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## **Recycling at Work**

**Dr Seonaidh McDonald**

The Robert Gordon University

### **Introduction**

In 2008 the Scottish Environmental Protection Agency reported that commercial waste amounted to 5.75 million tonnes, compared with 2.94 million tonnes of domestic waste. Despite the fact that waste arising in commercial premises is nearly double that produced by households in the UK, the study of recycling in the workplace is less common than the study of recycling at home (Marans & Lee, 1993). Some of the work that has been done on recycling within commercial settings has focused on specific commercial recycling schemes (see for example Bacot, McCoy & Palgman-Galvin, 2002; Clay, 2005). In a parallel to the research which aims to characterize the domestic recycler and understand the antecedents to their (non) recycling behaviour, there is a strand of research in the environmental psychology tradition which tries to establish predictors of the employee characteristics (see for example Marans & Lee, 1993), organisational characteristics (see for example Maclaren & Yu, 1997) or scheme design factors (see for example Brothers, Krantz & McClannahan, 1994; Ludwig, Gray & Rowell, 1998) which will lead to successful recycling initiatives.

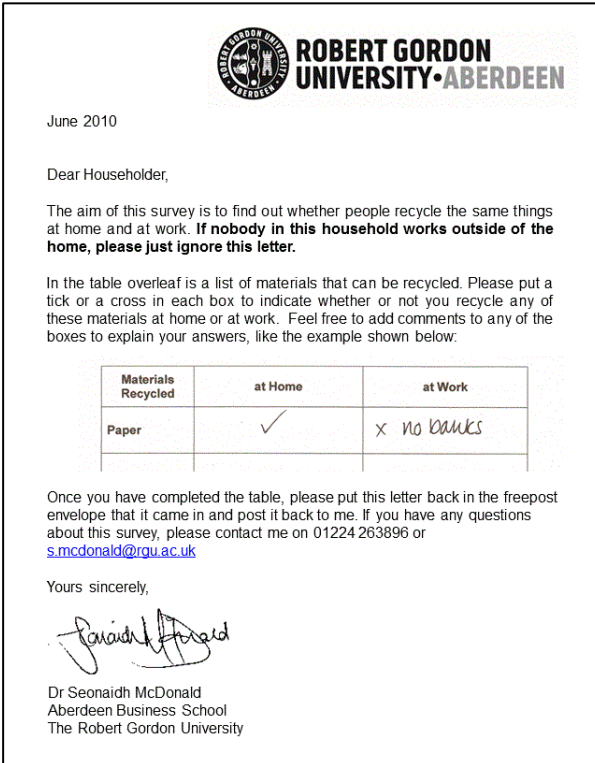
The focus on the reduction of domestic, rather than commercial, waste may have been fuelled by the UK Government targets for the increase in recycling rates (DEFRA, 2007). This has contributed to the lack of attention to workplaces as contexts for the production of many waste streams also found in domestic waste. However there is also perhaps an underlying assumption that recyclers will behave in similar ways in their domestic context and at work. Recent work has however shown that people do not recycle in the same ways in different contexts. Studies have shown that people do not necessarily continue to recycle whilst on holiday (Barr et al, 2010) or while away from home at University (Scott, 2009). This raises the question of whether people who have established patterns of recycling at home can or do translate these practices into recycling at work. The first study which attempted to make a link between home and work place recycling is a study by Lee, De Young & Marans (1995) which examined whether private recycling behaviour was a useful predictor of participation in office recycling schemes. This study surveyed nearly 1800 Taiwanese office workers from 32 different firms. They found that although prior (home) recycling experience of a specific material was a predictor of office recycling, the actual rates of recycling at work were much lower than those reported at home. In the UK context, this result was also obtained by a study of the recycling habits of university staff and students (Clay, 2005).

This chapter describes a pilot study which aims to ascertain whether there is a difference between recycling behaviour at home and at work. However rather than focus on a specific work environment (offices, university) this study will survey a population with access to comparable opportunities to recycle their household waste, but make no inferences about their specific employment setting.

## Method

A short questionnaire was designed in order to survey householders about their recycling habits in the home and in the workplace. The questionnaire consisted of a single sheet of A4 with the cover letter printed on one side (see Figure 1) and the questions printed on the other (see Figure 2).

The design of the questionnaire was deliberately kept very simple with the fewest possible questions in order to facilitate as high a response rate as possible. For example, a decision was taken not to ask householders for any demographic information which would lengthen the questionnaire and make people less willing to participate.



The cover letter is from Robert Gordon University, Aberdeen, dated June 2010. It is addressed to a householder and explains the purpose of the survey: to find out whether people recycle the same things at home and at work. It includes a table for recording recycling habits and a signature from Dr Seonaidh McDonald.

June 2010

Dear Householder,

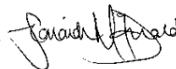
The aim of this survey is to find out whether people recycle the same things at home and at work. **If nobody in this household works outside of the home, please just ignore this letter.**

In the table overleaf is a list of materials that can be recycled. Please put a tick or a cross in each box to indicate whether or not you recycle any of these materials at home or at work. Feel free to add comments to any of the boxes to explain your answers, like the example shown below:

| Materials Recycled | at Home | at Work    |
|--------------------|---------|------------|
| Paper              | ✓       | x no banks |

Once you have completed the table, please put this letter back in the freepost envelope that it came in and post it back to me. If you have any questions about this survey, please contact me on 01224 263896 or [s.mcdonald@rgu.ac.uk](mailto:s.mcdonald@rgu.ac.uk)

Yours sincerely,



Dr Seonaidh McDonald  
Aberdeen Business School  
The Robert Gordon University

Figure1: Cover Letter

| Materials Recycled | at Home | at Work |
|--------------------|---------|---------|
| Paper              |         |         |
| Glass              |         |         |
| Plastic            |         |         |
| Metal              |         |         |
| Cardboard          |         |         |
| Garden waste       |         |         |
| Food waste         |         |         |
| Textiles           |         |         |
| Other(s):          |         |         |

If there is a difference between the materials that you tend to recycle at home and at work, please comment below on why you think this happens:

Thank you very much for your help with this research.

Figure 2: Questionnaire

The questionnaires were placed inside an open freepost envelope and hand delivered to 1000 households in Banchory, a small town in the North East of Scotland during June 2010. Householders were asked to complete the questionnaire, place it back into the freepost envelope and put it in the post. The questionnaires were not marked in any way and so the responses to the survey are entirely anonymous.

Banchory was selected for the study as it is a small commuter town set in the Aberdeenshire countryside. Many of Banchory's residents are employed by the Oil and Gas industry in nearby Aberdeen, which is only 16 miles away. However the area is also home to thriving farming, tourism and timber related industries which also employ a proportion of residents, providing the potential to get information about recycling in rural, as well as urban, workplaces. Households were sampled by taking consensus samples of 40 streets in Banchory which were randomly selected in order to ensure representation from a wide range of council tax bands. All of the households in Banchory enjoy the same municipal recycling facilities provided by Aberdeenshire Council:

- A fortnightly doorstep collection of paper and white/grey cardboard;
- A fortnightly doorstep collection of mixed glass, plastic bottles and food and drink cans;
- A recycling centre which provides for the disposal of paper, glass, plastic bottles, cardboard (any), food and drinks cans, tetrapacks, yellow pages (periodically), textiles, scrap metal, garden waste, soil, rubble, oil, car batteries, domestic batteries, WEEE, domestic appliances and furniture as well as general household waste.
- Several 'bring' sites scattered across the town in car parks near parks, schools and supermarkets which also provide a range of banks for glass, paper, paper, glass, plastic bottles, cardboard (any), food and drinks cans and textiles.

## Findings

A total of 220 responses was received from the 1000 households surveyed, giving a response rate of 22%, which is very healthy for a postal questionnaire. The responses were all coded and entered into a spreadsheet for analysis.

In all environmental research there is always a tendency for respondents to exaggerate, and so any results obtained through a postal survey must be treated with caution. This is partly because respondents feel social pressure to be seen to be as 'green' as possible, and partly because in any survey situation respondents seek to be helpful in their reporting. Both of these factors can lead to householders ticking a box to say that they recycle a particular material even if they have only done so once, or have an intention to begin doing it, for example. Added to this is the fact that although the households that received the questionnaires were sampled according to a framework (see above), those that responded are effectively self-selected. Together these issues would lead us to expect that the numbers of materials reported to be recycled here are rather higher than an examination of actual recycling behaviour would suggest. However this does not significantly affect much of the analysis that follows as this study is concerned with comparing home and workplace recycling, rather than the absolute figures reported, and it is reasonable to assume that any inflation of the figures will affect both the estimations of home and workplace recycling equally. It is also useful to note that 8 (3.64%) of the respondents reported that they did not recycle any materials at home or at work. This suggests that the data presented here do contain an element of balance between recyclers and non-recyclers.

Figure 3 below shows the numbers of each of the different materials that the respondents recycled at home, and at work. Some of the larger differences are easily understood. For example the large variance between the numbers of respondents recycling garden waste and textiles at home and at their place of work may well be as much to do with the occurrence of these groups of materials as to do with the behaviour of the respondents themselves. A number of respondents wrote comments on their questionnaires to this effect. However other differences are more interesting. Glass is a very common household recyclable, and has the longest history of collection from domestic waste for recycling in the UK. However although some 95% of respondents recycled glass at home, their workplace recycling is comparatively low at just under 28% (see Table 1). Some of the comments suggested that the provision of recycling facilities for glass was considered a safety hazard by their employers. The differences between the numbers of respondents recycling their garden waste and food waste suggests that they are taking their garden waste to the local recycling centre rather than composting at home.

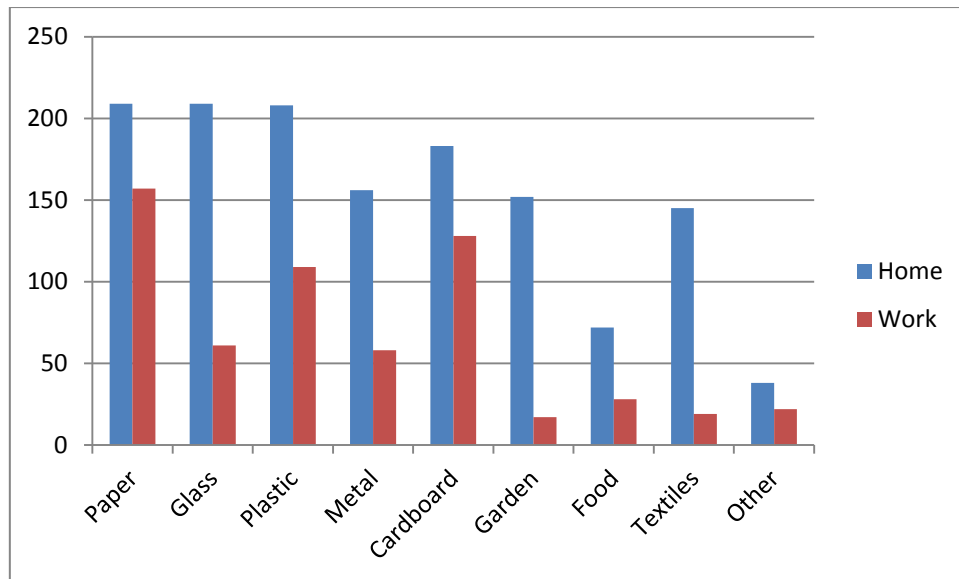


Figure 3: Materials recycled at home and at work

|                  | Home   | Work   | Difference |
|------------------|--------|--------|------------|
| <b>Paper</b>     | 95.00% | 71.36% | +23.64%    |
| <b>Glass</b>     | 95.00% | 27.73% | +67.27%    |
| <b>Plastic</b>   | 94.55% | 49.55% | +45.00%    |
| <b>Metal</b>     | 70.91% | 26.36% | +44.55%    |
| <b>Cardboard</b> | 83.18% | 58.18% | +25.00%    |
| <b>Garden</b>    | 69.09% | 7.73%  | +61.36%    |
| <b>Food</b>      | 32.73% | 12.73% | +20.00%    |
| <b>Textiles</b>  | 65.91% | 8.64%  | +57.27%    |
| <b>Other</b>     | 17.27% | 10.00% | +7.27%     |

Table 1: Percentages of respondents who recycle each material

Overall, then, although similar materials are recycled at home and at work, Table 1 shows that many more respondents recycle each of the materials at home than they do at work. A further analysis shows that 89.55% of the survey respondents recycled more materials at home than they did at work.

## **Discussion**

This pilot study confirms that recycling in the home is more common than recycling in the workplace. Even people who recycle a wide range of materials at home do not seem to translate those habits into their workplace contexts. Now that this difference has been established, further study will be required to ascertain why this situation has arisen. Some of the comments offered in response to the open question at the end of the questionnaire (see Figure 1) offer insights into why this is the case.

One of the most common statements made by respondents was that they could not recycle many of the materials at work because they either did not arise in a work setting or that there were no facilities to recycle them at work. Whilst it is likely that in many workplaces some materials, such as glass, are found in lower quantities than they might be at home, it is extremely unlikely that they are entirely absent from a workplace. For example, although jam jars and ketchup bottles might be relatively rare, soft drink bottles and coffee jars may well be found in many workplaces. Waste Watch estimates that 3% of commercial and office waste is glass (Waste at Work, 2004). Reporting occasional occurrence of recyclables as non-occurrence is something that has been found in previous studies of non-recyclers (McDonald & Oates, 2006). Equally, assertions that no facilities exist at work should be treated with caution as several respondents reported that there were no facilities in Banchory to recycle metals (although food and drink cans are included in the fortnightly doorstep collection and banks are available at the recycling centre as well as at a number of points throughout the town) or garden waste (despite a dedicated skip located at the recycling centre).

Another theme underlying many responses was that of responsibility. By noting that no facilities were available to them at their workplace, respondents may be seeking to absolve themselves from the responsibility of their non-recycling behaviour. Studies of domestic recycling have found that low recycling rates are often attributed to the lack of facilities provided, or the design of the schemes which are available. In an interesting parallel, the 'fault' here is transferred from the municipal providers of the domestic services to the collective employers. This is underlined by a few respondents who reported that they assumed that their waste was being recycled (even when no sorting or storing of recyclables was in evidence) or that they didn't know whether it was recycled. The responsibility for sorting waste is further blurred when cleaning services are outsourced to another company.

However there is a small group of individuals who report that they take their recyclables home with them in order to recycle them along with their own household waste. One respondent noted that although there was workplace recycling, a colleague had set it up informally and simply took the recyclables away periodically and put them in banks on her way home. For those determined to recycle in the workplace, informal systems have been put in place to counter lack of official provision in some work places.

## Conclusions

Further work will be required to understand the differences in the habits uncovered in this pilot study. However it is clear that this is an important area for future study as it is clear that people's domestic recycling habits are not necessarily being carried over into their workplaces. This finding underlines and extends the work of Clay (2005) and Lee, De Young and Marans (1995) by showing that when the sampling is done in such a way as to include a wide and unspecified range of employment contexts, private behaviours are not being reproduced at work, regardless of workplace.

What is also clear is that respondents feel that the responsibility for the lack of recycling lies with the employers. With commercial waste continuing to grow year on year (SEPA, 2010) the problem of recycling at work will remain an issue. However if employers are failing to engage even those people who have already made decisions to recycle within their private lives, more research is needed to understand how to grow workplace recycling.

Overall, this study has shown that a much larger, national study will be required in order to understand how best to meet the promised UK government targets for recycling of commercial wastes (DEFRA, 2007).

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