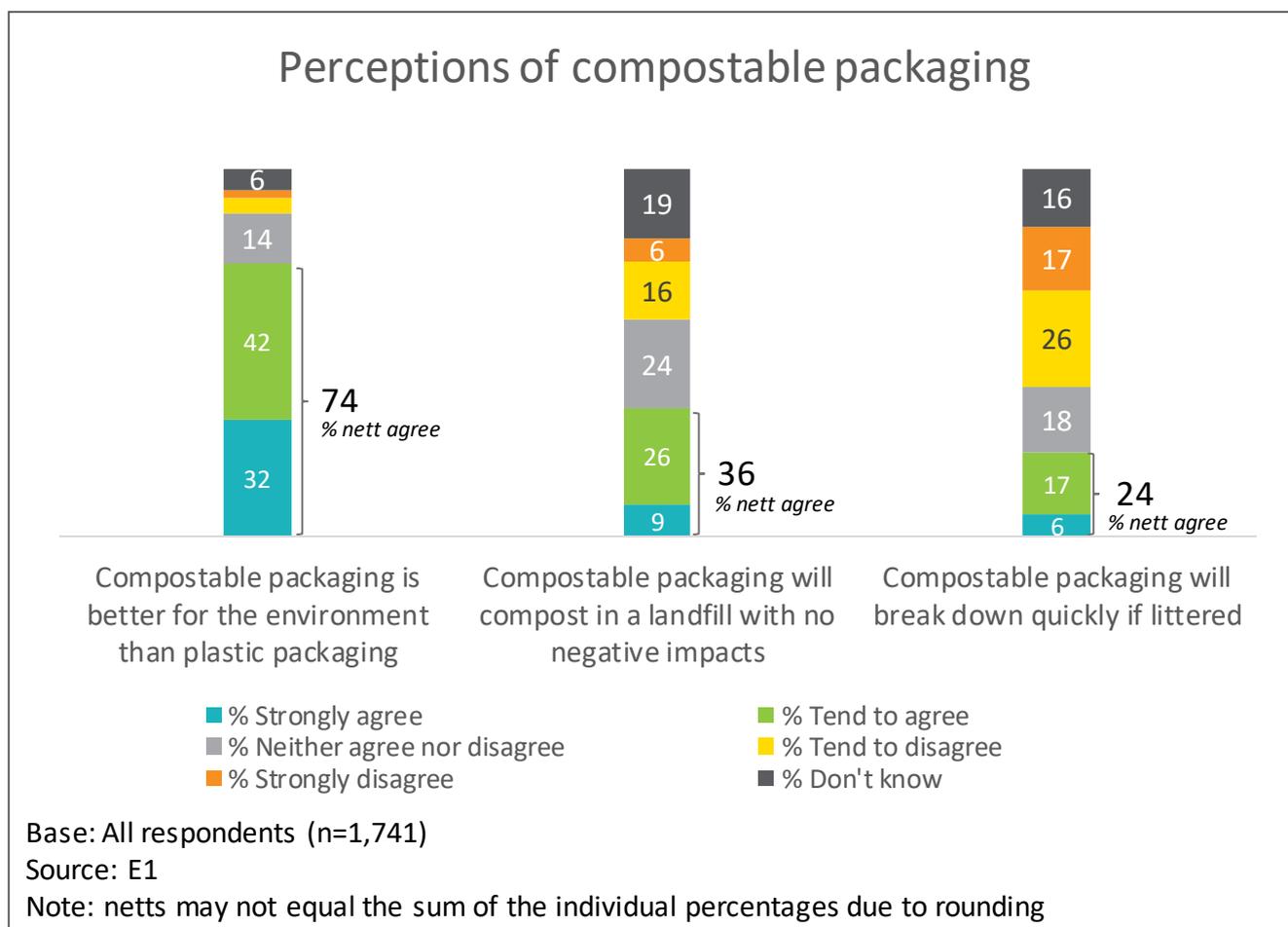
Indeed, respondents are somewhat conflicted, and confused, about the extent to which compostable packaging is 'good for the environment'. Thirty-six percent (mistakenly) agree that compostable packaging will compost in a landfill with no negative impacts, while 22% disagree (with many not expressing a clear opinion). Compostable packaging does not compost in a landfill. Depending on the design of the landfill it will either remain inert and not break down or it will rot and produce methane (a greenhouse gas).

In addition, 24% (mistakenly) agree that compostable packaging will break down quickly if littered, while 43% disagree (once again many are uncertain or don't know). Once again, this perception is untrue. Compostable bags are designed to biodegrade in a composting system, not on land or in water. If littered, not only will a compostable bag not break down, it can be eaten by a bird or animal and cause injury or death.

On top of this there is also evidence that respondents often believe compostable materials are recyclable (as highlighted in Sections 7.1 and 7.4). Overall the findings indicate a need to share information around how best to dispose of compostable packaging, debunk the myth that 'compostable = recyclable', and highlight how best to tell compostable and recyclable packaging apart. This will assist in increasing knowledge of what can actually be recycled, and lower levels of contamination.

¹⁵ In the 2019 Better Futures research, New Zealanders concern around plastic waste was second only to the protection of New Zealand children (with 69% expressing a high level of concern).

Figure 21 – Perceptions of compostable recycling



Sub-group differences

Compostable packaging is better for the environment than plastic packaging

The following groups are **more** likely than average (74%) to think that compostable packaging is better for the environment than plastic packaging:

- Attainers (88%)
- Those aged 70 and over (86%).

The following groups are **less** likely than average (74%) to think that compostable packaging is better for the environment than plastic packaging:

- Deniers (63%)
- Families with pre-school children (66%)
- Those aged 18-29 (68%)
- Followers (69%)
- Those fairly confident in their recycling ability (69%).

Compostable packaging will compost in a landfill with no negative impacts

The following groups are **more** likely than average (36%) to think that compostable packaging will compost in a landfill with no negative impacts:

- Those aged 70 and over (46%)
- Men (41%)
- Those very / extremely confident in their recycling ability (41%).

The following groups are **less** likely than average (36%) to think that compostable packaging will compost in a landfill with no negative impacts:

- Deniers (22%)
- Those not / fairly confident in their recycling ability (30%)
- Women (31%).

Compostable packaging will break down quickly if littered

The following groups are **more** likely than average (24%) to think that compostable packaging will break down quickly if littered:

- Asian New Zealanders (39%)
- Those who use communal recycling bins (32%)
- Auckland residents (29%)
- Men (29%).

The following groups are **less** likely than average (24%) to think that compostable packaging will break down quickly if littered:

- Deniers (14%)
- NZ Europeans / Pākehā (18%)
- Those not / fairly confident in their recycling ability (19%)
- Those aged 50-69 (19%)
- Women (19%).

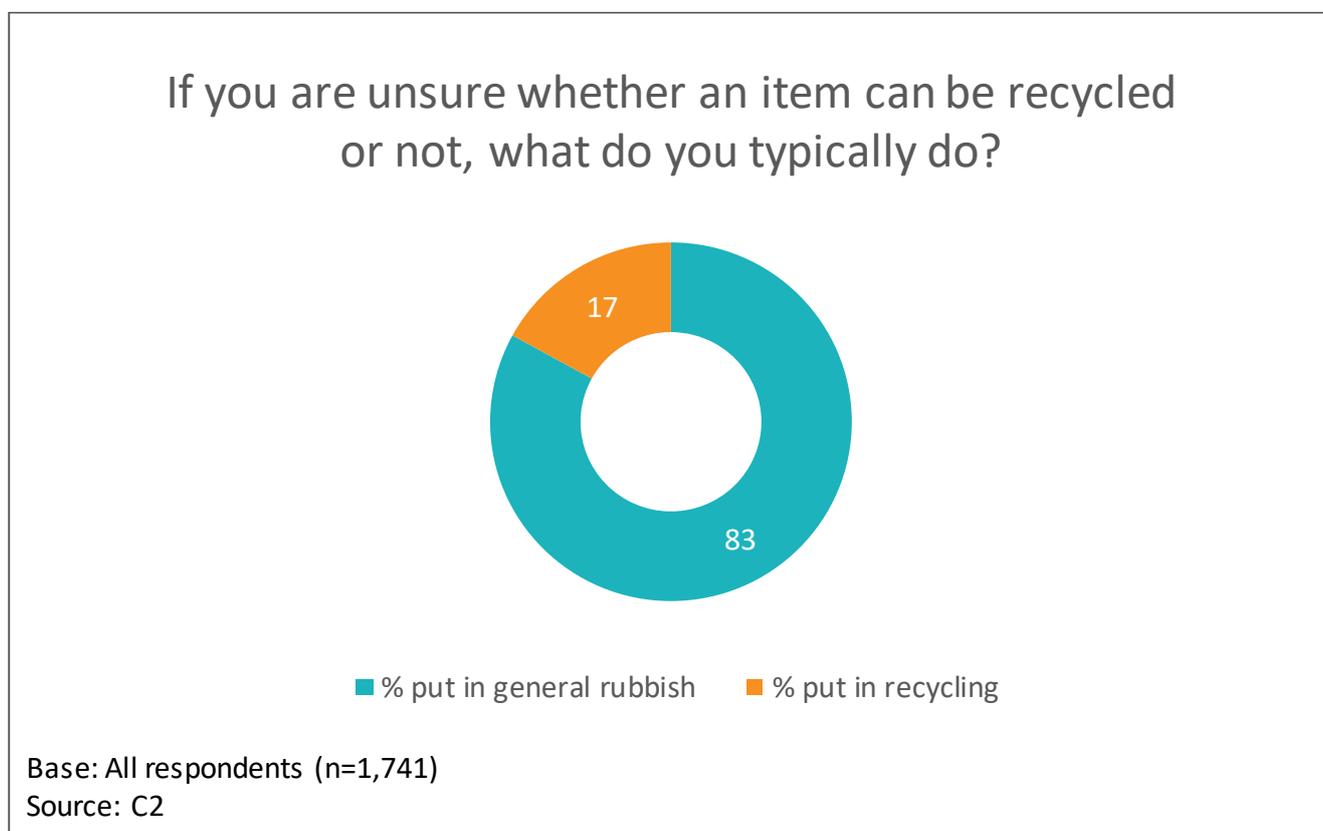
8.0 Self-reported recycling behaviours

This section covers off what people do when they are unsure of whether an item is recyclable or not. It also looks at the performance of specific recycling behaviours, including the rinsing, flattening, and sorting of recyclable items.

8.1 What people do when they are unsure if something can be recycled or not

To understand respondents' basic instincts when it comes to recycling, we asked whether they generally put items in their waste or recycling bins when they are unsure of its recyclability (see Figure 22). The majority err on the side of caution, with 83% putting the offending item in the general rubbish, and 17% opting to put it the recycling bin.

Figure 22 – General behaviour when unsure of an item's recyclability



Older people, aged 70 and over, are more likely than average to put items in the rubbish bin when they are unsure (92% vs. 83%).

No groups are more likely than average to put items into the recycling when unsure.

8.2 Preparation of recyclables

Respondents who ever recycle were asked a series of questions about how they prepare recyclables. We asked about four behaviours – rinsing items, removing lids, removing labels, and crushing / flattening items. We have excluded from our analysis those who said that they do not use the item, or never recycle it.

For reference throughout this section, the best practise for preparation of recyclables is as follows:

- Rinse all plastic and metal containers.
- Remove all lids and place in the rubbish.
- Remove plastic sleeves from bottles before recycling, however paper labels and stickers don't need to be removed.
- If recycling is collected in a wheelie bin, cereal and cardboard boxes can be crushed but aluminium cans and soft drink bottles shouldn't be crushed as they might end up in the paper stream. If recycling is collected in a crate then light squashing of bottles and cans is fine to increase room and stop items being windblown.
- The plastic wrap from meat trays should be removed before recycling.
- Non-recyclable parts should be removed before recycling and placed in the rubbish.
- Recyclables should **not** be placed in cardboard boxes before recycling as there aren't staff available to pull out the contents to place on the conveyor belt.
- Recyclables should **not** be placed in plastic bags before recycling as there aren't staff available to pull out the contents to place on the conveyor belt and plastic bags are not accepted at kerbside recycling.

8.2.1 Groups generally more or less likely to prepare recyclables

There are a number of groups that are generally more or less likely to perform each of the actions detailed in this section.

Those generally **more** likely to prepare recyclables:

- Advocates
- Attainers
- Those very / extremely confident in their recycling ability
- Canterbury residents
- Single-person households

Those generally **less** likely to prepare recyclables:

- Followers
- Deniers
- Pacific peoples
- Asian New Zealanders
- Auckland residents
- Those not / fairly confident in their recycling ability
- Those with a household income over \$100k
- Families with children
- Those aged 18-29

Full breakdowns of sub-group differences for each behaviour are provided after each section.

8.2.2 Rinsing items

There is a high rinse rate for all the items. Milk bottles are the most frequently rinsed item, with 82% of respondents rinsing these 'generally / always' (see Figure 23). Soft drink bottles are the least frequently rinsed, with 70% 'generally / always' recycling these items.

Figure 23 – Rinsing of items before recycling



Subgroup differences

Milk bottles

The following groups are **more** likely than average (82%) to 'generally / always' rinse milk bottles before recycling:

- Those aged 70 and over (92%)
- Advocates (91%)
- Canterbury residents (91%)
- Single person households (91%)
- Wellington residents (90%)
- Those extremely confident in their recycling ability (90%)
- NZ Europeans / Pākehā (87%).

The following groups are **less** likely than average (82%) to ‘generally / always’ rinse milk bottles before recycling:

- Pacific peoples (58%)
- Asian New Zealanders (71%)
- Auckland residents (72%)
- Families with school-aged children (74%)
- Followers (75%)
- Those whose default behaviour is to recycle when unsure (75%)
- Those aged 18-29 (77%)
- Those not / fairly confident in their recycling ability (77%).

Tomato sauce bottles

The following groups are **more** likely than average (82%) to ‘generally / always’ rinse tomato sauce bottles before recycling:

- Manawatu-Wanganui residents (93%)
- Canterbury residents (93%)
- Attainers (92%)
- Advocates (90%).

The following groups are **less** likely than average (82%) to ‘generally / always’ rinse tomato sauce bottles before recycling:

- Pacific peoples (64%)
- Asian New Zealanders (73%)
- Auckland residents (72%)
- Followers (75%)
- Families with school-aged children (77%)
- Those not / fairly confident in their recycling ability (77%).

Yoghurt containers

The following groups are **more** likely than average (81%) to ‘generally / always’ rinse yoghurt containers before recycling:

- Advocates (92%)
- Canterbury residents (91%)
- Attainers (89%)
- Those aged 50-69 (86%)
- Those very / extremely confident in their recycling ability (86%).

The following groups are **less** likely than average (81%) to ‘generally / always’ rinse yoghurt containers before recycling:

- Pacific peoples (59%)
- Those whose default behaviour is to recycle when unsure (72%)
- Asian New Zealanders (72%)
- Auckland residents (72%)
- Those aged 18-29 (73%)
- Followers (73%)
- Those not / fairly confident in their recycling ability (75%).

Margarine Tubs

The following groups are **more** likely than average (78%) to 'generally / always' rinse margarine tubs before recycling:

- Advocates (90%)
- Those extremely confident in their recycling ability (89%)
- Attainers (88%)
- Canterbury residents (87%)
- Single-person households (87%)
- Wellington residents (86%).

The following groups are **less** likely than average (78%) to 'generally / always' rinse margarine tubs before recycling:

- Pacific peoples (53%)
- Auckland residents (69%)
- Those whose default behaviour is to recycle when unsure (70%)
- Families with children (71%)
- Those not / fairly confident in their recycling ability (72%).

Soft drink bottles

The following groups are **more** likely than average (70%) to 'generally / always' rinse soft drink bottles before recycling:

- Hawke's Bay residents (87%)
- Manawatu-Wanganui residents (85%)
- Advocates (84%)
- Canterbury residents (84%)
- Single person households (83%)
- Attainers (79%)
- Those very / extremely confident in their recycling ability (76%)
- Women (75%).

The following groups are **less** likely than average (70%) to 'generally / always' rinse soft drink bottles before recycling:

- Deniers (46%)
- Pacific peoples (54%)
- Those not / fairly confident in their recycling ability (63%)
- Auckland residents (64%)
- Families with school-aged children (65%)
- Those with a household income over \$100k (65%).

8.2.3 Removing lids from items

Respondents who recycle were then asked how often they remove the lids from milk, soft drink, and wine bottles before recycling them.

Compared to rinsing, fewer respondents remove lids from bottles (see Figure 24). Respondents are most likely to remove lids from wine bottle (66% remove these 'generally / always'), and less likely to do so when it comes to milk bottles and soft drink bottles.

Figure 24 – Removing lids from items before recycling



Subgroup differences

Wine bottles

The following groups are **more** likely than average (66%) to 'generally / always' remove lids from wine bottles before recycling:

- Canterbury residents (85%)
- Manawatu-Wanganui residents (81%)
- Single person households (78%)
- Those extremely confident in their recycling ability (76%)
- Advocates (74%)
- Māori (73%)
- Those aged 50-69 (72%).

The following groups are **less** likely than average (66%) to ‘generally / always’ remove lids from wine bottles before recycling:

- Pacific peoples (42%)
- Auckland residents (49%)
- Asian New Zealanders (50%)
- Those with a household income over \$100k (59%)
- Those not / fairly confident in their recycling ability (59%)
- Those aged 30-49 (60%).

Milk bottles

The following groups are **more** likely than average (56%) to ‘generally / always’ remove lids from milk bottles before recycling:

- Canterbury residents (77%)
- Those extremely confident in their recycling ability (68%)
- Advocates (67%)
- Attainers (67%)
- Those aged 50 and over (65%)
- Māori (65%).

The following groups are **less** likely than average (56%) to ‘generally / always’ remove lids from milk bottles before recycling:

- Pacific peoples (34%)
- Auckland residents (44%)
- Those aged under 50 (50%)
- Those with a household income over \$100k (50%)
- Those not / fairly confident in their recycling ability (50%).

Soft drink bottles

The following groups are **more** likely than average (56%) to ‘generally / always’ remove lids from soft drink bottles before recycling:

- Canterbury residents (81%)
- Attainers (68%)
- Advocates (67%)
- Those aged 50 and over (66%)
- Those extremely confident in their recycling ability (66%)
- Those with a household income between \$50k and \$100k (62%).

The following groups are **less** likely than average (56%) to ‘generally / always’ remove lids from soft drink bottles before recycling:

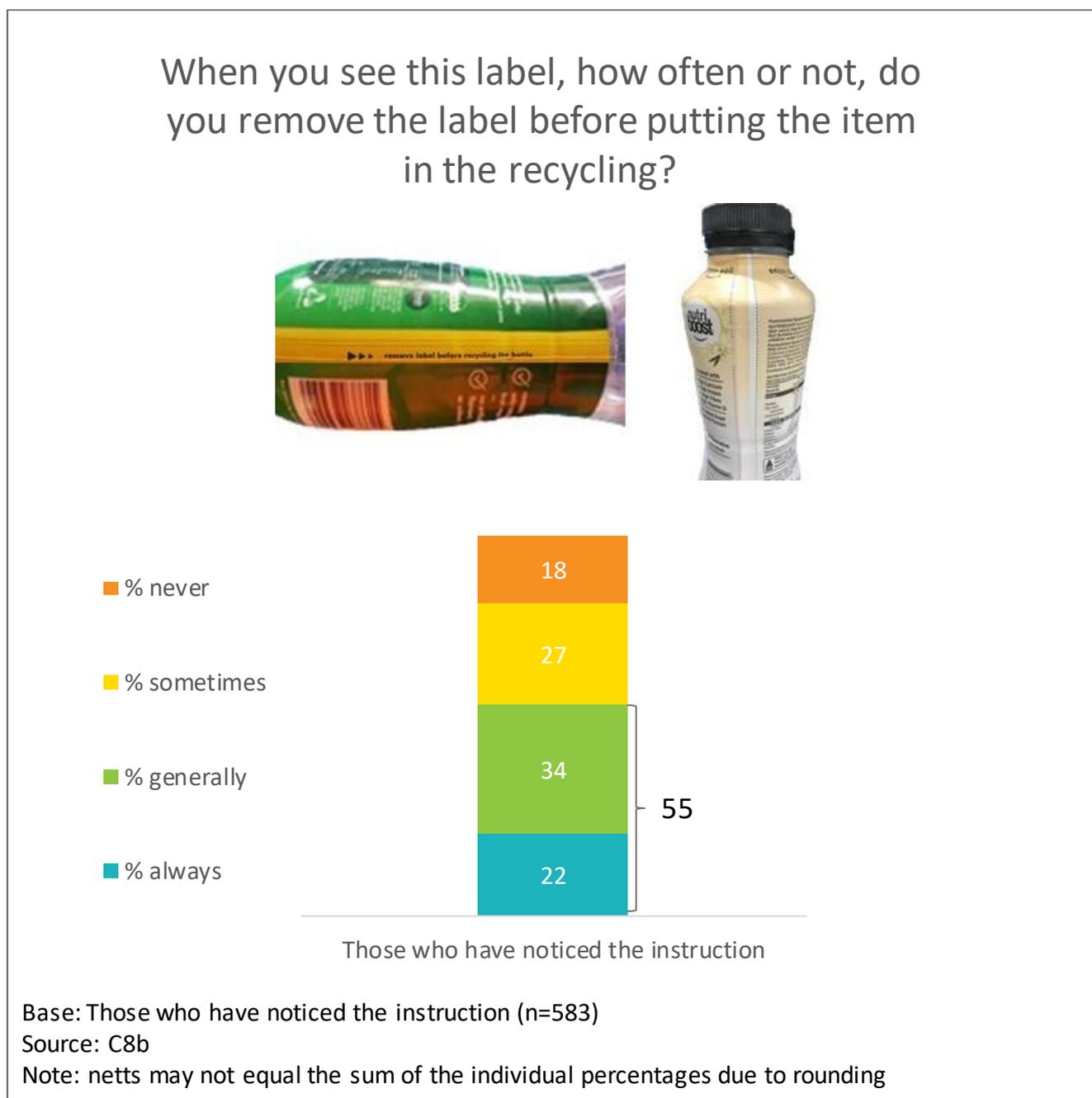
- Pacific peoples (34%)
- Deniers (40%)
- Otago / Southland residents (41%)
- Auckland residents (44%)
- Asian New Zealanders (47%)
- Those with a household income over \$100k (48%)
- Those aged under 50 (49%)
- Those not / fairly confident in their recycling ability (50%).

8.2.4 Removing sleeves from items

Respondents who recycle were then asked if they have ever seen a label on a product with the instruction to remove the label before recycling (these are known as sleeves). Those who have were then asked how often they removed that label before recycling the item.

The majority (64%) of respondents have not seen that instruction on labelling before. Amongst those that had, just over half (55%) say that they 'generally / always' remove the label (see Figure 25).

Figure 25 – Removing labels from items before recycling if noticed



Sub-group differences

The following groups are **more** likely than average (36%) to have noticed the instruction:

- Families with pre-school kids (50%)
- Those extremely confident in their recycling ability (46%)
- Those aged under 50 (45%)
- Asian New Zealanders (45%).

The following groups are **less** likely than average (36%) to have noticed the instruction:

- Those not confident in their recycling ability (23%)
- Those aged 50 and over (24%)
- Deniers (25%)
- Adults with no children (31%).

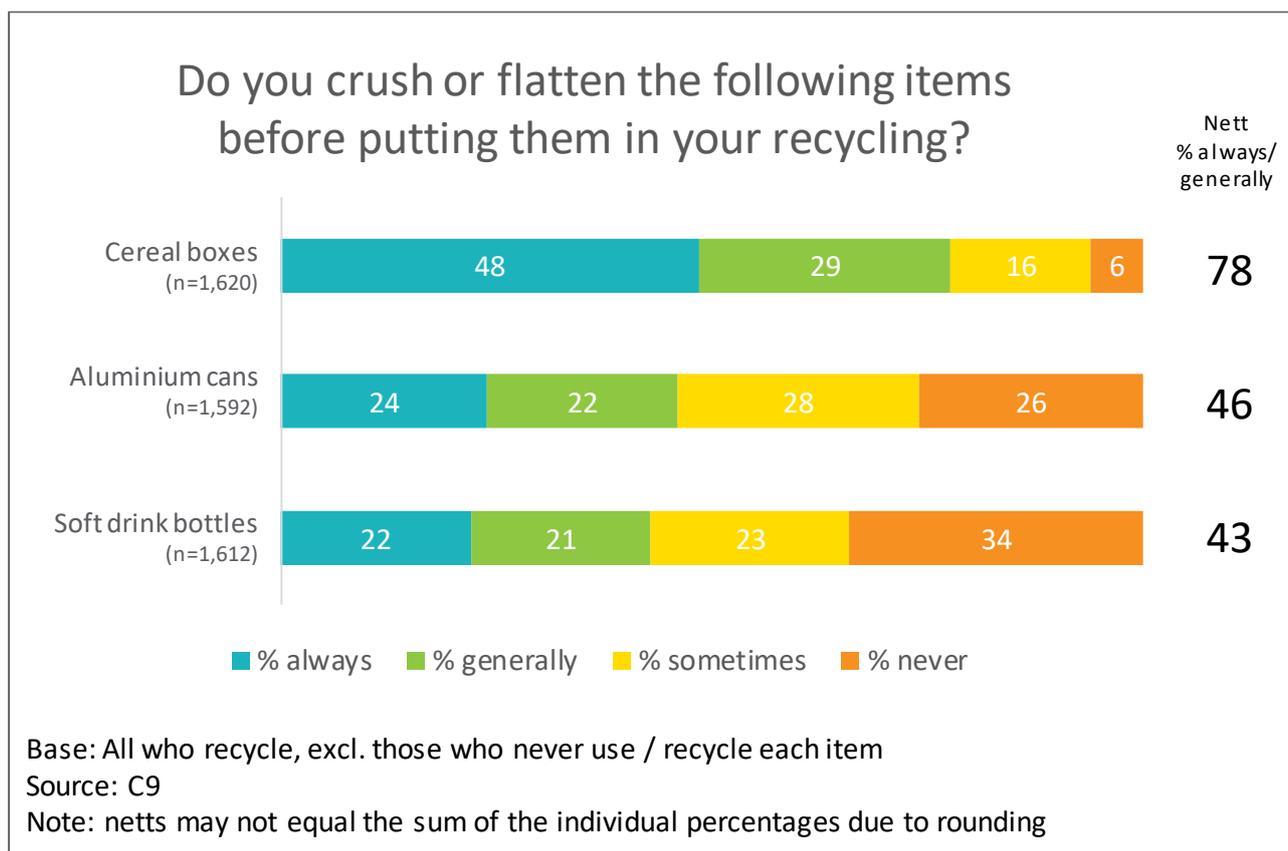
NZ Europeans / Pākehā are more likely than average (55%) to 'generally / always' remove the label from items before recycling (61%), while Auckland residents are less likely than average to do so (44%).

8.2.5 Crushing / flattening items

Respondents who recycle were then asked how often they crush or flatten aluminium cans, cereal boxes, or soft drink bottles before recycling them.

The proportion of respondents who crush or flatten before recycling varies greatly by product (see Figure 26). While most (78%) flatten cereal boxes, less than half crush aluminium cans or soft drink bottles (46% and 43%, respectively).¹⁶

Figure 26 – Crushing / flattening items before recycling



Subgroup differences

Cereal boxes

The following groups are **more** likely than average (78%) to 'generally / always' flatten cereal boxes before recycling:

- Those extremely confident in their recycling ability (89%)
- Advocates (89%)
- Attainers (87%).

¹⁶ Crushing aluminium cans has a detrimental effect on their ability to be correctly sorted in a material recovery facility

The following groups are **less** likely than average (78%) to ‘generally / always’ flatten cereal boxes before recycling:

- Followers (69%)
- Those not / fairly confident in their recycling ability (69%)
- Those aged 18-29 (72%)
- Auckland residents (72%).

Aluminium cans

The following groups are **more** likely than average (46%) to ‘generally / always’ crush aluminium cans before recycling:

- Those extremely confident in their recycling ability (61%)
- Attainers (60%)
- Advocates (55%)
- Wellington residents (53%)
- Families with pre-school aged children (53%).

The following groups are **less** likely than average (46%) to ‘generally / always’ crush aluminium cans before recycling:

- Deniers (33%)
- Those not / fairly confident in their recycling ability (38%)
- Those with a household income over \$100k (40%).

Soft drink bottles

The following groups are **more** likely than average (43%) to ‘generally / always’ crush soft drink bottles before recycling:

- Families with pre-school aged children (55%)
- Those extremely confident in their recycling ability (55%)
- Advocates (54%).

The following groups are **less** likely than average (43%) to ‘generally / always’ crush soft drink bottles before recycling:

- Those not / fairly confident in their recycling ability (35%)
- Those with a household income over \$100k (38%).

8.3 Other preparation behaviours

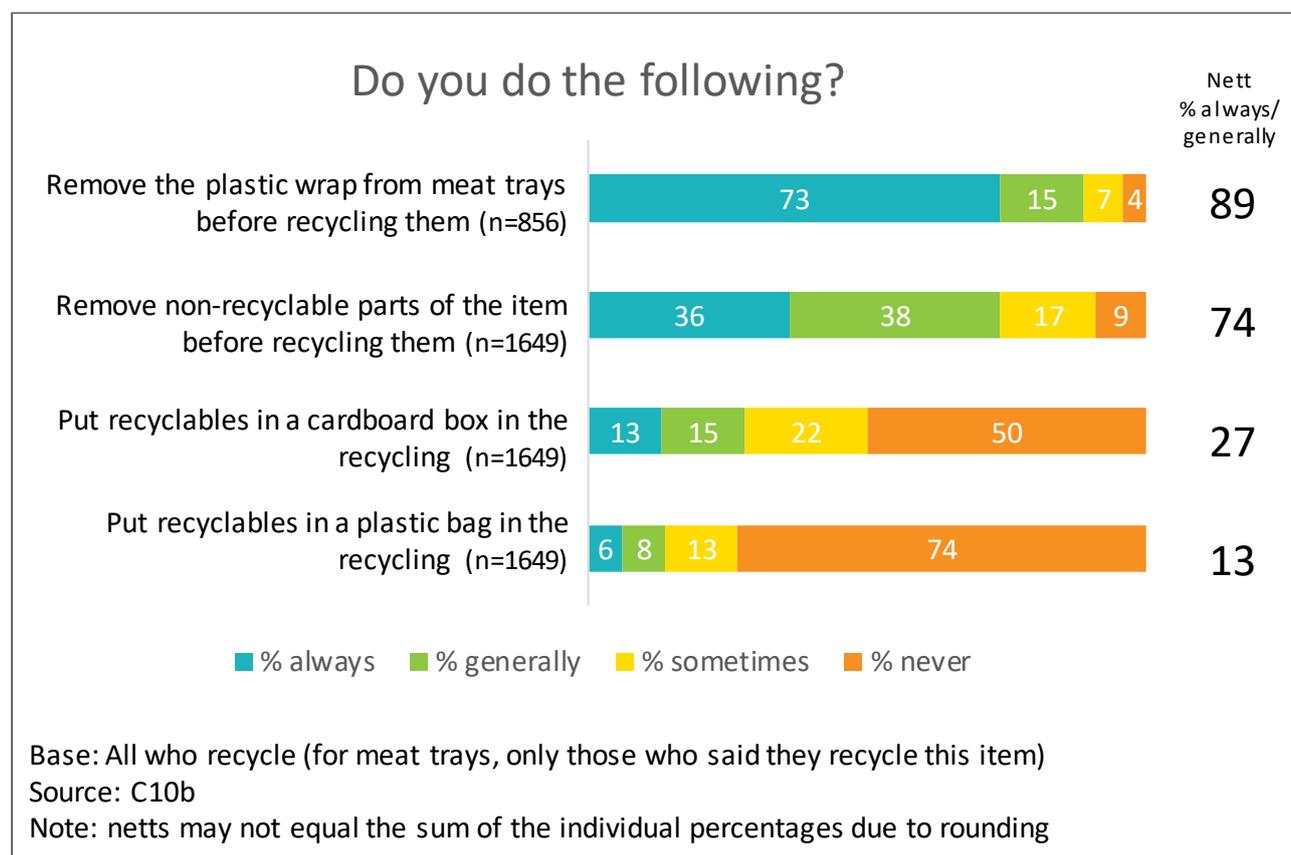
Respondents who recycle were then asked how often they perform other desirable preparation behaviours, such as removing the plastic wrap from recyclable meat trays and removing non-recyclable parts. They were also asked about non-desirable behaviours such as putting their recycling in a cardboard box or plastic bag before putting it in their recycling bin.

Respondents who recycle their plastic meats trays¹⁷ were then asked how often they removed the plastic wrap before recycling. The majority (89%) do this 'generally / always' (see Figure 27).

In addition, three-quarters (74%) of all respondents who recycle say they 'generally / always' remove non-recyclable part of items before recycling them.

A notable minority of respondents report placing recyclables into another container before putting them into the recycling. One in four say they 'generally/always' put recyclables into a cardboard box, and 13% say they put them into a plastic bag first. Both activities are notably higher amongst those with communal waste collections (see sub-group analysis below). More could be done to challenge these non-desirable behaviours amongst the public.

Figure 27 – Sorting recyclables before recycling



¹⁷ 53% of respondents who recycle place plastic meat trays in their recycling.

Sub-group differences

Removing plastic wrap from meat trays

The following groups are **more** likely than average (89%) to 'generally / always' remove the plastic wrap from meat trays before recycling:

- Attainers (99%)
- Those aged 50 and over (96%)
- Wellington residents (96%)
- Those very / extremely confident in their recycling ability (94%).

The following groups are **less** likely than average (89%) to 'generally / always' remove the plastic wrap from meat trays before recycling:

- Pacific peoples (69%)
- Auckland residents (79%)
- Followers (79%)
- Those not / fairly confident in their recycling ability (82%)
- Those under 50 (83%)
- Families with school-aged children (83%).

Removing non-recyclable parts

The following groups are **more** likely than average (74%) to 'generally / always' remove non-recyclable parts from items before recycling:

- Hawke's Bay residents (94%)
- Those extremely confident in their recycling ability (87%)
- Advocates (86%)
- Attainers (86%)
- Single person households (85%)
- Those aged 70 and over (85%)
- Fluctuators (80%).

The following groups are **less** likely than average (74%) to 'generally / always' remove non-recyclable parts from items before recycling:

- Deniers (59%)
- Pacific peoples (60%)
- Followers (63%)
- Those not / fairly confident in their recycling ability (66%)
- Those aged 18-29 (67%)
- Auckland residents (68%).

Putting recyclables into a cardboard box¹⁸

The following groups are **more** likely than average (27%) to 'generally / always' put recyclables into a cardboard box before recycling:

- Those who use communal recycling bins (46%)
- Asian New Zealanders (44%)
- Those aged 18-29 (40%)
- Those extremely confident in their recycling ability (37%)
- Families with children (35%)
- Auckland residents (33%)

The following groups are **less** likely than average (27%) to 'generally / always' put recyclables into a cardboard box before recycling:

- Those aged 50 and over (19%)
- Canterbury residents (19%)
- NZ Europeans / Pākehā (20%).

Putting recyclables into plastic bags

The following groups are **more** likely than average (13%) to 'generally / always' put recyclables into a plastic bag before recycling:

- Those with communal recycling bins (27%)
- Asian New Zealanders (26%)
- Those with a private recycling collection (25%)
- Those aged 18-29 (23%)
- Wellington residents (20%)
- Families with children (20%).

The following groups are **less** likely than average (13%) to 'generally / always' put recyclables into a plastic bag before recycling:

- Single person households (5%)
- Those aged 50 and over (6%).

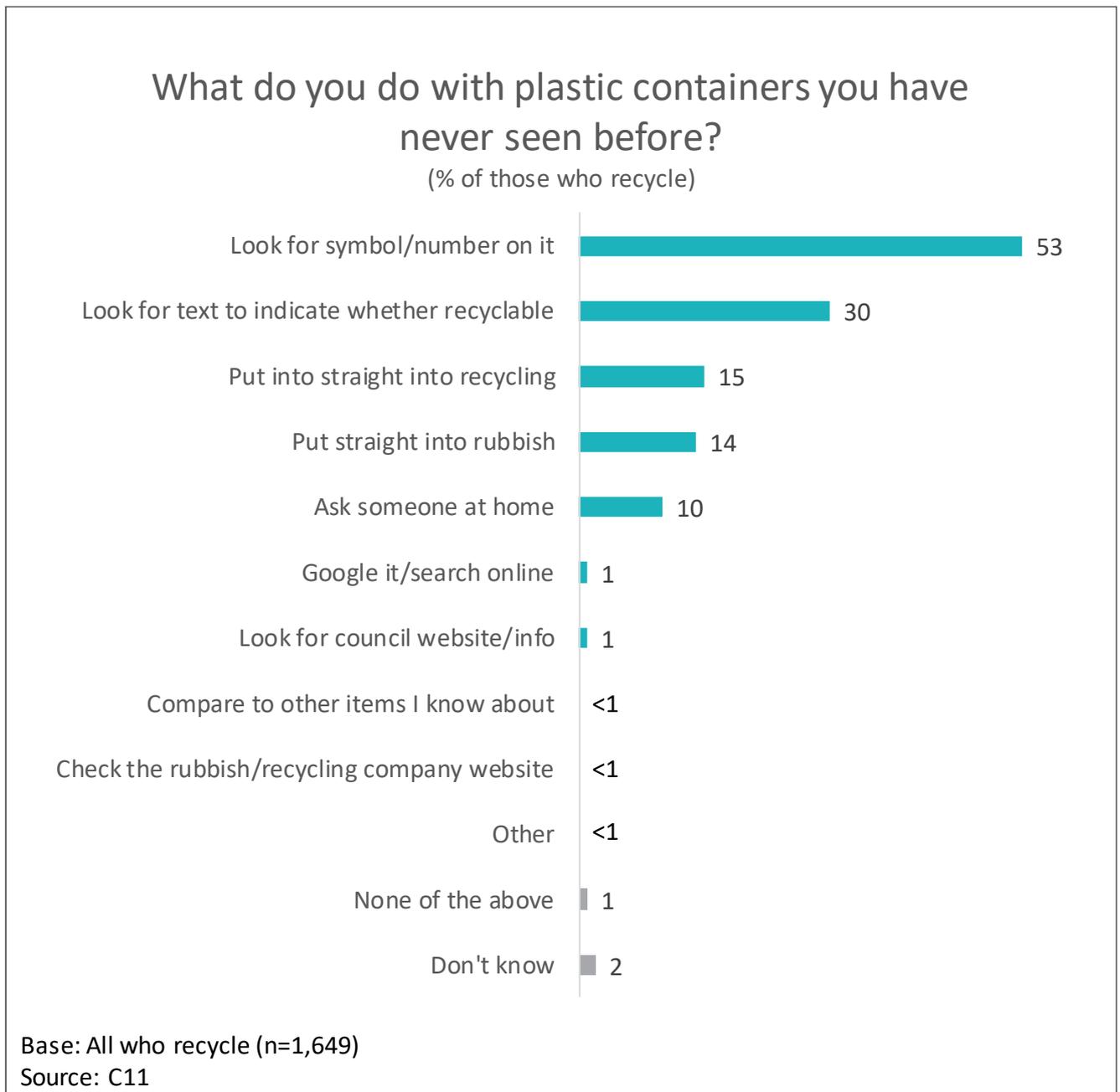
¹⁸ Materials recovery facility are not able to separate out recycling which has been placed in boxes or plastic bags

8.4 What do people do with plastic containers they have never seen before?

Respondents who recycle were also asked what their general behaviour is when it comes to recycling plastic containers that they have never seen before.

The majority (68%) look for something on the container that tells them if it is recyclable (either a symbol / number, or text) (see Figure 28). However, 15% opt to put the plastic item straight into the recycling without checking.

Figure 28 – What people do with plastic containers they have never seen before



Groups who might require particular attention or support include:

- Those aged 18-29
- Men
- Pacific peoples
- Those not / fairly confident in their recycling ability
- Those whose default behaviour is to recycle when unsure.

Their self-reported behaviour is more likely to risk contamination in their recycling. They are either more likely than average (15%) to put items straight into the recycling, less likely than average (53%) to check for a symbol / number on the containers, or both (see Table 4 for these differences).

Table 4 - What do people do with plastic containers they have never seen before? – Subgroup differences

	I put them straight into the recycling	I look for a symbol / number on the container
TOTAL	15%	53%
Aged 18-29	20%	47%
Men	20%	48%
Pacific peoples	34%	38%
Those not / fairly confident in their recycling ability	18%	44%
Those whose default behaviour is to recycle when unsure	26%	49%

Note: **XX%** = significantly higher than average, **XX%** = significantly lower than average

9.0 Recycling Symbols Knowledge

This section looks at respondents' awareness of the various recycling symbols that could be on packaging, and their knowledge around what can and cannot be recycled in their council area.

9.1 Knowledge of recycling symbols

Respondents who indicated that they look for symbols when they are unsure of an item's recyclability were presented with five different recycling symbols, and asked which ones told them an item was recyclable. Please note further research would be required to determine the knowledge of those who don't use these symbols (but it seems feasible their knowledge would be lower than those people who do use them).

The five symbols tested are shown below.



Number 1 plastic
(recyclable nationwide)



Fictitious recycling symbol
(*not recyclable*)



Number 5 plastic
(recyclable by certain Councils)



International recycling symbol
(recyclable)



Number 8 plastic
(*fake – not recyclable*)

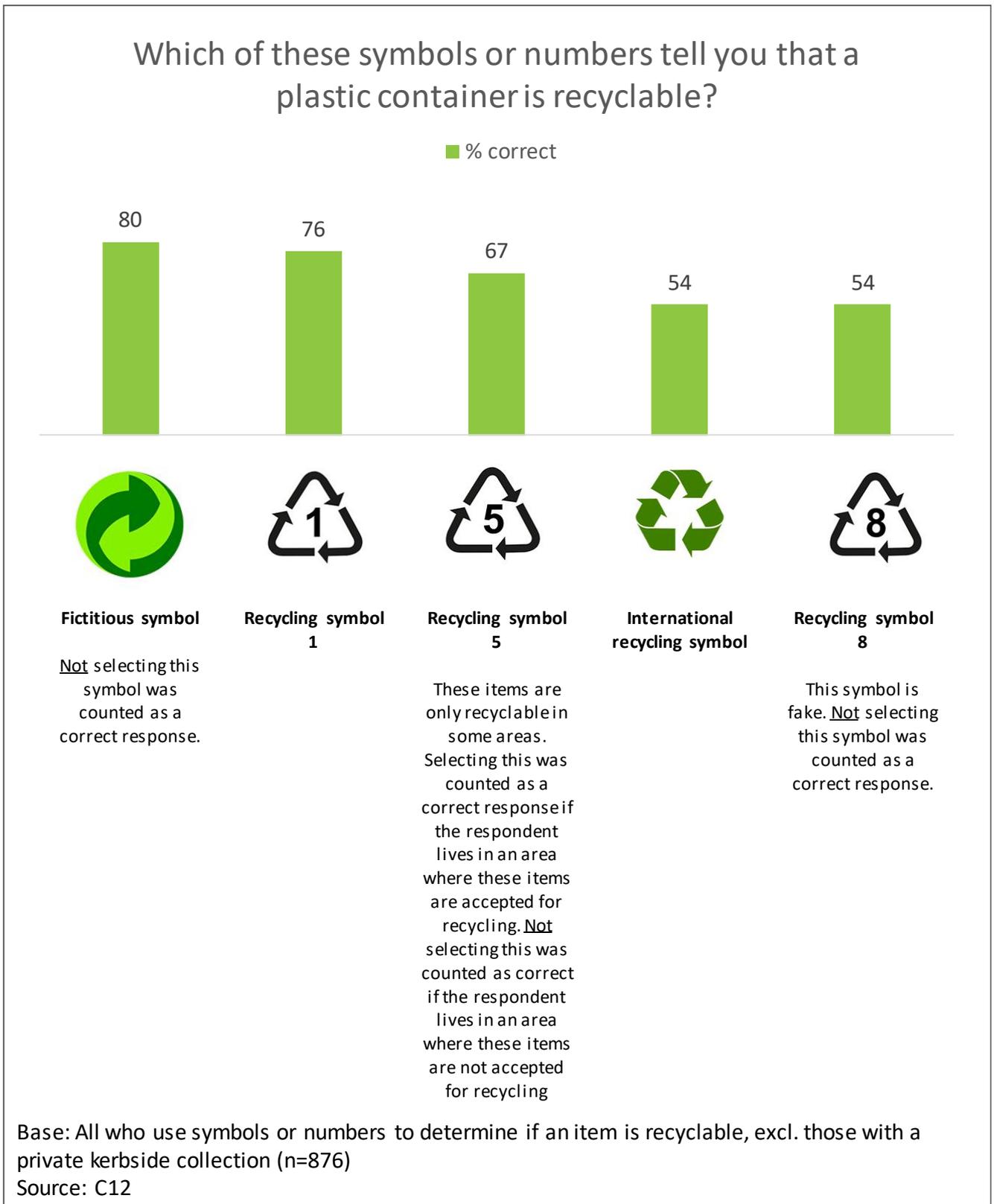
Most respondents correctly identify which symbols indicate recyclability, but at the same time there are also notable areas of confusion. For example, most respondents (76%) correctly identify that Number 1 plastics are recyclable, this means that 24% of those who look for a symbol do not realise they are recyclable (see Figure 29). This is a notable proportion given that Number 1 plastics are accepted by all councils.

There is greater confusion when it comes to Number 5 plastics which is accepted at some but not all councils. Sixty-seven percent correctly identify whether Number 5 plastics can be recycled in their council area or not¹⁹. This means one in three are incorrect, and are potentially wish-cycling or under-cycling.

In addition, only half (54%) of respondents correctly identify that Number 8 plastic is not recyclable (as it does not exist). This indicates a tendency to focus on the 'recycling triangle' in the symbol rather than the number, resulting in non-recyclable plastics contaminating council collections. This shows a lower level of understanding of the numbering system. This is reinforced by the fact that only 29% of respondents get all three plastic number symbols correct.

¹⁹ We used a spreadsheet supplied by WasteMINZ to determine whether or not the respondent could recycle a plastic container with a '5' in their area.

Figure 29 – Proportion who got each symbol correct



Sub-group differences

Number 1 plastic

The following groups are **more** likely than average (76%) to correctly identify that Number 1 plastic is recyclable in their area:

- Single person households (92%)
- Wellington residents (88%)
- Bay of Plenty residents (87%)
- Those aged 50-69 (82%)
- NZ Europeans / Pākehā (82%).

The following groups are **less** likely than average (76%) to correctly identify that Number 1 plastic is recyclable in their area:

- Followers (68%)
- Auckland residents (63%).

Fictitious recycling symbol

The following groups are **less** likely than average (80%) to correctly identify that the fictitious symbol does not mean an item is recyclable:

- Deniers (63%)
- Men (75%).

Number 5 plastic

The following groups are **more** likely than average (67%) to correctly identify whether Number 5 plastic is recyclable in their area or not:

- Single-person households (80%).

The following groups are **less** likely than average (67%) to correctly identify whether Number 5 plastic is recyclable in their area or not:

- Māori (58%)
- Auckland residents (59%)
- Those with a household income between \$50k and \$100k (60%)
- Those not / fairly confident in their recycling ability (61%).

International Recycling Symbol

The following groups are **more** likely than average (54%) to correctly identify that the International Recycling Symbol indicates that an item is recyclable (if accepted in their local council area):

- Otago / Southland residents (74%)
- Asian New Zealanders (69%)
- Those aged 30-49 (66%)
- Families with children (62%)
- Auckland residents (63%)
- Men (61%).

The following groups are **less** likely than average (54%) to correctly identify that the International Recycling Symbol indicates that an item is recyclable (if accepted in their local council area):

- Bay of Plenty residents (34%)
- Single person households (40%)
- Those aged 50 and over (43%)
- Women (49%)
- NZ Europeans / Pākehā (49%).

Fictitious Number 8 plastic

The following groups are **more** likely than average (54%) to correctly identify that Number 8 plastic does not indicate a recyclable item:

- Hawke's Bay residents (80%)
- Bay of Plenty residents (70%)
- Wellington residents (69%)
- Women (59%)

The following groups are **less** likely than average (54%) to correctly identify that Number 8 plastic does not indicate a recyclable item:

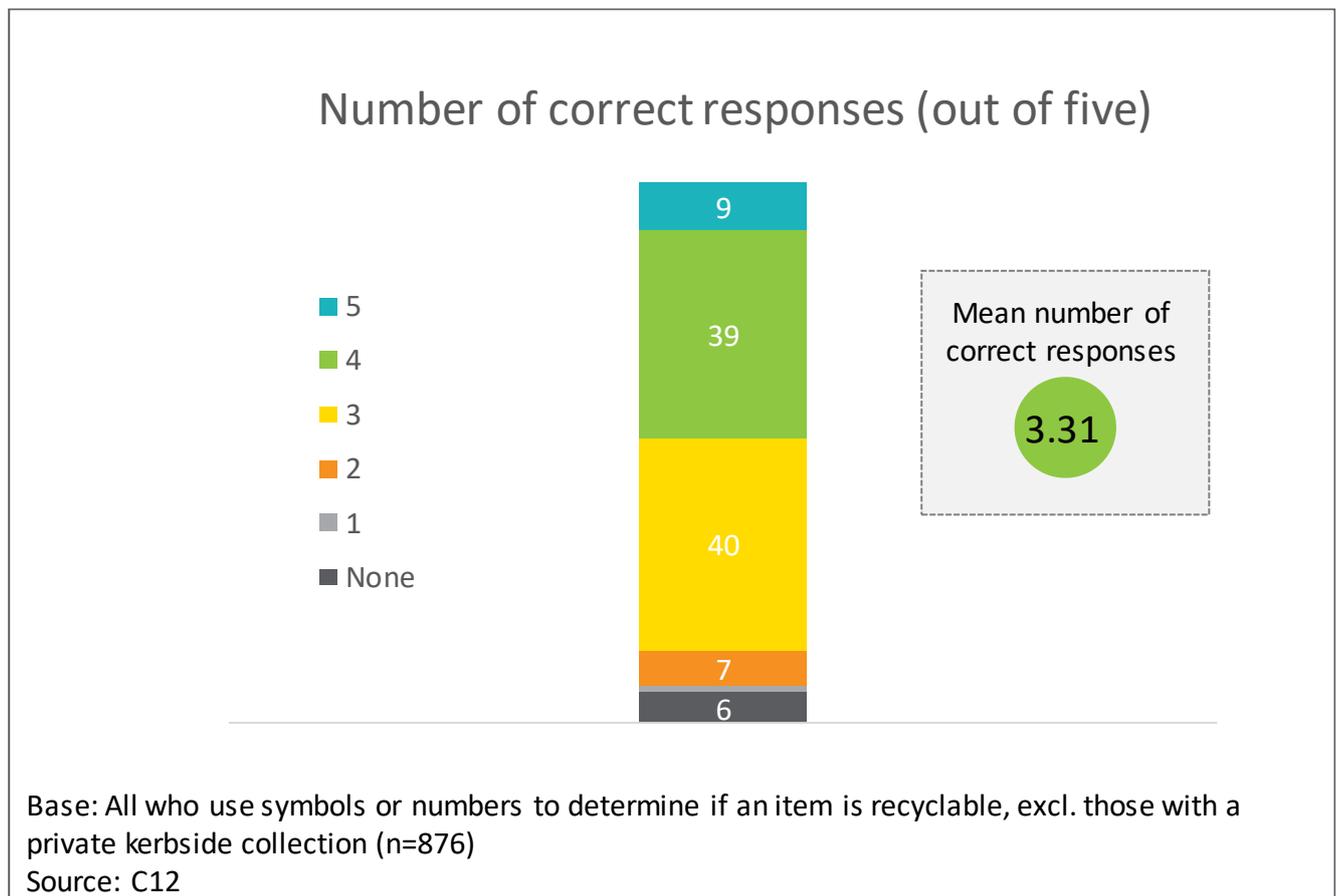
- Manawatu-Wanganui residents (33%)
- Men (48%).

9.2 Recycling Symbols Knowledge Score

A knowledge score has been calculated for each respondent (from 0 – 5) based on their responses to whether an item can be recycled in their area or not.

The average number of correct responses is 3.31 (see Figure 30). Just under half (48%) of respondents got four or five out of the five symbols correct.

Figure 30 – Number of correct recycling symbol responses



Sub-groups differences

The following groups achieved a **higher** than average (3.31) mean score:

- Wellington residents (3.55)
- Those aged 30-49 (3.44)
- Those very / extremely confident in their recycling ability (3.39)
- Those with a household income over \$100k (3.25).

The following groups achieved a **lower** than average (3.31) mean score:

- Māori (3.06)
- Auckland residents (3.08)
- Those not / fairly confident in their recycling ability (3.17)
- Adults with no children (3.19).

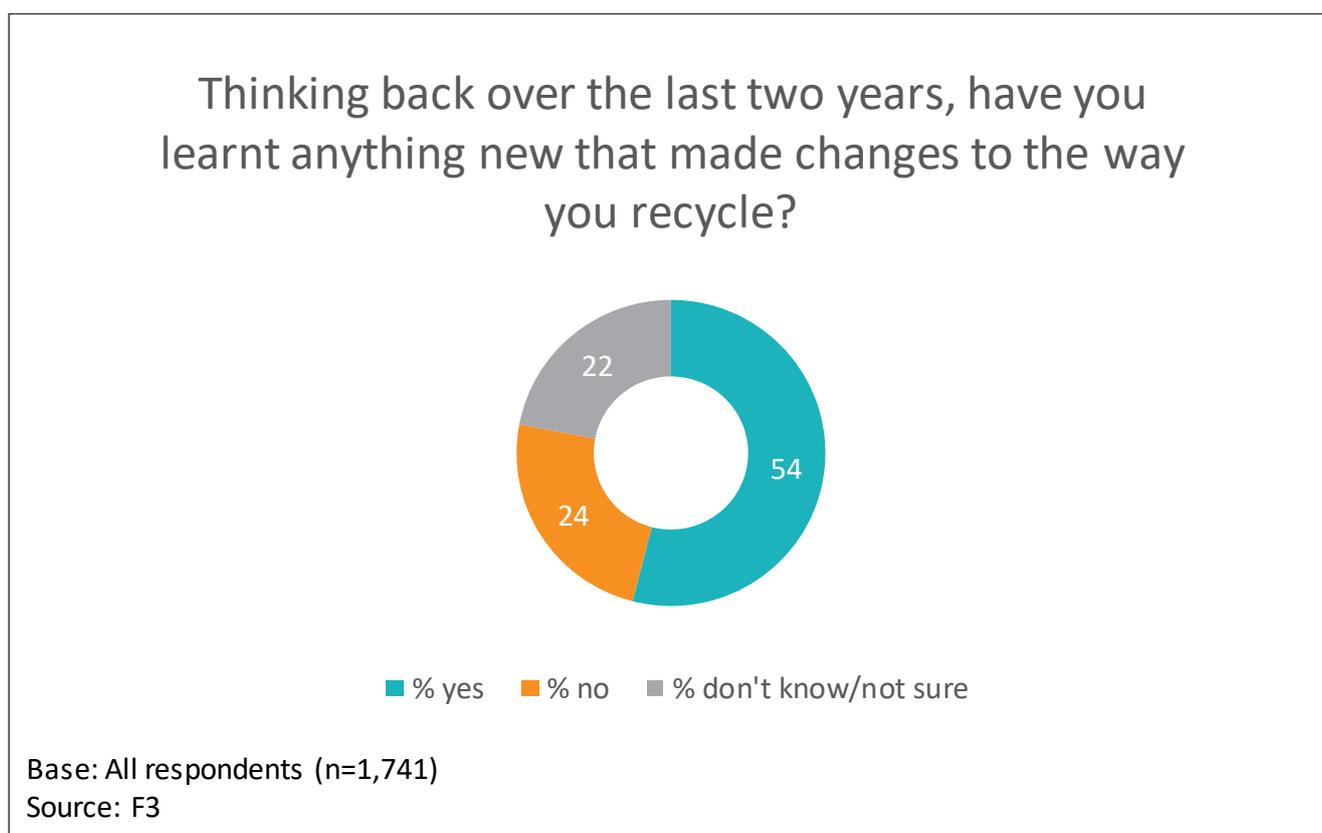
10.0 Behaviour change prompts

This section highlights what (if anything) has prompted respondents to change the way that they recycle, and where they found that information. It also includes findings on what would encourage people to recycle better, and more often.

10.1 Have respondents learnt things which have changed how they recycle?

Recycling behaviours appear to evolve over time. Over half (54%) of respondents have learnt something new in the last two years that has changed the way they recycle (see Figure 31). This demonstrates the potential for communications and behaviour change initiatives in this area.

Figure 31 – Proportion who have learnt things that made changes to recycling behaviour



Sub-group differences

The following groups are **more** likely than average (54%) to have learnt something new that made changes to the way they recycle:

- Advocates (70%)
- Women (60%)
- Those with a household income between \$50k and \$100k (59%)
- Fluctuators (59%).

The following groups are **less** likely than average (54%) to have learnt something new that made changes to the way they recycle:

- Deniers (31%)
- Waikato residents (40%)
- Those whose default behaviour is to recycle when unsure (45%)
- Followers (48%)
- Men (49%).

Those whose default behaviour is to recycle when they are unsure are less likely to have learnt something new than those whose default behaviour is to use the general rubbish bin when they are unsure (45% vs. 56%). This could reflect how some people respond to social norms. They want to recycle purely to be seen to be doing the right thing, and are less receptive to new knowledge around what can and cannot be recycled.

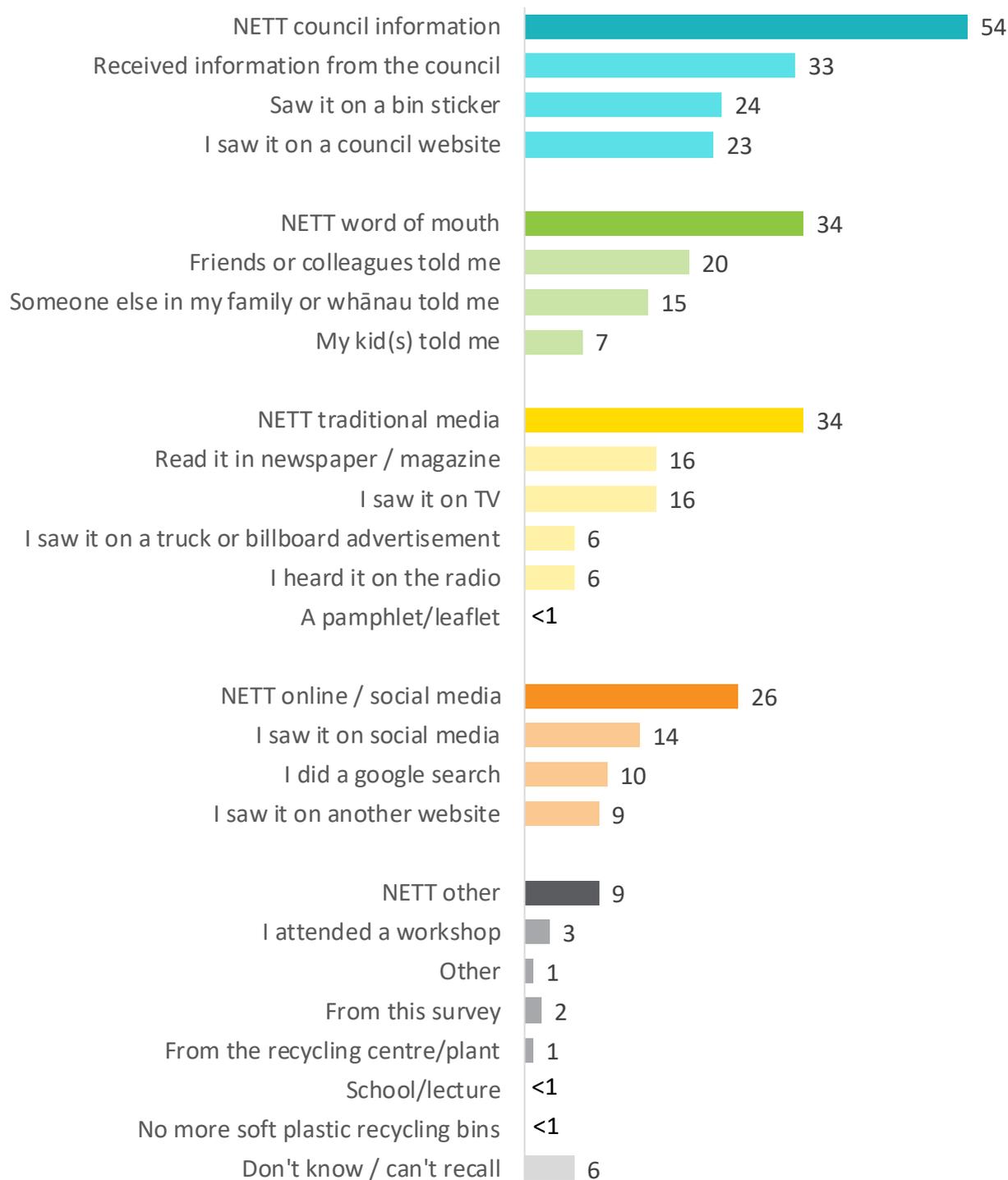
10.2 Information sources that changed the way respondents recycle

We asked those who said that they had learnt something in the past two years if they recalled where they got this information from. Fifty-four percent learnt it from council information, while one-third (34%) got their information via word-of-mouth, or traditional media (see Figure 32).

Figure 322 – Sources of new information

Can you recall how you learnt this?

(% of those who learnt something in past two years)



Base: Those who learnt something in the past two years (n=941)

Source: F4

Note: Netts may not equal the sum of the individual percentages due to rounding and multi-responses.

Sub-group differences

Council Information

The following groups are **more** likely than average (54%) to have learnt something from council information:

- Attainers (70%)
- Those aged 50 and over (64%)
- Those with a household income under \$50k (64%)
- Those very / extremely confident in their recycling ability (60%).

The following groups are **less** likely than average (54%) to have learnt something from council information:

- Followers (40%)
- Those not / fairly confident in their recycling ability (45%)
- Those aged under 50 (46%)
- Auckland residents (46%).

Word-of-mouth

The following groups are **more** likely than average (34%) to have learnt something via word-of-mouth:

- Those not confident in their recycling ability (52%)
- Those aged 18-29 (50%)
- Followers (42%)
- Those with a household income over \$100k (39%)

The following groups are **less** likely than average (34%) to have learnt something via word-of-mouth:

- Single person households (21%)
- Those aged 50-69 (27%).

Traditional media

The following groups are **more** likely than average (34%) to have learnt something from traditional media:

- Canterbury residents (45%)

The following groups are **less** likely than average (34%) to have learnt something from traditional media:

- Those with a private kerbside collection (18%)
- Those aged 30-49 (27%).

Online / Social Media

The following groups are **more** likely than average (26%) to have learnt something from online sources / social media:

- Those aged 18-29 (46%)
- Those with a communal recycling bin (42%)
- Families with pre-school children (37%)

The following groups are **less** likely than average (26%) to have learnt something from online sources / social media:

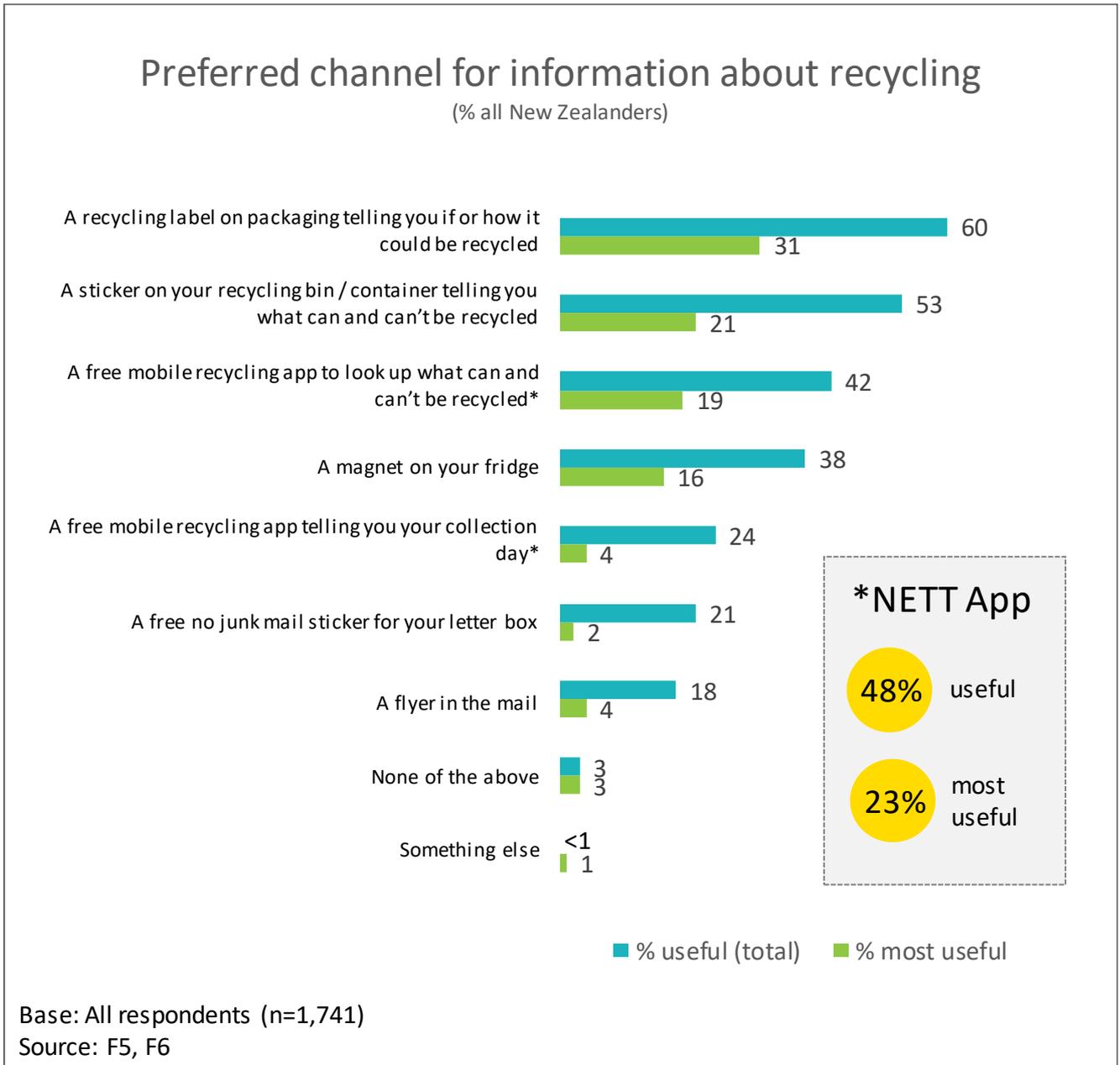
- Those aged 50 and over (15%)
- Single person households (15%).

10.3 Preferred ways of accessing information about recycling

Respondents were asked to select (from a list) how they might most usefully access information about recycling. Those who selected more than one option were then asked which of those they would find the most useful. Most respondents would find a recycling label on packaging useful (60%), or a sticker for their recycling bin telling them what is recyclable (53%), and 48% would like an app of some sort (see Figure 33).

When it comes to picking a single option, 31% would find the recycling label on packaging the most useful, 23% would find an app the most useful, and 21% would find a sticker the most useful.

Figure 33 – Preferred information channels



Sub-group differences

Age differences

There is a clear age gap present, with older people finding tangible labelling more useful, while those under 50 are more likely to find digital information useful.

[Recycling labels on packaging](#)

Older people, aged 50 and over, are more likely than average (31%) to feel that this would be the most useful to them (40%) while those aged under 50 are less likely than average to think so (25%).

[An app with recycling information](#)

Younger people, aged under 50, are more likely than average (23%) to feel that this would be the most useful to them (29%) while those aged over 50 are less likely than average to think so (14%).

Communal recycling bins

Respondents with communal recycling bins are more likely to find information not physically connected to their recyclables and recycling bins useful. This perhaps reflects their need to sort their recycling in their homes, before taking it to their communal bins. As a group, they are:

- More likely than average to find the following the most useful:
 - a flyer in the mail (10% vs. 4%)
 - a magnet for their fridge (23% vs. 16%)
 - none of the options (8% vs. 3%)
- Less likely than average to find a recycling label on packaging the most useful (19% vs. 23%).

11.0 Recycling messaging

To understand the types of messaging that resonate best, we asked respondents to rate eight different recycling messages based on how attention grabbing they felt each one was. We then asked how likely each was to positively or negatively impact their recycling behaviours.

11.1 Which messaging is the most attention grabbing?

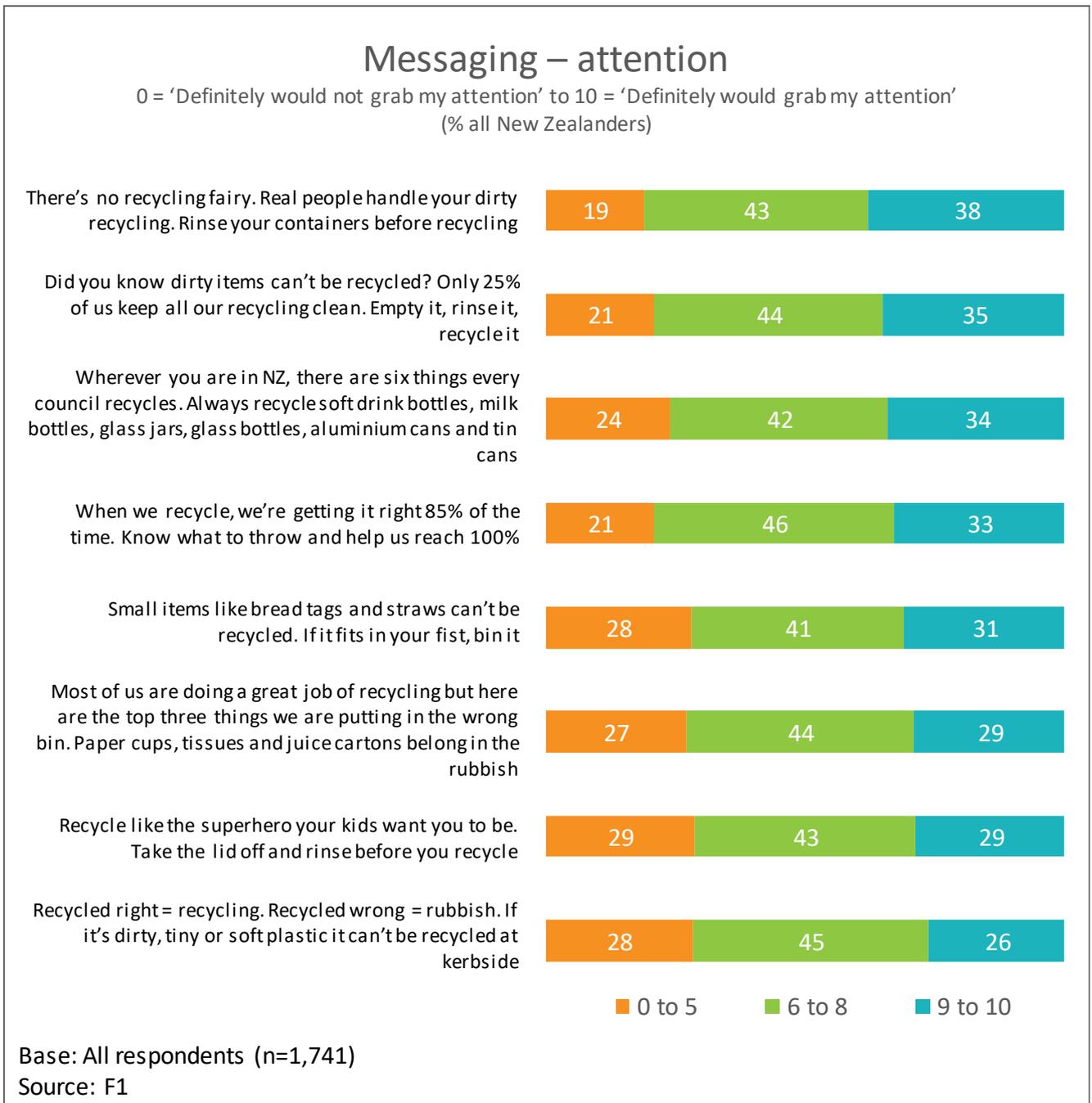
Response to the messaging are relatively similar. However, the most attention-grabbing messages tend to have a little shock value (see Figure 34). The top two being:

- *There's no recycling fairy. Real people handle your dirty recycling. Rinse your containers before recycling.*
- *Did you know dirty items can't be recycled? Only 25% of us keep all our recycling clean. Empty it, rinse it, recycle it.*

The next most attention-grabbing messages tend to be informative:

- *Wherever you are in NZ, there are six things every council recycles. Always recycle soft drink bottles, milk bottles, glass jars, glass bottles, aluminium cans and tin cans.*
- *When we recycle, we're getting it right 85% of the time. Know what to throw and help us reach 100%.*

Figure 34 - Messaging – attention grabbing



Sub-group differences

Those **more** likely than average to find the messaging attention grabbing are:

- Those aged 50 and over
- Women
- Those very / extremely confident in their recycling ability
- Segments:
 - Advocates
 - Attainers

Those **less** likely than average to find the messaging attention grabbing are:

- Those aged 18-29
- Men
- NZ Europeans / Pākehā
- Those not / fairly confident in their recycling ability
- Segments:
 - Followers
 - Deniers

A full breakdown of differences is provided below:

There's no recycling fairy. Real people handle your dirty recycling. Rinse your containers before recycling

The following groups are **more** likely than average (38%) to find this message attention grabbing:

- Advocates (81%)
- Attainers (58%)
- Those aged 50 and over (44%)
- Those very / extremely confident in their recycling ability (44%)
- Women (43%).

The following groups are **less** likely than average (38%) to find this message attention grabbing:

- Deniers (11%)
- Followers (21%)
- Those not / fairly confident in their recycling ability (22%)
- Men (33%).

Did you know dirty items can't be recycled? Only 25% of us keep all our recycling clean. Empty it, rinse it, recycle it

The following groups are **more** likely than average (35%) to find this message attention grabbing:

- Advocates (76%)
- Attainers (54%)
- Women (40%).

The following groups are **less** likely than average (35%) to find this message attention grabbing:

- Deniers (10%)
- Followers (16%)
- Those not / fairly confident in their recycling ability (16%)
- Men (29%)
- Those aged 18-29 (29%).

Wherever you are in NZ, there are six things every council recycles. Always recycle soft drink bottles, milk bottles, glass jars, glass bottles, aluminium cans and tin cans

The following groups are **more** likely than average (34%) to find this message attention grabbing:

- Advocates (73%)
- Attainers (54%)
- Those aged 50 and over (42%)
- Those very / extremely confident in their recycling ability (39%)
- Women (39%).

The following groups are **less** likely than average (34%) to find this message attention grabbing:

- Deniers (9%)
- Followers (18%)
- Those not / fairly confident in their recycling ability (19%)
- Those aged 18-29 (25%)
- Men (29%).

When we recycle, we're getting it right 85% of the time. Know what to throw and help us reach 100%

The following groups are **more** likely than average (33%) to find this message attention grabbing:

- Advocates (71%)
- Attainers (57%)
- Those aged 50 and over (39%)
- Women (38%).

The following groups are **less** likely than average (33%) to find this message attention grabbing:

- Deniers (10%)
- Followers (14%)
- Those not / fairly confident in their recycling ability (18%)
- Men (28%).

Small items like bread tags and straws can't be recycled. If it fits in your fist, bin it

The following groups are **more** likely than average (31%) to find this message attention grabbing:

- Advocates (63%)
- Attainers (51%)
- Those very / extremely confident in their recycling ability (36%).

The following groups are **less** likely than average (31%) to find this message attention grabbing:

- Deniers (12%)
- Followers (18%)
- Those not / fairly confident in their recycling ability (15%).

Most of us are doing a great job of recycling but here are the top three things we are putting in the wrong bin. Paper cups, tissues and juice cartons belong in the rubbish

The following groups are **more** likely than average (29%) to find this message attention grabbing:

- Advocates (66%)
- Attainers (45%).

The following groups are **less** likely than average (29%) to find this message attention grabbing:

- Deniers (11%)
- Followers (15%)
- Those not / fairly confident in their recycling ability (17%)
- Those aged 18-29 (21%).

Recycle like the superhero your kids want you to be. Take the lid off and rinse before you recycle

The following groups are **more** likely than average (29%) to find this message attention grabbing:

- Advocates (67%)
- Attainers (48%)
- Those aged 50 and over (34%).

The following groups are **less** likely than average (29%) to find this message attention grabbing:

- Deniers (6%)
- Followers (13%)
- Those not / fairly confident in their recycling ability (15%)
- Those aged 18-29 (22%).

Recycled right = recycling. Recycled wrong = rubbish. If it's dirty, tiny or soft plastic it can't be recycled at kerbside

The following groups are **more** likely than average (26%) to find this message attention grabbing:

- Advocates (64%)
- Attainers (39%)
- Those very / extremely confident in their recycling ability (32%).

The following groups are **less** likely than average (26%) to find this message attention grabbing:

- Deniers (5%)
- Those not / fairly confident in their recycling ability (5%)
- Followers (12%).

11.2 Which messaging has the greatest impact on behaviour?

There is not a great deal of variation in how respondents perceive the potential impact of the messaging. In addition, there is little evidence that the different messaging is appealing to different demographic groups (see sub-group analysis). Overall the messaging is more likely to motivate those who are already committed to recycling correctly to do so more and less likely to motivate those who are less committed currently.

We believe this has two implications. It reflects how recycling is widely perceived as socially desirable, so any messaging designed to improve this is likely to strengthen resolve. However, at the same time it also shows more needs to be done in developing messaging that better resonates with groups who are currently less committed to recycling.

The most impactful messages are highly likely to positively change the behaviours of approximately 40% of respondents (see Figure 35). These are:

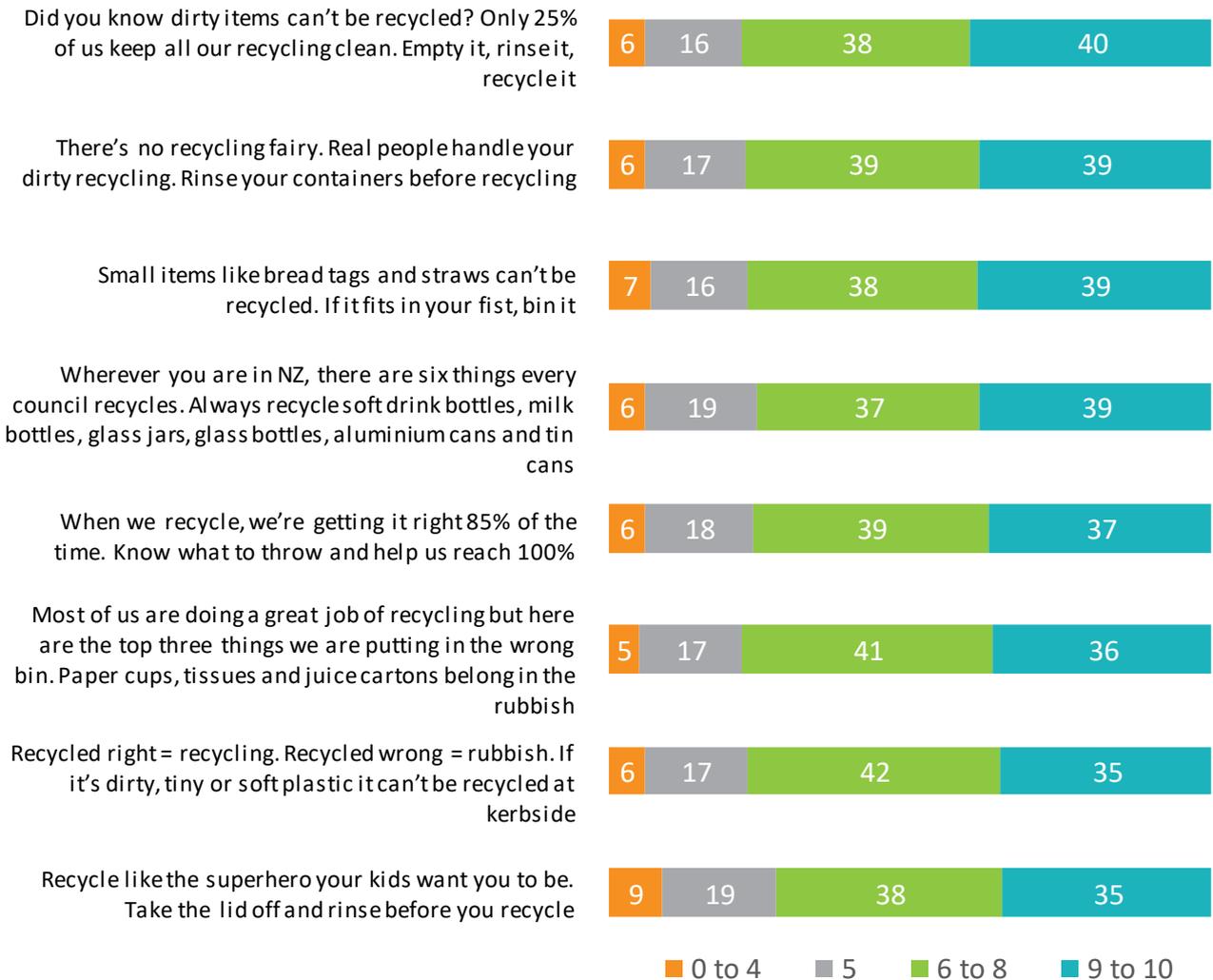
- *Did you know dirty items can't be recycled? Only 25% of us keep all our recycling clean. Empty it, rinse it, recycle it*
- *There's no recycling fairy. Real people handle your dirty recycling. Rinse your containers before recycling*
- *Small items like bread tags and straws can't be recycled. If it fits in your fist, bin it*
- *Wherever you are in NZ, there are six things every council recycles. Always recycle soft drink bottles, milk bottles, glass jars, glass bottles, aluminium cans and tin cans.*

Further analysis of the relative impact of the messaging on the five commitment segments is provided on page 84. This is followed by additional sub-group analysis.

Figure 35 – Messaging effect on recycling behaviour

Messaging – effect on recycling behaviour

0 = 'Far less likely to sort and prepare my recycling' to 5 = 'It would not make any difference' to 10 = 'Much more likely to perfectly sort and prepare my recycling'
(% all New Zealanders)



Base: All New Zealanders (n=1,741)

Source: F2

Impact of messaging on each commitment segment

We also examined the impact of the messages by the extent to which they impact each of the commitment segments (see Table 5).

All of the messages consistently appeal more to those segments who are more committed i.e. the Advocates and Attainers. However, we do see some differences in the relative appeal of the messaging amongst the less committed segments (i.e. Fluctuators, Followers, and Deniers). The messages that have the strongest impact on these segments are generally more informative. Taking this into account we would propose the strongest contenders for a campaign that might lift those who are less committed are:

- *Small items like bread tags and straws can't be recycled. If it fits in your fist, bin it*
- *There's no recycling fairy. Real people handle your dirty recycling. Rinse your containers before recycling.*
- *Most of us are doing a great job of recycling but here are the top three things we are putting in the wrong bin. Paper cups, tissues and juice cartons belong in the rubbish.*
- *Recycled right = recycling. Recycled wrong = rubbish. If it's dirty, tiny or soft plastic it can't be recycled at kerbside.*

However, even these messages are more likely to impact the more committed segments than those who are less committed. We believe more work could be done to develop options that better resonate.

Table 5 – Impact of messaging on commitment segments

Message	Impact on each group (% rated 9-10 out of 10)					
	Total	Advocates	Attainers	Fluctuators	Followers	Denial
Did you know dirty items can't be recycled? Only 25% of us keep all our recycling clean. Empty it, rinse it, recycle it	40	77	64	42	23	10
Wherever you are in NZ, there are six things every council recycles. Always recycle soft drink bottles, milk bottles, glass jars, glass bottles, aluminium cans and tin cans	39	71	64	41	24	9
Small items like bread tags and straws can't be recycled. If it fits in your fist, bin it	39	73	60	45	21	11
There's no recycling fairy. Real people handle your dirty recycling. Rinse your containers before recycling	39	75	66	40	22	7
When we recycle, we're getting it right 85% of the time. Know what to throw and help us reach 100%	37	75	61	40	19	5
Most of us are doing a great job of recycling but here are the top three things we are putting in the wrong bin. Paper cups, tissues and juice cartons belong in the rubbish	36	73	63	37	18	13
Recycle like the superhero your kids want you to be. Take the lid off and rinse before you recycle	35	70	58	37	18	6
Recycled right = recycling. Recycled wrong = rubbish. If it's dirty, tiny or soft plastic it can't be recycled at kerbside	35	74	59	39	17	8

Note: **XX** = significantly higher than average, **XX** = significantly lower than average

Sub-group differences

Those **more** likely than average to be positively influenced by the messaging are:

- Those aged 50 and over
- Women
- Māori
- Asian New Zealanders
- Confident recyclers
- Segments:
 - Advocates
 - Attainers

Those **less** likely than average to be positively influenced by the messaging are:

- Those aged 18-29
- Men
- NZ Europeans / Pākehā
- Those who lack recycling confidence
- Segments:
 - Followers
 - Denial

A full breakdown of differences is provided below.

Did you know dirty items can't be recycled? Only 25% of us keep all our recycling clean. Empty it, rinse it, recycle it

The following groups are **more** likely than average (40%) to be positively influenced by this message:

- Advocates (77%)
- Attainers (64%)
- Women (47%)
- Those aged 50 and over (45%)
- Those very / extremely confident in their recycling ability (45%).

The following groups are **less** likely than average (40%) to be positively influence by this message:

- Deniers (10%)
- Those not / fairly confident in their recycling ability (21%)
- Followers (23%)
- Those aged 18-29 (30%)
- Men (32%).

There's no recycling fairy. Real people handle your dirty recycling. Rinse your containers before recycling

The following groups are **more** likely than average (39%) to be positively influenced by this message:

- Advocates (75%)
- Attainers (66%)
- Women (45%)
- Those aged 50 and over (45%)
- Those very / extremely confident in their recycling ability (45%).

The following groups are **less** likely than average (39%) to be positively influence by this message:

- Deniers (7%)
- Those not / fairly confident in their recycling ability (20%)
- Followers (22%)
- Those aged 18-29 (28%)
- Men (32%).

Small items like bread tags and straws can't be recycled. If it fits in your fist, bin it

The following groups are **more** likely than average (39%) to be positively influenced by this message:

- Advocates (73%)
- Attainers (60%)
- Māori (45%)
- Those aged 50 and over (45%)
- Fluctuators (45%)
- Women (44%)
- Those very / extremely confident in their recycling ability (44%).

The following groups are **less** likely than average (39%) to be positively influence by this message:

- Deniers (11%)
- Followers (21%)
- Those not / fairly confident in their recycling ability (23%)
- Those aged 18-29 (28%)
- Men (34%).

Wherever you are in NZ, there are six things every council recycles. Always recycle soft drink bottles, milk bottles, glass jars, glass bottles, aluminium cans and tin cans

The following groups are **more** likely than average (39%) to be positively influenced by this message:

- Advocates (71%)
- Attainers (64%)
- Those aged 50 and over (46%)
- Māori (45%)
- Women (45%)
- Those very / extremely confident in their recycling ability (44%).

The following groups are **less** likely than average (39%) to be positively influence by this message:

- Deniers (9%)
- Those not / fairly confident in their recycling ability (20%)
- Followers (24%)
- Those aged 18-29 (29%)
- Men (33%).

When we recycle, we're getting it right 85% of the time. Know what to throw and help us reach 100%

The following groups are **more** likely than average (37%) to be positively influenced by this message:

- Advocates (75%)
- Attainers (61%)
- Those aged 50 and over (45%)
- Asian New Zealanders (45%)
- Women (42%)
- Those very / extremely confident in their recycling ability (42%).

The following groups are **less** likely than average (37%) to be positively influence by this message:

- Deniers (5%)
- Those not / fairly confident in their recycling ability (17%)
- Followers (19%)
- Those aged 18-29 (27%)
- Men (31%).

Most of us are doing a great job of recycling but here are the top three things we are putting in the wrong bin. Paper cups, tissues and juice cartons belong in the rubbish

The following groups are **more** likely than average (36%) to be positively influenced by this message:

- Advocates (73%)
- Attainers (63%)
- Those aged 50 and over (42%)
- Asian New Zealanders (45%)
- Māori (43%)
- Women (41%)
- Those very / extremely confident in their recycling ability (41%).

The following groups are **less** likely than average (36%) to be positively influence by this message:

- Deniers (13%)
- Those not / fairly confident in their recycling ability (16%)
- Followers (18%)
- Those aged 18-29 (29%).

Recycled right = recycling. Recycled wrong = rubbish. If it's dirty, tiny or soft plastic it can't be recycled at kerbside

The following groups are **more** likely than average (35%) to be positively influenced by this message:

- Advocates (74%)
- Attainers (59%)
- Māori (42%)
- Those aged 50 and over (41%)
- Women (41%)
- Those very / extremely confident in their recycling ability (41%).

The following groups are **less** likely than average (35%) to be positively influence by this message:

- Deniers (8%)
- Followers (17%)
- Those not / fairly confident in their recycling ability (20%)
- Those aged 18-29 (28%)
- Men (30%).

Recycle like the superhero your kids want you to be. Take the lid off and rinse before you recycle

The following groups are **more** likely than average (35%) to be positively influenced by this message:

- Advocates (70%)
- Attainers (58%)
- Those very / extremely confident in their recycling ability (40%).

The following groups are **less** likely than average (35%) to be positively influence by this message:

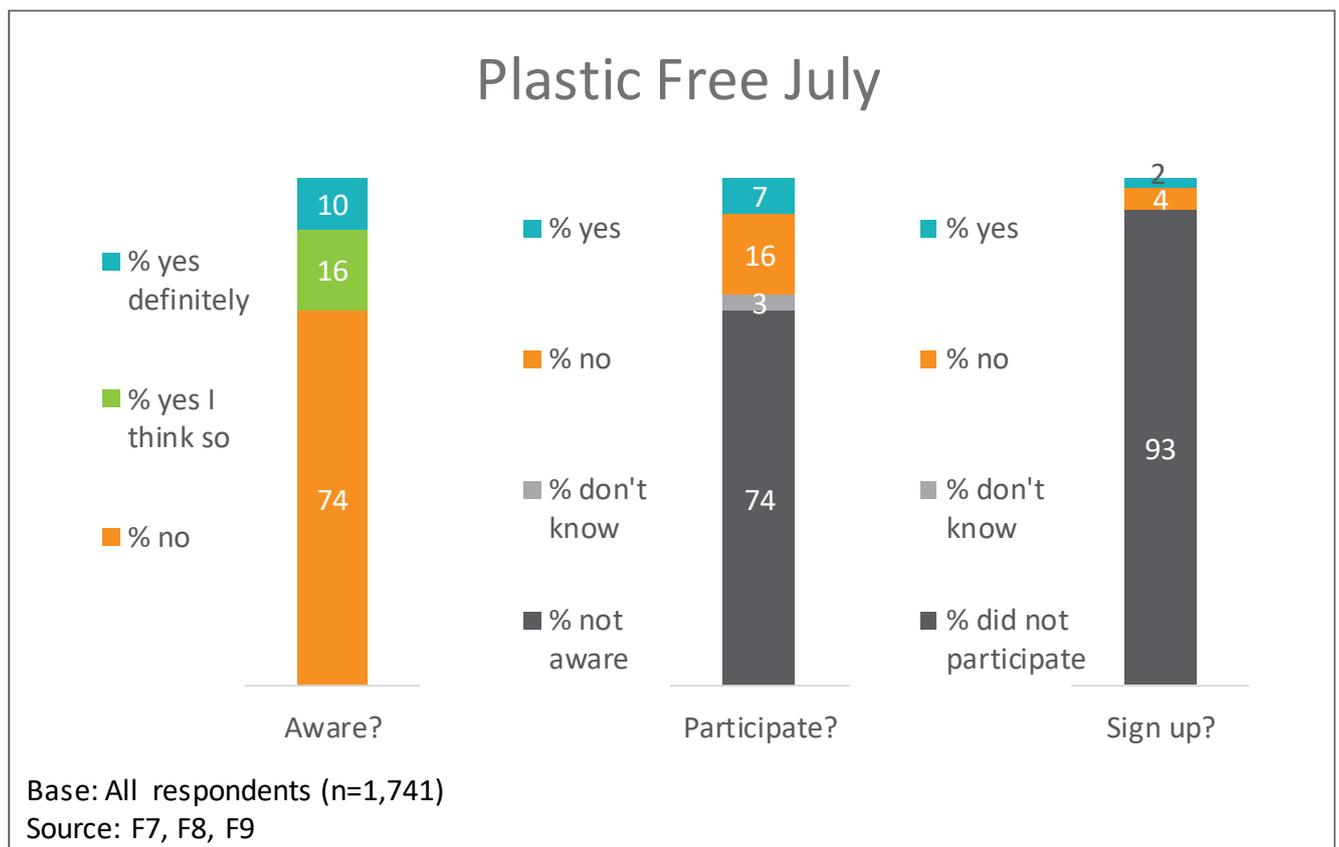
- Deniers (6%)
- Followers (18%)
- Those not / fairly confident in their recycling ability (13%)
- Those aged 18-29 (27%).

12.0 Plastic Free July

12.1 Awareness, participation and buy-in of Plastic Free July

One in four respondents are aware of Plastic Free July. In total 7% said they participated in 2019 while just 2% signed up officially to the challenge (see Figure 36).

Figure 36 – Awareness, participation, and buy-in of Plastic Free July



Sub-group differences

Those **more** likely than average to be aware of, participate in, and sign-up to Plastic Free July are:

- Those aged 18-29
- Asian New Zealanders
- People with pre-school or school aged kids
- Those extremely confident in their recycling ability
- Segments:
 - Advocates

Those **less** likely than average to be aware of, participate in, and sign-up to Plastic Free July are:

- Those aged 50 and over
- Men
- Segments:
 - Deniers

A full breakdown is provided below:

Aware of Plastic Free July

The following groups are **more** likely than average (26%) to be aware of Plastic Free July:

- Those aged 18-29 (41%)
- Asian New Zealanders (36%)

The following groups are **less** likely than average (26%) to be aware of Plastic Free July:

- Deniers (11%)
- Those aged 50 and over (17%).

Participated in Plastic Free July in 2019

The following groups are **more** likely than average (7%) to have participated in Plastic-Free July in 2019:

- Advocates (14%)
- Asian New Zealanders (14%)
- Those extremely confident in their recycling ability (13%)
- Those aged 18-29 (13%).

The following groups are **less** likely than average (7%) to have participated in Plastic-Free July in 2019:

- Deniers (<1%)

13.0 Appendices

13.1 Appendix A – Sample Profile

	Total %	Advocates %	Attainers %	Followers %	Fluctuating %	Deniers %
Base (n=)	1741	229	219	570	531	191
Gender						
Men	49	36	47	53	45	63
Women	51	64	53	47	55	37
Age						
18-29	21	15	12	26	21	26
30-49	35	30	31	38	37	31
50-69	30	38	39	25	29	31
70+	14	18	18	11	14	12
Region						
Northland	4	5	1	3	5	2
Auckland	33	36	26	40	30	20
Waikato	10	8	12	7	11	13
Bay of Plenty	6	8	6	6	7	6
Gisborne	1	1	2	1	1	1
Hawke's Bay	3	4	5	3	4	3
Taranaki	3	2	2	3	3	4
Manawatu-Wanganui	4	4	4	4	4	7
Wellington	11	8	13	10	11	16
Tasman	1	1	*	1	1	*
Nelson	2	1	2	2	1	2
Marlborough	1	-	2	1	1	2
West Coast	1	1	-	*	1	1
Christchurch	9	9	11	9	9	10
Other Canterbury	4	3	10	3	4	1
Otago	6	5	4	5	6	9
Southland	2	3	1	2	1	3
Ethnicity						
NZ Euro / Pākehā	74	71	74	73	71	90
Māori	15	15	17	15	15	13
Pacific	7	9	4	8	8	4
Asian	17	18	19	18	20	3
Household Composition						
Single	13	13	13	13	12	15
Adults, no kids	51	57	49	46	52	52
Family with pre-school kids	16	12	10	17	18	19
Family with school-aged children	28	23	36	31	25	20
Household income						
Under \$50k	21	29	19	20	20	23
\$50k to \$100k	30	27	30	31	31	28
Over \$100k	34	32	32	37	33	36
Kerbside recycling						
Council	90	91	86	89	93	86
Private	10	9	14	11	7	14
Recycling Situation						
Communal Bins	11	10	17	12	8	16
Private Bins	89	90	83	88	92	84
Behaviour when unsure						
Recycle	17	19	15	18	17	13
Rubbish	83	81	85	82	83	87

13.2 Appendix B - Questionnaire

SECTION A: QUOTAS AND SCREENING

ASK ALL

NUMERIC

A1 Please type your age in the box below.

ASK ALL

SR

A2 Are you...?

Male	1
Female	2
Gender diverse	3

ASK ALL

MR

A3 Which of these ethnic groups best describe(s) you?
You can choose more than one.

New Zealand European	1
New Zealand Māori	2
Samoan	3
Cook Island Māori	4
Tongan	5
Niuean	6
Other Pacific Island (please type in)	7
Chinese	8
Indian	9
Other Asian (please type in)	10
Other European (please type in)	11
Other ethnic group (please type in)	12

ASK ALL

SR

A4 Where do you live?

If you have more than one home, please think about the home in which you spend most time.

Northland	1	ASK A5A
Auckland	2	CODE AS AUCKLAND COUNCIL
Waikato	3	ASK A5B
Bay of Plenty	4	ASK A5C
Gisborne	5	CODE AS GISBORNE COUNCIL
Hawke's Bay	6	ASK A5D
Taranaki	7	ASK A5E
Manawatu-Wanganui	8	ASK A5F
Wellington	9	ASK A5G
Tasman	10	CODE AS TASMAN COUNCIL
Nelson	11	CODE AS NELSON CITY COUNCIL
Marlborough	12	CODE AS MARLBOROUGH DISTRICT COUNCIL
West Coast	13	ASK A5H
Christchurch	14	CODE AS CHRISTCHURCH CITY COUNCIL
Other Canterbury	15	ASK A5I
Otago	16	ASK A5J
Southland	17	ASK A5K
Chatham Islands	18	CODE AS CHATHAM ISLANDS COUNCIL

ASK IF LIVE IN NORTHLAND (CODE 1 @ A4)

A5A Which of the following council areas do you live in?

If you have more than one home, please think about the home in which you spend most time.

Far North District Council	1
Kaipara District Council	2
Whangarei District Council	3

ASK IF LIVE IN WAIKATO (CODE 3 @ A4)

A5B Which of the following council areas do you live in?

If you have more than one home, please think about the home in which you spend most time.

Hamilton City Council	1
Hauraki District Council	2
Matamata-Piako District Council	3
Otorohanga District Council	4
Rotorua Lakes Council	5
South Waikato District Council	6
Taupo District Council	7
Thames-Coromandel District Council	8
Waikato District Council	9
Waipa District Council	10
Waitomo District Council	11

ASK IF LIVE IN BAY OF PLENTY (CODE 4 @ A4)

A5C Which of the following council areas do you live in?

If you have more than one home, please think about the home in which you spend most time.

Kawerau District Council	1
Opotiki District Council	2
Rotorua Lakes Council	3
Taupo District Council	4
Tauranga City Council	5
Western Bay of Plenty District Council	6
Whakatane District Council	7

ASK IF LIVE IN HAWKES BAY REGION (CODE 6 @ A4)

A5D Which of the following council areas do you live in?

If you have more than one home, please think about the home in which you spend most time.

Central Hawke's Bay District Council	1
Hastings District Council	2
Napier City Council	3
Rangitikei District Council	4
Taupo District Council	5
Wairoa District Council	6

ASK IF LIVE IN TARANAKI REGION (CODE 7 @ A4)

A5E Which of the following council areas do you live in?

If you have more than one home, please think about the home in which you spend most time.

New Plymouth District Council	1
South Taranaki District Council	2
Stratford District Council	3

ASK IF LIVE IN MANAWATU-WANGANUI REGION (CODE 8 @ A4)

A5F Which of the following council areas do you live in?

If you have more than one home, please think about the home in which you spend most time.

Horowhenua District Council	1
Manawatu District Council	2
Palmerston North City Council	3
Rangitikei District Council	4
Ruapehu District Council	5
Stratford District Council	6
Tararua District Council	7
Taupo District Council	8
Waitomo District Council	9
Whanganui District Council	10

ASK IF LIVE IN WELLINGTON REGION (CODE 9 @ A4)

A5G Which of the following council areas do you live in?

If you have more than one home, please think about the home in which you spend most time.

Carterton District Council	1
Hutt City Council (Lower Hutt)	2
Kapiti Coast District Council	3
Masterton District Council	4
Porirua City Council	5
South Wairarapa District Council	6
Tararua District Council	7
Upper Hutt City Council	8
Wellington City Council	9

ASK IF LIVE IN WEST COAST REGION (CODE 13 @ A4)

A5H Which of the following council areas do you live in?

If you have more than one home, please think about the home in which you spend most time.

Buller District Council	1
Grey District Council	2
Westland District Council	3

ASK IF LIVE IN CANTERBURY REGION (CODE 15 @ A4)

A5I Which of the following council areas do you live in?

If you have more than one home, please think about the home in which you spend most time.

Ashburton District Council	1
Christchurch City Council	2
Hurunui District Council	3
Kaikoura District Council	4
Mackenzie District Council	5
Selwyn District Council	6
Timaru District Council	7
Waimakariri District Council	8
Waimate District Council	9
Waitaki District Council	10

ASK IF LIVE IN OTAGO REGION (CODE 16 @ A4)

A5J Which of the following council areas do you live in?

If you have more than one home, please think about the home in which you spend most time.

Central Otago District Council	1
Clutha District Council	2
Dunedin City Council	3
Queenstown-Lakes District Council	4
Waitaki District Council	5

ASK IF LIVE IN SOUTHLAND REGION (CODE 17 @ A4)

A5K Which of the following council areas do you live in?

If you have more than one home, please think about the home in which you spend most time.

Gore District Council	1
Invercargill City Council	2
Southland District Council	3

SR

A6 Do you have a kerbside recycling collection at your home?
This could be provided by your council or by a private company.

1. Yes council
2. Yes private
3. No - CLOSE

NUMERIC

A7 How many people, including yourself, live in your household?

ASK IF MORE THAN ONE PERSON @ A7

NUMERIC

A8 Including yourself, how many people in the following age groups live in your household?

1. Children aged under 5
2. Children aged 5-11
3. Children aged 12-17
4. Adults aged 18-64
5. Adults aged 65+

SR

A9 Which one of these groups does the **combined income** of your household fall into?

Please include all sources of income before tax.

Under \$10,000	1
\$10,001 - \$20,000	2
\$20,001 - \$30,000	3
\$30,001 - \$40,000	4
\$40,001 - \$50,000	5
\$50,001 - \$60,000	6
\$60,001 - \$70,000	7
\$70,001 - \$80,000	8
\$80,001 - \$90,000	9
\$90,001 - \$100,000	10
\$100,001- \$150,000	11
\$150,001- \$200,000	12
\$200,001 or more	13
Prefer not to say	14

SECTION B: RECYCLING SYSTEMS**SR**

B1 Which of the following best describes your household?

1. We put our recycling into **communal** bins we share with other households
2. We put our recycling into our **own** wheelie bins, bags, crates or containers

ASK ALL

SR

B2 Do you (IF 2+ PERSON @ A7: or anyone in your household) ever put recycling into your recycling bins / containers at home?

1. Yes
2. No

ASK IF MORE THAN ONE PERSON @ A7

DYNAMIC GRID - MR

B3 Who in your household does the following ...
Please tick all that apply

1. Places recycling into the recycling bins / containers
 2. Double checks the recycling is done correctly
 3. Encourages – or nags – others in your household to recycle
-
1. Me
 2. My partner
 3. My child or children
 4. My flatmate
 5. Another adult
 6. No one

ASK ALL

OPEN

B4 What, if anything, annoys you about recycling?
Please type in below

Allow: Nothing at all

SECTION C: RECYCLING KNOWLEDGE AND BEHAVIOUR

ASK ALL

SR

C1 How confident, or not, are you that you place the correct items in the recycling?

1. Not at all confident
2. Not very confident
3. Fairly confident
4. Very confident
5. Extremely confident
6. Don't know

ASK ALL

SR**REVERSE CODES 1-2**

C2 If you are unsure whether an item can be recycled or not, what do you typically do?

1. Put it in the general rubbish
2. Put it in the recycling

TXT_1 For the next few questions, we want you to answer **as quickly as possible**.

We'll let you answer a practice question first. For the practice run you are going to see several different snack foods. We would like you to tell us whether you either like them (Yes) or dislike them (No).

IF PC: Press the 'A' key for YES and the 'L' key for No.

IF MOBILE / TABLET: Press the 'left' half of the screen for YES and the 'right' half of the screen for No.

Please don't think too hard about this. Just use your gut instinct. You will have four seconds to choose YES or NO before the next snack food appears on screen.

When you're ready select '>'

ASK ALL

ALLOW THREE SECONDS PER RESPONSE

C3 Do you like this food?

[Include images with text]

	Yes	No	No response
Chips	1	2	3
Beetroot	1	2	3
Sprouts	1	2	3
Chocolate	1	2	3

SHOW ALL

TXT_2 We are now going to show you a list of household items. We would like to know if you **would typically** put the item in your recycling at home – Yes or No.

If you do not ever use the item, then please select what you would do if you did use it.

IF PC: Press the 'A' key for Yes – Recycle and the 'L' key for No.

IF MOBILE / TABLET: Press the 'left' half of the screen for Press the 'A' key for Yes – Recycle and the 'L' key for No.

Again, we want your gut instinct, so please answer as quickly as possible. You will have four seconds before the next item appears.

When you're ready select '>'

ASK ALL

ALLOW THREE SECONDS PER RESPONSE

RANDOMISE. SHOW ONE ITEM ON SCREEN AT A TIME. DISPLAY IMAGE AND WORD IN MIDDLE OF PAGE WITH RESPONSE OPTIONS BELOW

RECORD RESPONSE TIME FOR EACH ITEM.

C4 Would you typically put these items in your recycling?

		Yes	No	No response
1	Aluminium cans	1	2	3
2	Books	1	2	3
3	Cereal boxes	1	2	3
4	Children's toys	1	2	3
5	Clothing	1	2	3
6	Coffee cup lids	1	2	3
7	Coffee cups	1	2	3
8	Compostable bottles and cups	1	2	3
9	Compostable packaging	1	2	3
10	Compostable plates and cutlery	1	2	3
11	Courier bags	1	2	3
12	Foil food pouches	1	2	3
13	Frozen vegetable bags	1	2	3
14	Glass jars	1	2	3
15	Ice cream containers	1	2	3
16	Juice carton	1	2	3
17	Magazines	1	2	3
18	Margarine tubs	1	2	3
19	Meat trays	1	2	3
20	Milk bottles	1	2	3
21	Newspapers	1	2	3
22	Pizza boxes	1	2	3
23	Plastic cutlery	1	2	3
24	Plastic straws	1	2	3
25	Soft drink bottles	1	2	3
26	Flavoured milk bottles	1	2	3
27	Till receipts	1	2	3
28	Tissues	1	2	3
29	Tomato sauce bottles	1	2	3
30	Yogurt containers	1	2	3

ASK ALL WHO HAVE INCORRECTLY CODED AN ITEM AS RECYCLABLE @ C4
REPEAT QUESTION FOR UP TO THREE INCORRECT ITEMS. IF MORE THAN THREE ITEMS ARE INCORRECT,
SELECT THREE ITEMS AT RANDOM

OPEN

C5 [insert item]

You said the above item can be recycled.

How do you know it can be recycled?

Please list anything about the item, or any information you have seen or heard.

Please type in your response

IF RESPONDENT DOES NOT RECYCLE @ B2 (CODE 2) SKIP TO D1

ASK ALL WHO EVER RECYCLE (CODE 1 @ B2)

DYNAMIC GRID – SHOW IMAGE WITH ITEM. RANDOMISE

C6 Do you **wash or rinse** the following items before putting them in your recycling?

1. Margarine tubs
2. Milk bottles
3. Soft drink bottles
4. Tomato sauce bottles
5. Yogurt containers

1. I don't ever use / recycle this item
2. I never wash or rinse it before recycling it
3. I sometimes do
4. I generally do
5. I always do

ASK ALL WHO EVER RECYCLE (CODE 1 @ B2)

DYNAMIC GRID – SHOW IMAGE WITH ITEM. RANDOMISE

C7 Do you **remove the lid** from the following items before putting them in your recycling?

1. Milk bottles
2. Soft drink bottles
3. Wine bottles

1. I don't ever use / recycle this item
2. I never remove the lid before recycling it
3. I sometimes do
4. I generally do
5. I always do

ASK ALL WHO EVER RECYCLE (CODE 1 @ B2)

C8a Some manufacturers encourage the public to remove the label from an item so it can be recycled. Here are some examples of this.

[INSERT IMAGES]

Before today had you ever noticed this type of instruction on items you recycle?

1. No, never
2. Yes, I think so
3. Yes, definitely

ASK ALL WHO HAVE NOTICED LABELS (CODE 2-3 @ C8a)

C8b And when you see this label, how often or not, do you remove the label before putting the item in the recycling?

1. I never remove the label
2. I sometimes do
3. I generally do
4. I always do

ASK ALL WHO EVER RECYCLE (CODE 1 @ B2)

DYNAMIC GRID – SHOW IMAGE WITH TITLE. RANDOMISE

C9 Do you **crush or flatten** the following items before putting them in your recycling?

1. Aluminium cans
 2. Cereal boxes
 3. Soft drink bottles
-
1. I don't ever use / recycle this item
 2. I never crush or flatten them
 3. I sometimes do
 4. I generally do
 5. I always do

ASK ALL WHO EVER RECYCLE (CODE 1 @ B2) **SR**

C10A Do you put plastic meat trays in your recycling?

1. Yes
2. No

ASK ALL WHO EVER RECYCLE (CODE 1 @ B2)

DYNAMIC GRID – RANDOMISE

C10B Do you do the following?

1. [IF RECYCLE MEAT TRAYS CODE 1 @ C10A] Remove the plastic wrap from meat trays before recycling them
 2. Put recyclables in a cardboard box in the recycling
 3. Put recyclables in a plastic bag in the recycling
 4. Remove non-recyclable parts of the item before recycling them – e.g. removing cellophane from a recyclable cardboard box
-
1. I never do this
 2. I sometimes do this
 3. I generally do this
 4. I always do this

ASK ALL WHO EVER RECYCLE (CODE 1 @ B2)

MR

RANDOMISE

C11 What do you do with plastic containers you have never seen before?

Please select all that apply

1. I put them straight into the recycling
2. I put them straight into the rubbish
3. I look for a symbol / number on the container
4. I look for some text telling me what it is e.g. this item is recyclable
5. I ask someone else at home
6. Other (please tell us)
7. None of the above
8. Don't know

ASK ALL WHO USE SYMBOLS OR NUMBERS TO DETERMINE IF AN ITEM IS RECYCLABLE (CODE 3 @ C11)

MR

INCLUDE IMAGES OF RECYCLING SYMBOLS

REVERSE ORDER OF IMAGES AND NUMBERS FOR 50%

C12 Which of these symbols or numbers tell you that a plastic container is recyclable?

Please select all that apply

1. [image of number 1]
2. Fictitious symbol
3. [image of number 5]
4. International recycling symbol
5. [image of number 8]
6. None of the above
7. Don't know / can't remember

ASK ALL WHO EVER RECYCLE (CODE 1 @ B2)

SR

REVERSE CODES 1-2 FOR 50%

C13 What do you generally do with a plastic container that has no information on it about as to whether it can be recycled or not?

1. Put it in the recycling
2. Put it in the general rubbish

SECTION E: RECYCLING ATTITUDES

ASK ALL

DYNAMIC GRID

RANDOMISE.

E1 How much do you agree or disagree with the following statements?

1. I believe most recycling ends up in landfill
2. If I put the wrong items in my recycling, someone will let me know
3. I don't need to bother rinsing it because machines clean the recycling
4. All New Zealand's recycling goes to other countries
5. When New Zealand sends recycling to other countries it just creates a waste problem over there
6. Only machines are used to sort recycling
7. Knowing what I can and can't recycle at home is confusing
8. I am confident that all the recyclable items I put in the recycling actually get recycled
9. It's OK to put a few incorrect items in the recycling because it will be sorted later
10. I find recycling easy
11. If there are any incorrect items in the recycling, it all gets dumped
12. I believe it's worth taking the time to recycle right
13. Compostable packaging is better for the environment than plastic packaging
14. Compostable packaging will compost in a landfill with no negative impacts
15. Compostable packaging will break down quickly if littered

1. Strongly disagree
2. Tend to disagree
3. Neither agree nor disagree
4. Tend to agree
5. Strongly agree
6. Don't know

SECTION F: CAMPAIGN

DYNAMIC GRID

RANDOMISE STATEMENTS

F1 We are now going to show you some short statements about recycling.

For each one, please rate how much this statement **grabs your attention**.

Did you know dirty items can't be recycled? Only 25% of us keep all our recycling clean. Empty it, rinse it, recycle it.	1
Most of us are doing a great job of recycling but here are the top three things we are putting in the wrong bin. Paper cups, tissues and juice cartons belong in the rubbish.	2
Wherever you are in NZ, there are six things every council recycles. Always recycle soft drink bottles, milk bottles, glass jars, glass bottles, aluminium cans and tin cans.	3
Small items like bread tags and straws can't be recycled. If it fits in your fist, bin it.	4
When we recycle, we're getting it right 85% of the time. Know what to throw and help us reach 100%.	5
Recycle like the superhero your kids want you to be. Take the lid off and rinse before you recycle.	6
There's no recycling fairy. Real people handle your dirty recycling. Rinse your containers before recycling.	7
Recycled right = recycling. Recycled wrong = rubbish. If it's dirty, tiny or soft plastic it can't be recycled at kerbside.	8

0	1	2	3	4	5	6	7	8	9	10
This definitely would not grab my attention										This definitely would grab my attention

DYNAMIC GRID

F2 We are now going to show you the same statements again.

This time please rate each statement on whether it would make you more or less likely to sort and prepare your recycling.

0	1	2	3	4	5	6	7	8	9	10
I would be far less likely to perfectly sort and prepare my recycling					It would not make any difference					I would be much more likely to perfectly sort and prepare my recycling

SR

F3 Thinking back over the last two years, have you learnt anything new that made changes to the way you recycle?

This might include what can be recycled in your area or how to prepare recycling before putting it in the recycling.

- | | |
|-------------------------|----------|
| 1. Yes | CONTINUE |
| 2. No | Go to F5 |
| 3. Not sure/ don't know | Go to F5 |

ASK ALL WHO RECALL SEEING SOMETHING ON RECYCLING (CODE 1 @ F3)

MR

RANDOMISE RESPONSES BUT FIX 9 BEFORE 10 AND FIX 11 BEFORE 12

F4 Can you recall how you learnt this?

Please select all that apply.

1. Saw it on a bin sticker
2. Received information from the council
3. Read it in newspaper/magazine
4. I saw it on TV
5. I heard it on the radio
6. I saw it on social media
7. I saw it on a truck or billboard advertisement
8. I did a google search
9. I saw it on a council website
10. I saw it on another website
11. My kid/s told me
12. Someone else in my family or whānau told me
13. Friends or colleagues told me
14. I attended a workshop
15. Other – please tell us
16. Don't know/ can't recall

ASK ALL

MR**RANDOMISE STATEMENTS**

F5 Which of the following would you find useful?

Please select all that apply.

1. A free mobile recycling app to look up what can and can't be recycled
2. A free mobile recycling app telling you your collection day
3. A sticker on your recycling bin / container telling you what can and can't be recycled
4. A flyer in the mail
5. A magnet on your fridge
6. A free no junk mail sticker for your letter box
7. A recycling label on packaging telling you if or how it could be recycled
8. Something else: please tell us
9. None of the above

ASK IF SELECTED MORE THAN ONE USEFUL ITEM AT F5.

SR – SHOW ITEMS SELECTED AT F5

F6 Which of the following would you find **most** useful?

1. A free mobile recycling app to check what can and can't be recycled
2. A free mobile recycling app telling you your collection day
3. A sticker on your recycling bin / container telling you what can and can't be recycled
4. A flyer in the mail
5. A magnet on your fridge
6. A free no junk mail sticker for your letter box
7. A recycling label on packaging telling you if or how it could be recycled
8. [SHOW TEXT ENTERED @ F5_8]:

ASK ALL

SR

F7 Have you heard of Plastic Free July?

1. Yes, definitely
2. Yes, I think so
3. No

ASK THOSE WHO ARE AWARE AT F7 (CODES 1-2)

SR

F8 Did you participate in Plastic Free July in July 2019?

1. Yes
2. No
3. Don't know

ASK THOSE WHO TOOK PART AT F8 (CODE 1)

SR

F9 Did you sign up officially to the challenge?

1. Yes
2. No
3. Don't know

SECTION G: RECYCLING PHOTO

SR

G1 This research has been carried out for WasteMINZ which is a body that represents the rubbish and recycling sector in New Zealand.

We'd love to share some photos with WasteMINZ of where you store your recycling. This will help support their understanding of the different ways in which New Zealanders do this.

Please note the photos would be shared with WasteMINZ and could be published. However, your anonymity would be guaranteed.

Before you finish the survey, would you be happy to share a photo of where you store your recycling at home?

1. Yes – SHOW SCREEN ASKING THEM TO UPLOAD PHOTO
2. No – CLOSE SURVEY