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## Family communication: A catalyst for socially desired behaviours

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*This study examines how mass-communicated messages from two pro-environmental public information communication campaigns, the Big Clean Up and Clean Up New Zealand, affect interpersonal communication in families. It also considers how interpersonal communication flows on to affect family behaviour.*

*The findings from these two campaigns indicate that while parents tended not to pass on information they obtained from campaign messages, children were more enthusiastic about sharing messages with other family members. Parents, it was found, had their current beliefs and behaviour patterns endorsed as a result of the messages. There were no notable behaviour changes in families where the parent was the initial message receiver. However, where children provided initial intervention behaviour, changes ranged from minor to remarkable. These findings have implications for public information campaign designers, where behaviour change is a campaign objective, and indicate an area where further research is required.*

### Introduction

As the need for public organisations to communicate with relevant stakeholders becomes increasingly important, communication campaigns targeting communities, or community sections, have become more prevalent (Rice & Atkin, 2001). However, such communication is becoming more difficult to achieve effectively. In New Zealand, for example, 48 of the 52 available weeks each year are nominated as named weeks in recognition of particular needs or goals by organisations attempting to fundraise. In some weeks, more than one organisation appeals for donations, for

example, IHC (the New Zealand Society for the Intellectually Handicapped), Salvation Army, and Guide Dog appeal (Fundraising Institute of New Zealand, 2003). Each named week is supported by widespread information intended to inform and motivate message recipients into desired responses – usually, donating money. In addition, there are several government and public organisations (local councils, non-government organisations, and government agencies such as the Land Transport Safety Authority) promoting messages such as don't drink and drive, wear a life jacket when boating, and eat five or more vegetables or fruit a day.

This type of communication activity is categorised as 'social marketing', a term first used by Kotler and Zaltman (1971) to refer to the application of marketing to solving social and health problems. It is now used more widely to cover most public-orientated communication activities. The challenge facing publicly focused organisations is how to encourage the public to consider and—in particular—act on the messages they disseminate.

The effect of mass communication on interpersonal communication is well documented (e.g. Valente, Kim, Lettenmaier, Glass, & Dibba, 1994), but reaching the desired audience is becoming harder. In the modern mass communication environment, messages from any given organisation will compete with hundreds of messages each day from a variety of media. In New Zealand alone, with a population of just over 4 million, there is a choice of some 600 local magazine titles, more than 300 metropolitan and community newspapers, 45 TV channels, and a radio station for every 18,000 people, with 30 stations in Auckland alone (Jayne, 2000).

While the level of resources available to communicating organisations is a significant factor in communication success, it is certainly

not the only component. Other factors may include creative design, preliminary research, and alignment of media to the audience (Schiffman & Kanuk, 2003). Communicators of public-oriented messages need to understand the nature of the flow between mass and interpersonal communication. They also need to know how and what people do with the messages they communicate. Without this knowledge, messages may be sent regardless into the vast competitive space of mass communication messages. With an in-depth knowledge of the mass-to-personal flow process, however, message senders are able to design a strategic communication programme with more predictable responses, and alleviate some of the randomness communicators have argued is associated with mass communication.

This research examines how interpersonal communication in the family unit (defined as at least one child and one parent living in the same dwelling), based on messages from public agencies, can act as a mechanism for behaviour change. This communication is followed in two ways: upward (from children to parents) and downward (from parents to children). As marketers are aware, children can be effective influencers of family purchases. A tool some companies use strategically is ‘pester power’, where children nag their parents to consume products they neither need nor really understand. A company frequently described as using this technique is McDonald’s Restaurant (see for example Campbell & Davis-Packard, 2000; Nicholls & Cullen, 2004; Russell & Tyler, 2002). A 2004 Australian study reported that 85% of a sample of 4–13-year-olds acknowledged they had asked their parents to buy advertised products, and 66% claimed their parents had met their request (Young Media Australia, 2002).

### **Background to the campaigns**

This study examined two campaigns: The Big Clean Up (BCU) and Clean Up New Zealand.

The Auckland Regional Council (ARC) is the legislative manager of the Auckland Region's environment. As part of this responsibility the

ARC developed a campaign, the BCU, which enables residents of Auckland to participate in environmental sustainability and city restoration through pro-environmental behaviours including reducing waste, using public transport, conserving energy, and using storm water drains properly.

Residents are encouraged to register with the council to be part of the BCU. They can do this by supplying information on the Internet (<http://www.bigcleanup.co.nz>), or by calling ARC’s 0800 number. ARC then sends out information about the campaign and instructions on how the receiver can participate in the programme. As at April 2003, 44,000 households had registered to be part of BCU. The campaign, which began in April 2002, is ongoing.

While the BCU campaign design was developed in-house, much of the operational and creative collateral was conducted with external partners. In the initial stages of the campaign much mass communication emphasis was placed on advertising (TV, radio, newspapers), and followed up with direct marketing. Once people had registered with the campaign, ARC communicated with them through direct mail.

The Clean Up New Zealand Trust works to provide resources so “every New Zealander can make an active contribution to ensure that New Zealand can truly say it is the cleanest greenest country on earth” (Clean Up New Zealand Trust, 2003a). While primarily a campaign focusing on rubbish collection, it also promotes wide environmental education, particularly in schools. The campaign is conducted in partnership with the United Nations Environment Programme, and the inaugural New Zealand event was held in 1998.

Clean Up New Zealand’s vision is to have a positive environmental impact on New Zealand. The campaign objectives are to:

- Promote Kaitiakitanga/stewardship, personal ownership and individual responsibility for the environment to all New Zealanders
- Support and promote ‘Towards Zero Waste’ as the underlying concept in all our actions

- Encourage 250,000 children, young people and their families to actively participate in Clean Up New Zealand Week 2003 (Clean Up New Zealand Trust, 2003b, p. 2).

The Clean Up New Zealand campaign was supported by an integrated campaign that utilised external relationships with commercial partners including McDonald's, DDB Advertising, TV3 (a national television broadcaster), and regional media outlets. Leveraging partners' existing promotional capabilities allowed campaign messages to be communicated through currently operating, well established channels. This comprised a blend of traditional mass media techniques (TV, radio and newspaper advertising, printed materials and website) along with a comprehensive public relations programme.

The broad objective for both Clean Up New Zealand and the Big Clean Up is similar: to protect the environment. While the campaigns are completely independent, several common strategies and tactics are employed. The designers of both campaigns have constructed a

comprehensive communication strategy that includes communication activities targeting a number of different groups across a broad range of demographics. Both have a curriculum programme targeted at school-age children and communication targeting older demographic groups. Rotary, sporting clubs, workplaces, and family homes are encouraged to participate.

It is important to note that this study only considered particular aspects of each campaign and not their entirety. This current study concentrates on one particular communication flow within each campaign, as shown in **Table 1**. There were two main reasons for looking at the upward and downward flow of communication from two different campaigns: First, to ensure any fundamental flaws in the campaign design, rationale, or execution would not jeopardise this study's findings; second, a relationship between the researcher and campaign designers at the Auckland Regional Council (ARC) facilitated good access to sample groups and organisational background information in that campaign, but another was needed for comparison.

**Table 1. Campaign Characteristics**

<b>Campaign</b>	<b>Direction of communication flow</b>	<b>Channel(s)</b>
Big Clean Up	Downward – parent to child	Mixed media Direct marketing – mail, resource kits Advertising – TV, radio and print
Clean Up NZ	Upward – child to parent	School curriculum

## **Theories and framework: The relationship between communication and behaviour**

This study tests the five-stage model developed by McDevitt and Chaffee (2002) to examine the flow of family communication from messages of a pro-environmental communication campaign. This model is highly relevant to a study of this nature for two reasons. First, it represents a new way of seeing issues surrounding information flows within families and between their members and second, although the model refers to political socialisation and behaviour, this area is sufficiently close to pro-environmental behaviours to allow replication in this study. Both political activation and pro-environmental behaviours are altruistic in nature and potentially cause wider community gain as a result of campaign-initiated actions. The McDevitt and Chaffee model was selected over more traditional family communication pattern models, such as Newcomb's (1953) A-B-X model, as it explains the way communication affects the attitudes and/or behaviour within a family. The A-B-X model treats interpersonal interaction as a series of communication acts between two people: "in the simplest possible communicative act one person (A) transmits information to another person (B) about something (X)" (p. 393).

The selection of McDevitt and Chaffee's (2002) model for the current study was deliberate, as it enabled this model to be tested in a different setting from the initial research in which it was developed – pro-environmental behaviours as opposed to political issues. This is not to discount other models, such as meaning-making, or Prochaska and DiClemente's (1983) trans-theoretical model of behaviour change, which are also potentially relevant for communication/behaviour relationships, but because the parameters of this study were to deeply test one model in action, rather than broadly consider a range of models.

McDevitt and Chaffee's (2002) model considers communication interventions, such as a media campaign or school curriculum, and how such interventions can heighten interest in

family members initially captured by the intervention. McDevitt and Chaffee state that any change in a family member's position on an issue will create tension if other family members perceive a need to increase their civic competence. They propose a five-stage/step sequence that conceptualises a process of activation in a family:

- Step 1:** An individual's response to an intervention includes heightened civic involvement, manifested in increased interest and information seeking.
- Step 2:** The resulting knowledge acquisition and opinion formation motivates interpersonal communication within the family.
- Step 3:** This prompts increased expectations for competence among other family members.
- Step 4:** As family members achieve compatibility at higher levels of competence, they acquire an increased capacity for reciprocal influence that helps sustain interest in socially responsible behaviours.
- Step 5:** Increased motivation is generated for socially responsible behaviours outside the house.

Families sit within social systems where norms and routine behaviours establish homeostatic balance in a number of communicative ways (in the case of McDevitt and Chaffee, 2002, politics). However, as the interactions among family members are dynamic, over time changing external factors will require the family to regulate its relationships in response. Disruption to the family's social interaction structure, from external stimuli, will see members make efforts to restore the balance. McDevitt and Chaffee claim this adjustment process can be observed as the dynamic that may cause growth and change within the family unit.

The way a family responds to an intervention is almost always social. While individual members may instigate discussions on a subject and continue to acquire relevant information, the

family tends to respond as a unit towards the greater amount of communication. It is interesting to note that while a level of interest in public affairs may increase the level of communication an individual brings into the family home, it may not do so where the communication is not in harmony with the views of others in the household. This situation, where an interested family member does not share their interest through increased communication in the home, is found particularly in lower socio-economic homes where, it is argued, political issues and controversies are rarely discussed (Ettema & Kline, 1977).

Family systems can be characterised by stable sets of expectations, beliefs, and norms about family life, variously referenced as "world views" (Hess & Handel, 1959, p. 14), "family paradigms" (Reiss, 1981, p. 2), or "schemata" (Fitzpatrick & Ritchie, 1994). These provide working models for family members, providing them with normative guidelines for behaviour toward one another and interpretation of one another's actions.

Families have working models of how parents and children interact, organised around the core themes of control and support (Fitzpatrick & Ritchie, 1994). Despite evidence demonstrating the family's importance in the political socialisation of children and parents, and the setting it provides for news media use, McDevitt and Chaffee (2002) argue that "a dismissal of the family as an inherently non-political institution" (p. 8) exists. They quote both other research (Chaffee, McLeod & Wackman, 1973), and their own findings, to support this argument. This study aims to counter this dismissal by focusing on one aspect of the impact of communication inside the family unit on overall family behaviour change.

### **Method**

This study gathered data using personal interviews, specifically semi-structured interviews, with participants of each campaign. In qualitative approaches to communication research, semi-structured interviews are a useful form of data collection because they allow

exploration of perspectives and perceptions of various stakeholders (Daymon & Holloway, 2002; Selman, 1980).

The issues discussed during the interviews included current pro-environmental practices, media use, interpersonal communication, and behavioural changes due to campaign messages. While the sequence of questions was not strictly the same for each participant, the interview guide ensured that similar types of data were collected from all the participants. Fourteen interviews were conducted, with each of the seven participating families being interviewed twice: an initial interview, and a follow-up six weeks later. The first interviews focused on the initial pro-environmental intervention and the individual's response to receiving the campaign messages, as well as on any subsequent communication between family members. The second interviews concentrated on the remaining three themes: expectations for civic competence, reciprocal influence, and civic participation.

From the outset, support was shown for the research project from the Auckland Regional Council. ARC agreed to help select participants by providing contacts with people who were involved with the BCU programme. The registration process to join the BCU programme requires people to supply personal details and that information is protected under the Privacy of Information Act 1993. This necessitated an ARC staff member contacting a sample of those registered to gauge their willingness to participate in this research. The contact details of those who were willing were passed on to the researcher.

To achieve the research objectives associated with the downward flow of communication, participants needed to be located from schools involved with the Clean Up New Zealand programme. The decision to contact schools in the Palmerston North area was based on convenience: locality, availability, and the opportunistic approach as described by Buchanan, Boddy, and McCalman (1988).

Clean Up New Zealand provided information for Palmerston North schools. Potential participants were contacted following meetings between school principals and the researcher.

## Results and discussion

For the purpose of this research, the term 'family' was defined as at least one child and one adult caregiver living in the same dwelling. A more traditional 'family' definition is a husband and wife and their biological or adopted children who share a dwelling and other resources (Baker, 2001). However, as Baker pointed out, this definition covers only 30% of New Zealand families, as many people live in dwellings with extended family such as grandparents, aunts, uncles and in-laws. It is on this wider definition of family that this current research is based. Another factor determining the selection of this definition is it is analogous to that used by McDevitt and Chaffee (2002) in their research in this area.

Interviews were held with members of seven families (20 individuals in total). Three of these families had participated in the Big Clean Up (n=9; male=4, female=5), and the remaining four families participated in the Clean Up NZ campaign (n=11; male= 2, female=8). The participating families covered a range of demographic categories including a children's age between 9 and 17 years old. In only two families were the fathers available to be interviewed; however, given the current study's definition of 'family', this was not problematic.

In the first meeting with each family a point of reference was gained by examining the types of pro-environmental behaviours (recycling, composting and eco-friendly consumption) performed by the family before the campaign messages were known. Possible change that occurred as a result of the intervention was measured against this point.

Generally, family members were spoken to in a group, but in some instances members joined the discussion progressively during an interview. On two occasions people were unable to stay for the duration of the interview and were spoken to first before the rest of the family. The interviews undertaken for this research varied from 40 to 75 minutes. All discussions with the participants were recorded so the conversations could be transcribed and analysed later.

The main findings from the interviews that are relevant for public-orientated communicators are set out below (see **Table 2** for a summary). They primarily relate to parental information holding, and child influence.

### Parents' retention (non-sharing) of messages

A notable finding was the indication that parents did not communicate information received from the campaign to other family members. This study did not reveal any examples of successful downward flows of communication. However, the results indicated a seeking out of campaign information from both the message source (e.g., requesting information from the ARC) and media sources (e.g., newspapers and television). This finding is encouraging for public communicators, based on Grunig's (1983) five communication objectives, which claim acceptance of cognitions as a legitimate outcome of a campaign. While this may not result in actual behaviour change, it is possible that further information and experiences will result in eventual pro-environmental behaviour changes.

In the sample group used for this study, where all participants had prior pro-environmental experience, the communication results can be expected to differ from people with no previous pro-environmental experiences. It could be expected that downward communication in the group who have limited or no pro-environmental experiences, would be more frequent and information rich. This is a hypothesis worth exploring in future studies.

**Table 2: Key findings of case studies**

<p align="center"><b>The Big Clean Up</b> (focus on activities targeting parents)</p>	<p align="center"><b>Clean Up New Zealand</b> (focus on activities targeting children)</p>
<ul style="list-style-type: none"> <li>• Parents kept information to themselves</li> <li>• Sitting on information acted as a barrier to other family members developing knowledge</li> <li>• Messages reinforced parental attitudes toward pre-existing behaviours</li> <li>• Messages failed to promote interpersonal communication among family members</li> </ul>	<ul style="list-style-type: none"> <li>• Children actively communicated and acted as significant sources of information for the rest of the family</li> <li>• Children showed the ability to act as an impetus for behavioural change in the family</li> <li>• Children were able to act independently to the attitudes and behaviours of their parents</li> </ul>

**Child influence**

Children who participated in Clean Up New Zealand activities were effective influencers in establishing a family agenda for discussing messages sourced from the campaign. This communication saw changes in pro-environmental behaviour in the family. These ranged from small changes such as reusing lunch wrap, to large changes such as introducing a farm recycling programme.

**The need to support children acting as an information intervention**

There is evidence supporting the idea that lower socio-economic homes do not support children’s information input to the same extent as higher socio-economic homes (Ettema & Kline, 1977; McLeod & Chaffee, 1972). Environmental issues are multi-dimensional and often complex in nature, which can create a barrier to confident discussion. Some people may choose to avoid engaging in a discussion

that may challenge their own efficacy. This may be a problem for interpersonal communication within some groups. A child may not wish to enter into a conversation with a parent who has previously reacted in a hostile manner to similar issues or discussions raised by the child. However, discussions may still take place between a child and his or her siblings.

If children are to act as an agent for an organisation’s messages, communicators and campaign developers need to consider children’s needs, rather than assume children can take responsibility for introducing new information into family environments and be catalysts for behaviour change. Without supporting children as communicators, particularly in lower socio-economic homes, there is a greater chance of messages being unsuccessful in entering family communication conversations.

**Parents as communicators and motivators of pro-environmental behaviours**

The families in which downward flow of communication was being examined all stated the campaign messages had limited effect on

engendering behavioural changes, but the messages further entrenched the receivers' attitudes toward pro-environmental behaviours. That is, instead of the campaign causing new pro-environmental behaviours in the families, as was the intention of the messages, it only reinforced the current pro-environmental actions of the receiver.

I skimmed through [the BCU information]... it didn't mean anything at all. It certainly has not had any influence here... there was no discussion about any of it (parent, family 3)

Parents in two of the three families participating in the BCU had previously belonged to a pro-environmental organisation and could attribute many of the current pro-environmental behaviours to this association. While they were no longer active in these groups, the influence of their participation in the pro-environmental group was sufficient for them to continue to act pro-environmentally.

Other families could detail a personal influence for their pro-environmental behaviour. This influence is consistent with research by Stern (2000) and Rajecki (1982), who reported that direct experience of the environment or environmental issues has a lasting impact on participants' behaviour. The existence of these other influences could explain the finding in this research that adult family members did not pass on information they had obtained from communication campaign messages to any other family members.

It was evident that, in all the BCU participating families interviewed for this research, parents had already developed attitudes towards environmental actions before receiving BCU messages. This was apparent not only from the verbal claims of all three families participating in the BCU, but also from the physical evidence of recycling and composting. This pre-existing attitude was not based on any messages sent by the BCU. The prior influences and experiences shown by the parents, as stated

above, can provide an explanation as to how communication existed before the communication campaign messages were delivered.

In these families, the desired effect of the BCU message was already present. Yet one family member still registered to be part of the BCU. This raises the question why someone already engaged in pro-environmental behaviours would ask for information about pro-environmental behaviours. The answer could be as simple as seeking a sense of security/reassurance about behaviour by seeking others who perform similar actions. Heider's (1957) attribution theory is probably relevant here. Heider believed that people act on the basis of their beliefs, and that these beliefs must be taken into account and reinforced. It does not matter whether the beliefs are accurate, valid, or based in reality: individuals will act based on their belief systems (Weiner, 1986).

### **Children as a source of pro-environmental information**

It has been assumed that until the age of eight children develop behaviour patterns through parental modelling and reinforcement, after which age friends and peers become more influential (Ellickson, Orlando, Joan, & Klein, 2004; Greenstein, 1965). While the extent of ongoing parental influence is challenged (Chaffee, Ward & Tipton, 1970), there is still a generally held view that parents take a dominant role in the development of attitudes towards civic responsibility in a child's early years. While there is limited research on parents' effect on their children's pro-environmental behaviours, the strong link between children and parents' behaviour is well documented. For example, parents who smoke are more likely to have children who smoke (Charlton & Blair, 1989).

It is possible for children and parents to act independently of one another's attitudes and behaviours. For example, a parent may hold strong pro-environmental attitudes and behaviours but his or her child may believe there is little purpose in acting positively toward the environment. On other hand, a young person



may adopt healthy eating and exercise practices, but their parent may hold the attitude that these behaviours are pointless. With regard to pro-environmental behaviours, research to date has laid predominant emphasis on the influence of parents educating children in pro-environmental matters (Ballantyne, Fien & Packer, 2001). Where there has been a reciprocal influence on pro-environmental behaviours it has been regarded as incidental rather than deliberate.

This research shows children's ability to act as an impetus for behavioural change in the family. Each of the parents from the families spoken to said they had acted on pro-environmental information introduced by a child. Some of the behavioural turnarounds could be described as remarkable.

All the children noted they had looked for environmental stories in the media on at least one occasion after the initial intervention. Three children had also visited the Clean Up New Zealand website. For example, one commented:

Yes, I have seen some stories in the paper, in the kids' section, that I read because I'm interested in that stuff now... I also saw a story about Clean Up New Zealand in the local paper (child, family 7)

This is a similar finding to a McDevitt and Chaffee (2000) study where school curriculum information about voting was associated with increases in attention to news, particularly students' newspaper reading. McDevitt and Chaffee (2000) also found that student-parent discussion increased, particularly among low socio-economic families, and in low socio-economic households, parents' election knowledge increased. In this study, two parents commented that, once they had adopted the new behaviours, they also sought further information to help develop their knowledge further:

I have contacted the Recycling Depot for information on what

things I can recycle. I wasn't too sure about the plastics. We will probably get more info when we go... (parent, family 5)

Three of the four children in this study noted they had talked with school friends and fellow classmates about the activities and issues that confronted them in the Clean Up New Zealand campaign. In one interesting case, a child stated she had received more information from talking to her friends at school than she did from conversations at home:

I have started recycling at school because of what [my] class did [as part of Clean Up New Zealand]. My friends also think that recycling is a good idea. They have talked about it (child, family 4)

Three of the four parents interviewed described children seeking information from them on household activities that related to their new knowledge of pro-environmental issues and behaviours. The parents mentioned instances where they had to detail how waste was disposed of and what became of recyclable materials:

[She] came home and asked about what we did here. She hadn't done that before (parent, family 4)

I asked mum what happened to all the stuff we throw out and she showed me (child, family 4)

All the families could state an occasion when they engaged with the media, such as reading the paper or watching television, in search of

further information or knowledge. They also commented they had read a story or article in the newspaper which they may not have read before their involvement with Clean Up New Zealand and exposure to the campaign messages.

### **Interpersonal communication**

Not all adult recipients read the material sent from the ARC. The quantity of communication, based on messages, was starkly different between the two campaigns.

While at least one spouse was aware of the material's main messages, only in one instance had anyone shared information with their partner. In contrast, all the children stated they had discussed campaign messages with their parents. Not only were there a number of discussions held in the family about the intervening messages, but the detail of these discussions was of significant interest. All the parents said they were aware of the Clean Up New Zealand campaign and what events and activities were happening at school. All five parents interviewed stated their understanding of the activities resulted from children coming home and talking about Clean Up New Zealand. These messages not only flowed upward from children to parents but also sideways to other siblings. This was evident from the amount of campaign knowledge brothers and sisters credited to the knowledge intervention.

All the families said conversations happened in both group settings such as dinner table conversations or car trips, and one-to-one situations, for example, when tucking into bed. While the most frequent discussion partner was the mother, communication was reported across all members of the family.

In families 2 and 3, pro-environmental communication was independent of any messages received from BCU. That is, the person who made the initial contact with BCU, who in all these cases was a parent, did not share that information with other family members:

I haven't spoken to any of my family about [the

BCU]. Not even with my wife. I think she may have seen the material (parent, family 3)

Dad hasn't really said anything about it (child, family 3)

All three families indicated the campaign had little effect on communication about BCU's messages, or other environmental issues. When prompted about communication activity, responses indicated BCU had failed to initiate dialogue:

Pretty much [no communication] (parent, family 1)

My husband saw the stuff that arrived and said he couldn't be bothered reading it but would rather be told what to do (parent, family 2)

The parents of BCU-registered families believed they did not have their knowledge or attitudes challenged or developed from messages received through BCU. It was difficult to state an instance where there was a notable change in behaviour. In fact, all parents suggested the BCU messages did not result in an increase in knowledge, and were quite dismissive of the material sent out.

In family 1, the mother had a good understanding of the messages received, although she had not communicated them to her husband until the researcher was there. After hearing the messages the husband just expelled a confused, 'Oh'.

It is interesting to note that although the children recycled and composted, few really gave evidence of understanding the rationale behind these behaviours. Children from two families commented that while they did not mind separating the rubbish or taking food waste out to the compost they were not sure of

the reasons behind their actions, or the effects of not doing them.

One family questioned the value of the BCU information. They stated that one reason communication did not result in an intervention was “there are so many other things going on”. The amount of information also appeared to have a bearing on whether it was read or not. It was suggested by two members of family 1 that too much information was sent out and the amount of time required to read the material acted as a barrier.

All the family members indicated they were comfortable discussing environmental issues with each other, and there did not appear to be any apprehension about partaking in conversations. While no participants of the BCU sample group would have described themselves as ‘fanatical green types’, there was enough pro-environmental disposition within the family for a discussion to flow naturally.

McDevitt and Chaffee (2002) state that not all family members may share the same interest level in an issue. In two cases in this research, it was the mothers who were motivated to register and drive the current pro-environmental practices. The fathers, while stating they had environmental concerns, were less enthusiastic about the BCU or wider environmental issues. As a result, they were less likely to stimulate or take part in communication on pro-environmental issues. The father in family 1 admitted that he was more inclined to get BCU or other pro-environmental information from someone else rather than reading it himself. He saw his wife as a source of information, more so than the material itself. The father in family 2 was unavailable to be interviewed on both occasions, but his wife indicated he had shown “no particular interest” in BCU matters.

There were signs that all the children had taken an interest in the information from Clean Up New Zealand at some level. As the children became stimulated by the information and their knowledge of the issues increased, they were able to communicate effectively with other members of their family. This established an upward two-step flow of communication. That is, the children were able to set the agenda for communication, which became influential in

determining the parent’s search for information on the issues and flowed on to behavioural outcomes. It is likely that a number of behavioural changes in family 5 resulted directly from the amount of interpersonal communication that took place after the intervention. The child responsible for the intervention was particularly motivated by the messages received. This was possibly due to the extent of environmental harm that was occurring as a result of what the family was doing to dispose of their rubbish. Once the child had developed an understanding of the consequences of dumping non-organic waste, she sought to change family practice.

While the families showed they were pro-environmentally active, three of the four children stated they had learnt more about those behaviours through the Clean Up New Zealand curriculum material than from their parents. The remaining child said she learnt approximately half from school and half from her parents. It was not until the children started discussing the issues with their parents that understanding of their home behaviours was attained.

As with the findings in the BCU, there was a discrepancy shown by the fathers between what they thought was a good idea and their behaviour. There was a perception from other family members that although fathers believed recycling was a good idea they tended not to share in any household pro-environmental activity.

He thinks [recycling is]  
a great idea and we  
should all do it, but it’s  
just getting him doing it  
as well (parent, family  
4)

Six of the seven families spoken to for this research said the person who introduced the initial messages into the family was female (two parents and four children). There is also a correlation between the length of a person’s education and the extent of their knowledge about environmental issues. Of the families spoken to for this research, four parents had completed tertiary education, while ten children

were still in either primary or secondary education. Two demographic factors found to influence environmental attitude and pro-environmental behaviours are gender and level of education (Lehman, 1999, cited in Kollmuss & Agyeman, 2002). Lehman found that women, while having less environmental knowledge than men, had greater emotional connection and showed more concern for the environment—findings also reflected in this study.

### **Conclusions and future research**

A behaviourist approach to communication (Klapper, 1960) assumes that participants develop knowledge of pro-environmental behaviours, at least in part, as a result of information, in the form of messages, from respective campaigns. This assumption is based on the presupposition that exposure to campaign messages in essence is separate from any other experience, act or observation that might have consequence on behaviour or learning (McQuail, 2001).

This research provides evidence to suggest children have a capacity to instigate change in family behaviour practices; they also have an ability to stimulate discussions that change existing behaviours or introduce information that will lead to new patterns of behaviour. Children's involvement in the communication process can alter campaign outcomes. These results indicate that the simplest form of behaviourist approach does not necessarily account for the complexity of influences on campaign impact.

The results of this study can be examined by the direction of communication flow, upward being from communication from child to parent, and downward being communication flow from parent to child. The findings from these separate flows were notably different in areas of style, frequency, location, and motivation. Parents tended to keep information that was obtained from campaign messages to themselves, not even communicating it to their spouse, whereas children spoke about their new knowledge often and usually with a large amount of detail. Parents often held pre-existing beliefs and opinions about pro-environmental issues and

had sometimes previously instilled these values into their children. The messages only endorsed what they already held to be true.

Parents had lower enthusiasm levels toward campaign messages than children. This difference in enthusiasm for the message could indicate intention to discuss the topic with other people. For example, children who were excited about a pro-environmental project they were involved with at school might communicate these activities to their parents. However, parents who received messages containing information they already knew would be less inclined to discuss the topic further.

Upward communication flows provided more message processing and behaviour change outcomes among the participants in this study. Parents showed themselves willing listeners to information their children brought home, and did not want to be a barrier to children acting out pro-environmental behaviours.

The conceptualisation of a five-stage process of family activation by McDevitt and Chaffee (2002) was originally developed to investigate family political communication, that is, how communication within the family leads to voting and other forms of participation outside the home. This study has shown this process can be adapted to explore the effectiveness of communication in issues other than politics; the model is applicable to other forms of family communication where behavioural outcomes are affected. While family communication did affect behaviour and the five stages were a way of tracking the process of the communication, it is not possible to state whether the model could be successfully applied to all public information campaigns. Further research testing other areas of public good would need to investigate this.

The findings of this study could be of importance to practitioners focused on communicating public-oriented messages. To build on this research it would be valuable to sample a greater number of campaigns focusing on public information. Consideration could also be given to examining contrasting messages, as this would help identify whether different campaign messages have different effects on family communication, for example, if messages pertaining to health benefits may have

more impact on family communication than messages about driver behaviour.

The notable behavioural changes found in this current study correlated with upward communication flows. In other words, children tended to influence parents' behaviours more than the reverse. This is an area that warrants further examination. While there have been several studies into children's influence on family communication, there is little research on whether children influence parental behavioural outcomes based on messages from public information campaigns.

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