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Abstract

This paper offers novel insights on the socio-structural factors that sustain (or break) everyday behaviours in the home. Specifically, the adoption of sustainable consumption in the home as influenced by Green-School children is explored. The findings presented are derived from surveys with Green-School (Eco-School) children and in-depth interviews with their parents. The process of sustainable consumption adoption in the home, in the context of the Green-Schools programme, is explored with an aim to understand if, and how, environmentally educated schoolchildren affect behaviours in the home. The findings enlighten our understanding of not only how environmental education programmes are reconciling the Dominant Social Paradigm (DSP) with the New Environmental Paradigm (NEP), but also in terms of how sustainable consumption in the home, such as recycling and water and energy conservation, are initiated and reinforced by children through their use of positive pester power.

Keywords – Sustainable consumption, behaviour change, environmental education, children, reverse socialisation, pester power

1.0 Introduction

Observing the goals of the United Nations (UN) 2030 Agenda on Sustainable Development one would like to believe that we have both prioritised and made progress towards a sustainable future. However, questions remain as to whether our progress of moving the sustainability agenda forward has had any real impact? This paper addresses this issue by presenting research on the role of the Green-Schools Ireland programme in progressing sustainability. Green-Schools Ireland, is part of a Foundation for Environmental Education (FEE) programme, known internationally as Eco-Schools. Eco-Schools currently operates in 62 countries worldwide with over 16 million students taking part. The Green-Schools programme is an action-oriented environmental education programme, an environmental management system, and award scheme that promotes and acknowledges long-term, whole school action for the environment; a school works together towards achieving a 'green flag' across a range of pro-environmental themes, e.g. waste, energy, water and transport. The green flag is awarded based primarily on student-led initiatives but facilitated by the school management and school environment.

A focus on environmental education in recent years is set with the context of extensive research in the field of achieving effective behaviour change towards sustainability and to this effect efforts to motivate sustainable consumption have been extensive and to some degree successful (McDonald *et al*., 2006; Young *et al*., 2010; Carrigan 2017). However, Kilbourne (1998) argues that economic, political or technological fixes, constructed within the Dominant Social Paradigm (DSP), will not suffice in remedying environmental damage, and that what is needed is to reconcile the DSP with the New Environmental Paradigm (NEP). The NEP represents a new worldview rejecting the anthropocentric notion that the earth exists only for human use, in favour of a more ecological, holistic view and treatment of our planet. Progress on this front is reported by Prothero *et al*. (2010) who contend that consumers are changing the DSP, either consciously or unconsciously. Their profile of consumer-citizens suggests that individuals are beginning to change the DSP through their everyday behaviour. In line with this, they, Pape *et al*. (2011) and Prothero *et al*. (2011) call for an exploration of how education initiatives affect the way children (and their family and friends) think and act from a consumption perspective, and whether their behaviour is representative of an acceptance of the NEP.

This paper presents research on children of Green-Schools and their parents. The aim of the paper is to explore if, and how, the Green-Schools programme is affecting the way children behave and influence their family from a pro-environmental perspective. Given that these Green-School children are both educated and socialised in sustainable behaviours in school, does this behaviour sustain across contexts – from school to home? And as such, are they extending their knowledge and/or behaviour beyond the school-gate? This research addresses the under researched area of parent-child relationships in the home in the context of sustainable consumption (Matthies and Wallis, 2015) and furthers Matthies *et al*., (2012) call for a practical training approach to eco-behaviour within environmental educational programmes. Findings suggest that Green-School children are positively affecting behaviours in the home, primarily in the form of 'positive pester power'. Positive pester power is defined here as the practice of children pestering their parents (or others in the home) to behave in a positive way – positive in the sense that pester power usually results in a behaviour that has negative associations for the parent (loss of money) and increases parent-child conflict (McDermott *et al*., 2006) but in this scenario the pester power has a positive effect (sustainable behaviour) and does not cause parent-child conflict. The process of sustainable consumption adoption in the home, in the context of the Green Schools Programme presented in this paper, enlightens our understanding of how action-oriented educational programmes, such as the Green Schools programme, are reconciling the DSP with the NEP. It also shows how sustainable consumption is initiated and reinforced in the home by schoolchildren.

2.0 Literature Review

2.1 Sustainable Consumption

Individual goal-oriented consumers are attributed much of the blame for sustainability issues in the literature as they attempt to satisfy their personal, social and biological needs through consumption (e.g. Cherrier *et al*., 2012). This '*insatiable desire for more'* by consumers is encrypted in both the ideological foundation and institutional structure of the market (Jackson, 2005, p.24). However, if our global economy is already consuming more than the Earth can provide, how can we alter our current situation? One answer has been to encourage consumers to be more environmentally conscious in their consumption. There is extensive research in the field of sustainable consumption, which has many emphases, including voluntary simplification, clothing and food choices (e.g. Peattie, 2009; Harris *et al*., 2016; Shaw *et al*., 2016; Carrigan, 2017). Focus has primarily been on the sustainable or 'ethical' consumers, who

are said to have a high level of environmental awareness and concern and consequentially, alter their consumption behaviours to reduce their impact on the environment (Shaw and Newholm, 2002; Eckhardt *et al*., 2010). It should be noted that the term sustainable consumption is often used interchangeably with ethical consumption, however they are not necessarily interchangeable, and this paper focuses on sustainable consumption (which is perforce ethical) in the sense that it explores behaviours that are centred on sustainability (e.g. waste disposal, energy use, water use, etc.) Much of the research in this field deals also with behaviours that could be deemed to be ethically driven, e.g. purchasing Fairtrade. Extensive research suggests that the sustainable (or greener) consumer, who was stated as willing to pay a premium for greener products, is somewhat a consumer myth (Carrigan and Attalla, 2001; Carrigan, 2017). Although consumers claimed to have concern and positive intentions to purchase sustainably, this was not consistently reflected in behaviours (Carrington *et al*., 2010; Eckhardt *et al*., 2010; Grimmer and Miles, 2017) but instead consumers were being identified as conscious about the environment, but flexible in terms of their behaviour (Szmigin and Carrigan, 2006; Szmigin *et al*., 2009). This has led to numerous attempts to understand how to bridge the attitude-behaviour gap of consumers. In turn, understanding this 'gap' has become an important academic, business and social objective (Carrington *et al*., 2010; Hassan *et al*., 2016; Shaw *et al*., 2016).

There is an implicit assumption within the literature that individuals have a desire to lower their environmental impact and are just lacking the '*know how*'; once they receive information on what pro-environmental actions they can take, it *'awakens a latent sense of responsibility'* (Hobson, 2002, p.103). However, relying on the contention that consumers have an inherent sense of responsibility for the environment may be inaccurate and unreliable. It is argued that the '*shallow*' approach to achieving sustainable consumption, such as public awareness campaigns, will not suffice in motivating behaviour change, as it does not account for the entrenched nature of everyday practices which are situated *'within contexts and infrastructures not conductive to living sustainably*' (Hobson, 2002, p.103). More fundamental changes must occur within society for any real progress to be achieved.

Some empirical research has argued that so-called 'mainstream' consumers disregard sustainability issues as being of any importance or immediate concern to them (Carrigan and

Attalla, 2001; Chatzidakis *et al*., 2006). These mainstream consumers are ascribed much of the blame for the unsustainable use of the world's natural resources (Young *et al*., 2010). However, Davies and Gutsche (2016) suggest that these so-called 'mainstream' consumers, who do not explicitly care or act from a sustainability perspective, are in fact, '*ethically influenced*' – that is, they are behaving sustainably, but only because of habit or choice editing. This supports Prothero *et al.*'*s* (2010) assertion that some consumers may engage with sustainable consumption acts, but do not prioritize them – e.g. the 'Blind Green Consumer' reduces their consumption of material items due to personal economic constraints rather than being motivated by sustainability. Thus, caution is needed in the assertion that so-called mainstream consumers are consistently behaving unsustainably.

2.2 Facilitating Behaviour Change

Many social-psychological theories have been used in the literature to model and explain decision-making and behaviour change, primarily based on positivist thinking (see Schwartz, 1977; Ajzen and Fishbein, 1980; Bandura, 1999). These positivist approaches have exposed conflicting and inconsistent results (Shaw *et al*., 2016; Grimmer and Miles, 2017). Although research has claimed there is a demand for sustainable alternatives this interest has not filtered through in terms of behaviour (Carrington *et al.*, 2010). Lack of any real progress in *motivating* consumers to behave sustainably has led to the notion of *facilitating* behaviour change. Rather than just relying on motivating the better nature of the individual to consume in a pro-environmental manner, a move towards facilitating 'good behaviour' (i.e. sustainable behaviour) via upstream interventions, one such intervention being educational programmes, with related facilities provision, is garnering interest and beginning to yield interesting results (Verplanken and Wood, 2006; Carrigan *et al*., 2011; Davies and Gutsche, 2016).

Consumers, both as individuals and as members of households, are relied upon to purchase sustainably and dispose of materials effectively (Collins, 2015; Harris *et al*., 2016; Verplanken, 2017). Viewing consumption as socially and culturally embedded is argued as more realistic than constructing consumption within the rational, information-led models (Cherrier *et al*., 2012). Viewing individuals as members of households or social groups may provide richer explanations of behaviour, and insight into how to enable change within these social contexts

(Collins, 2015). Notwithstanding the role of regulation and enforcement, which are often discussed as a viable solution to the barriers of behaviour change in this context (Lorenzoni *et al*., 2007), policy interventions are positioned as necessary to '*nurture, support, and sustain moral and social behaviours'* (Jackson, 2005, p.28). Indeed, Darier and Schule (1999) claim that many UK consumers favour government intervention and regulation to encourage sustainable behaviour. Within this context, a commitment to environmental communication remains important to sustain interest in pro-environmental behaviour change initiatives, education, and policy creation (Lord and Putrevu, 1998; McDonagh, 1998). One promising means of *informing* and *engaging* society is through effective environmental education.

2.3 Environmental Education

Children are recognised as a significant force in the market, as consumers, influencers of others, and as future customers (Donovan, 2016; Gram and Grønhøj, 2016) but also as '*tomorrow's opinion leaders and stewards of the earth*' (Uzzell, 1999, p.397). In recent years there has been significant emphasis placed on environmental education (Walshe, 2013; Zsóka *et al*., 2013). Research to date suggests that children who take part in an Eco-Schools programme consistently score higher in carbon literacy than children from non-eco schools (Satchwell, 2013) and that education, both formal and informal, is helping to infuse an ecological worldview among younger generations (Dunlap, 2008; Lee, 2014). While Satchwell researches Eco-Schools, others focus on general or standalone educational programmes (e.g. Walshe, 2013). The difference with Eco-Schools as opposed to general pro-environmental programmes is that Eco-Schools goes far beyond the classroom curriculum and becomes a whole-school commitment to sustainability. However, Satchwell (2013 p. 289) all the while acknowledges that learning about climate change and its effects and practicing sustainable consumption in an Eco-school does not necessarily translate into 'turn[ing] the lights off at home'. Targeting these action-oriented programmes towards children at a young age may address the problems with entrenched behaviours and routines, which sustainable consumption debates have identified as a barrier to (adult) behaviour change (Hobson, 2002; Southerton, 2012), but remains an under researched area. Green-Schools move beyond the transmission of environmental knowledge by creating an environment where children not only learn and develop new environmental skills over time but actively practice those skills in the school, facilitated by the school environment and requirements of the programme. However, caution is advised, due to cultural and social

norms impacting behaviour (Schaefer and Crane, 2005) and the identification of the attitude-behaviour gap (Chatzidakis *et al*., 2016), can these schoolchildren sustain their pro-environmental behaviours beyond the (green) school environment?

Research to date suggests that reverse socialisation is occurring in this context (Gentina and Singh, 2015) and that even short educational courses on pro-environmental concepts may stimulate an increase in NEP score among children (Dunlap, 2008). Children may well be more informed and up-to-date than their parents on certain topics, e.g. technology, and may effectively influence others (Ballantyne *et al*., 2000; Ekström, 2007). Reverse socialisation, based on Ward's (1974) concept of consumer socialisation, is defined as '*the process by which parents acquire consumer skills and knowledge from their children*' (Ekström *et al*., 1987, p.283). Reverse socialisation suggests that rather than parents socialising children, so too can children influence their parents.

Communication within families and family structure dominates the reverse socialisation literature (Gentina and Singh, 2015) highlighting that children in contemporary families show an increasing level of personal agency/ownership around environmental sustainability (Lawlor and Prothero, 2011; Kerrane *et al*., 2012; Wake and Eames, 2013). The childrens' environmental concern may act as a motivator to influence their parents (Easterling *et al*., 1995). This notion of information or concern as a precursor to sustainable consumption has been extensively discussed in the (adult) sustainable consumption literature (e.g. Chatzidakis *et al*., 2006; Auger and Devinney, 2007), however, as the attitude- behaviour gap literature contends, behaviour in this context has proven to be much more complicated than merely relying on informed consumers (Carrigan, 2017; Verplanken, 2017). Environmental reverse socialisation is suggested to affect the knowledge aspect of consumer socialisation but it hasn't previously been made clear if this reverse socialisation directly impacts on family skills or behaviours.

2.4 Pester Power

Reverse socialisation bears resemblance to the concept of pester power imparted by children on their parents, the primary difference however being that pester power tends to affect *behaviour* of parents and not necessarily their attitudes. In a marketing context, the concept of children influencing their parents is not novel. For decades, marketing studies have looked at how children influence parents purchasing behaviour with most attention being paid to the significant influence of '*pester power*' (Lawlor and Prothero, 2011; Gram and Grønhøj, 2016). Here, children actively influence their parents' behaviour in relation to purchasing toys, confectionery and technology through the effective practice of pestering (Carey *et al*., 2008; Lawlor and Prothero, 2011). Ritch and Brownlie (2016), in the context of a general study on sustainable consumption, identify elements of positive pester power, offering the example of children actively asking for Fairtrade products in the family shopping. However, beyond this, there is very little research on pester power in a sustainable consumption context.

Environmental education programmes are formulated to assist schoolchildren in becoming '*competent and motivated to act responsibly*' and in turn the aim is that these schoolchildren will use this newfound concern and skills for the environment to influence others accordingly (Ballantyne *et al*., 1998, p.414). The real challenge here, if we are to reduce our overall impact on natural resources, is for these schoolchildren to impact *behaviours* of their homes and communities. Reverse socialisation initiatives, which primarily focuses on learning and acquisition of knowledge from child-to-parent, also need to look at translating that knowledge transfer into action, including a focus on how environmental education may encourage positive pester power to directly impact sustainable behaviours within the home. Positive pester power may well be a motivator for parents to act (to appease the pestering child) and thus an effective mechanism for adopting sustainable behaviours in the home.

Ballantyne *et al*. (1998) called for an understanding of the nature of influences in terms of environmental learning and actions between young people, parents and the community. The research presented in this paper addresses this call, and further calls by Prothero *et al*. (2011) and Pape *et al*. (2011) to explore the relationship between environmental education programmes and effects on children's behaviour and the behaviour of their parents and family

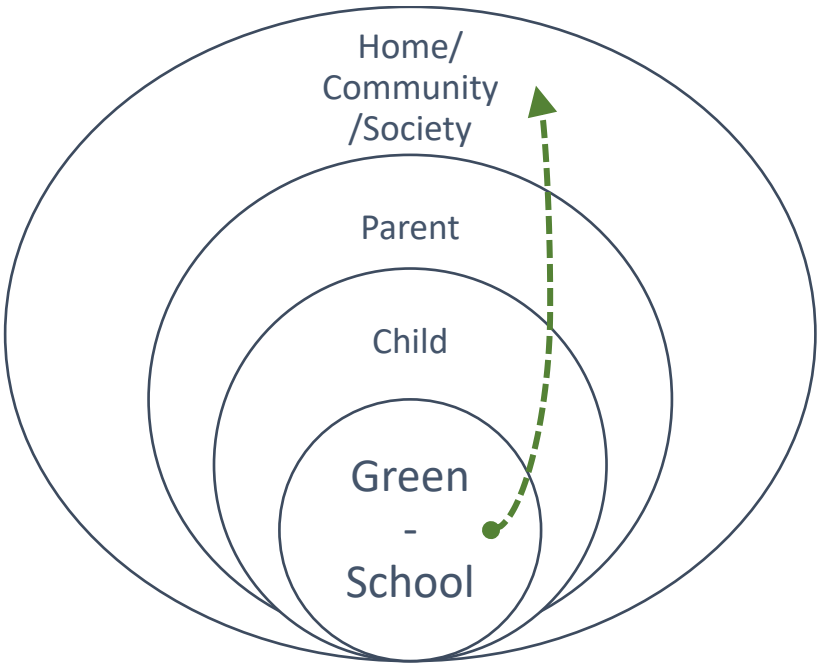
in the home. While the Green-Schools programme ensures that the schoolchildren upheld good sustainable behaviours in school; the facilities within the school and assumed responsibility of the schoolchildren to care for the sustainable use and disposal of waste, energy and water ensure their practice of sustainable behaviours in this context. However, the findings presented in this paper explores whether these children, without the structure and peer support experienced in school, continue these sustainable behaviours in the home and whether they influence their family's behaviour from a pro-environmental perspective.

3.0 Methodology

3.1 Research Context

The aim of this research was to uncover if, and how, schoolchildren attending a Green-School transfers their knowledge and sustainable behaviours across contexts – from school to home (see Fig. 1). Findings presented in this paper are part of a broader research study which used a mixed-method approach of survey with Green-School children and in-depth interviews with their parents/guardians. All relevant ethical approvals for researching with children were received in advance.

Figure 1 Research Context: Green-Schools – Home



Criterion sampling was used to select a sample of participants. All survey participants were to be attending a Green-School and all interview participants were to be a parent/guardian of those children. Although purposive sampling usually assumes that the sample chosen has a rich knowledge base on the topic under study, which should hold true for the schoolchildren sample, the parents/guardians were not assumed to be knowledgeable on the subject as they were not in direct contact with an environmental education programme. The parent sample were chosen as an important group to study in this context as their reported household behaviours would identify if the children were impacting behaviours in the home (informed by behaviours in the school) and they may be conscious of the environmental debate (due to their children attending a Green-School) but may or may not engage in behaviours informed by that debate.

3.2 Survey Method

A selection of 7 Green-Schools in the south of Ireland was used for the survey. The schoolchildren were from the two senior classes in the school, aged 11 - 12 years old. As the senior classes in the school, they were responsible for pro-environmental duties such as rota systems for emptying compost bins and ensuring the other schoolchildren are complying with waste management, energy efficiency and water reduction policies in the school. The survey method involving schoolchildren in this research was primarily used for sense-making and as a '*preparatory stage to an essentially qualitative study*' (Devine and Heath, 1999, p.47). All surveys were in paper format and completed by the schoolchildren in the classroom with their teacher and one of the authors present. The surveys were anonymous and were collected directly post-completion by the author. The survey used was adapted from a previous survey used by Green-Schools Ireland in 2001 (An Taisce, 2001). The survey used in this research contained 18 questions (inclusive of two qualitative questions). Questions in the survey, although not a direct interpretation of the statements of the NEP, were representative of the 8 items that reflect an endorsement of the NEP and two open-ended questions allowed for responses that may align with these positive NEP statements. Questions in the survey dealt with four main themes: thoughts on the environment; learning and discussing environmental issues; sustainable practices in the home; and promoting sustainable behaviour (See appendix 1 for detailed questions). A number of questions also related to demographics such as gender, age, and habitation (city, town, village rural). Two qualitative questions aimed to garner a greater understanding of what the schoolchildren thought of the Green-Schools programme and

what they felt was important in relation to sustainability and pro-environmental behaviour respectively. Results from the survey were used and presented in a simple, descriptive manner, rather than using inferential statistics as the aim of the survey was mainly for sampling purposes (gain access to parents/guardians) and to garner some insight into the conceptualisation of sustainable behaviour by schoolchildren (sense-making). This descriptive approach to '*counting of objects or events*' (Wellington and Szczerbinski, 2007, p.117) serves to compress the survey findings into number format to gain a '*gist*' of the data (Wellington and Szczerbinski, 2007, p.119). Extracting an overall pattern of the data allows adequate insight to use as a reference for the interviews and their subsequent findings.

3.3 Interview Method

In-depth, semi-structured interviews were conducted with 25 parents/guardians of the Green-School children. Recruitment of these participants involved a letter to schoolchildren to take home to their parents, firstly for consent for the child to partake in the research via a survey in school, and for parents or guardians who were willing to be involved in the research to provide their contact details. A total of 20 females (mothers) and 5 males (fathers) were interviewed. The semi-structured interviews for this study were audio-recorded and were an average of 50 minutes in length. Interviews were conducted with one individual parent of a surveyed child and were held either in the participants' home or in a café. Interviews were directed by a guide (Bryman and Bell, 2011) which was centred broadly on the four main themes of the Green-Schools Programme but discussed in the context of the home: waste management; energy efficiency; water conservation; and transport reduction. In relation to waste management, for example, discussions centred around waste management of recyclables, food, general waste etc. both in terms of acquisition (shopping) and disposal. The interviews did not seek to explore the future environmental intentions of these participants but seeked to understand how members of households reportedly behave with regards to sustainability and how these behaviours have developed within the home. All interviews were transcribed verbatim and data analysis was underpinned by Thompson (1989) and Spiggle (1994) guidelines.

4.0 Findings

The results of the survey reveal that schoolchildren have an acute awareness of the need to protect the environment and display a promising account of how this awareness should be applied in everyday activities both within the school and around the home. As the findings from the survey serve as a base for the findings of the interviews with parents, they will be briefly discussed.

4.1 A Sustainable Generation

The survey findings suggest that children who attend a Green-School considers environmental issues as important and believe that both they and their family have an important role to play in the future sustainability of the planet. This qualitative question allowed for greater depth in interpreting how schoolchildren understand and conceptualise sustainability issues. Many of the participants took this opportunity to showcase their environmental awareness and the need for others to become environmentally aware. The following quotes illustrate their awareness of sustainability and in some cases, participants identify the need for others to also increase their awareness:

> "*I think it would be nice to plant more trees. It was nice when we got a windmill and when we did the fundraiser for the green flag. I think we should encourage recycling even more and encourage walking or cycling to school. I think it would be really nice to use less electricity in school to help save lots of things such as polar icecaps*"

> "*Lake and river pollution especially after floods then all the pollution gets carried through the streets etc. and if it starts diseases for people and animals. I hate seeing people that don't care about other people and animals and still dump, when good people come to help. Their goodwill is wasted when people keep dumping waste*"

In addition to illustrating their environmental awareness the schoolchildren were keen to suggest practical solutions to some basic environmental problems. The following quotes illustrate the childrens' practical application of their pro-environmental education to everyday activities both within and outside of the school context.

> "*I have learnt lots of ways to save the environment, how to reuse things like keys or scraps of paper and save water and electricity and how to travel eco-friendly and I hope that one day everyone will be doing this*"

> "*I think people should think about using so much electricity and recycling their rubbish. That when it is a sunny day, try to hang your clothes on a line in your back garden instead of wasting electricity with your dryer*"

The children primarily learned about the environment from their teachers in the classroom and the school environment fostered discussion and practice of sustainable behaviours. The award

of a Green Flag requires the children to take an active role and responsibility for sustainable practices within the school such as segregating waste, turning off lights, conserving water etc. The schoolchildren surveyed confirm their role in maintaining their school environment and acknowledge actively discussing environmental issues in the classroom. This confirms the aim of the Green-Schools programme in increasing awareness and practice of sustainable behaviours among children in the school. Overall, the survey findings suggest that Green-Schools children conceptualise sustainability as an action-oriented solution to environmental damage and recognise that improvement in our everyday behaviours is required. This understanding of sustainability aligns with Dunlap's NEP scale suggesting that their exposure to the Green-Schools programme has allowed for progression towards a 'pro-ecological' world view amongst younger generations.

4.2 Catalysts for Change

Based on the schoolchildren's conceptualisation of sustainability as action-oriented, in-depth interviews with parents was conducted to explore sustainable consumption in the home, and the potential influence by their children in this context. Children had documented in the survey that they take ownership or responsibility of some sustainable behaviours in the home – 50% of the children surveyed confirmed that they ask people in their home to practice sustainable behaviours (e.g. recycle; turn off water tap; turn off lights; unplug electronics) while the majority said they encourage others to be environmentally-friendly. This would suggest that a large portion of these schoolchildren self-recognise that they actively encourage sustainable consumption outside of the school context. The findings from the parents' interviews strongly corroborate the views of the school-children. Narratives from parents indicate that schoolchildren play a very active role in the home in terms of influencing sustainable behaviour. The way children communicate to their parents in terms of sustainability brings to question the previous reports of the form of reverse socialisation occurring. Findings in this study suggests that children are positively affecting behaviours in the home not by simply informing their parents, but actively prompting sustainable behaviour. Parents document a sense of 'pestering' from their children when it comes to sustainable practices such as waste, energy, or water reduction:

"*She would be bringing home messages about recycling stuff and we would get a little lecture…you are supposed to this and you are supposed to do that!"*

-Tony.

"*My son would turn the tap off when he is brushing his teeth and I wouldn't necessarily always do that now. I would have to think about it because I would have run the tap, rinsed my brush under it and then walk off to brush my teeth and I would leave the tap running while I was doing that. And my son would have made me more aware by saying 'Mum, did you just leave that tap running?!*'"

-Michelle.

Michelle appeared to be taken aback by what her son was saying. He appeared to be concerned by her behaviour and called her up on it; not necessarily 'informing' her politely but questioning her behaviour while it was occurring. By intercepting at the time of unsustainable behaviour occurrence, these schoolchildren have the confidence and ability to actively affect regular day-to-day consumption in the home. This active interception continues where others discusses how their child takes active steps to ensure they are being energy efficient and managing waste effectively:

"*They would often put signs up underneath them [light switch] saying 'please switch this off' so they would certainly have an awareness of the use of energy, which comes from school I'd say. It is certainly not from me anyway, so it must be school*"

-Brenda.

"They would be very aware of it – to the extent that we would do a lot of recycling in the family and an awful lot of it has been driven by both my daughter and my son…they would correct you, in fact, if they thought you were throwing out something that they thought could be recycled"

-Norma.

Again, children in the home are recognising their power as agents in the process of sustainable consumption.

4.3 Positive Pester Power

Do these acts have any real impact? It appears they do. As parents discussed their child's behaviour, sometimes as if they had been told off by their children, they acknowledge that this 'pestering' has had some very positive psychological and behavioural impacts on them in terms of sustainable behaviour uptake, particularly in the home environment:

> "*I would certainly say that if we didn't have the children in the house we would be far less aware of it ourselves and, yet it has become the habit for us now as well. It certainly has, pushed upwards, as it were, from the children*"
>
> -Norma.

> "*The kids really loved it. It got into them and they enjoyed it and it was a topic of conversation when they came home so in that regard what it had done was it positioned green initiatives very positively in their minds and when you see your kids' enthusiasm for something it really does put it up to you. Because if a child comes home enthusiastic you can't dismiss it…that's horrible and would be an awful thing to do. So you find yourself buying into it* […] *and see them buy into it and to see them as agents of change in a household because nine times out of ten we are telling them what to do – [but] this is a situation where it gave them an opportunity to say 'listen this is what we are doing…what are you doing?'"*
>
> -Owen.

The findings here suggest that parents of Green-schoolchildren are *positively* pestered to practice sustainable consumption. Positively pestered in the sense that traditional pestering results in negative associations by parents in relation to the outcome (usually the purchase of a toy or confectionery) but in this case the pestering by children in the home is positively received by parents both in terms of parent perceptions and of their resultant behaviour change. Interestingly, this research suggests that while their behaviour changes, affected by their children's behaviour and pestering, it would seem there is no actual attitude change on the part of the parents. For example, if we look at Michelle, who is awakened by her son's alarm at her behaviour admits that:

> "*We cook with gas but I am more aware of it now (reducing use) because it is becoming more expensive.* […] *I can't say that I am doing that for any particular reason other than cost*"

Michelle's attitude towards the environment on other issues, such as energy use, regards economic value above any other environmental concerns. Likewise, Tony, who admits getting a 'lecture' from his daughter on environmental issues admits:

> "*I think it's legislation. I don't think somebody is going to go out there and appeal to somebody's better nature […] so I think its legislation so people will have no choice. And at the end of the day I think people will probably accept it – the plastic bags were a classic one. There was so much talk about that and then it was like a whimper…we all just adapted'*

Tony attests that legislation or choice-editing trumps persuasion, in the absence of positive attitudes.

Therefore, these parents are well-aware of the environmental debate, but it is only when their children prompt their behaviour via persuasive techniques do they start to change and sometimes '*buy into*' sustainable consumption. Therefore, not only are these Green-School children bringing awareness of sustainability issues, they are positively prompting behaviour change via their pestering capabilities.

5.0 Discussion

The research presented here is located in a context of a significant attitude-behaviour gap, in relation to sustainable behaviour. Carrigan (2017) suggests that the 'myth' of the ethical consumer is as prevalent today as ever and being ethically informed does not automatically have positive implications for behaviour. Methods to bridge this gap are essential (see Belk *et al*., 2005; Bray *et al*., 2011). This paper explores how an environmental education programme, Green-Schools Ireland, is affecting the way children behave, and influence their family from a pro-environmental perspective. The identification of '*positive pester power*' in this research contributes to literature on both sustainable consumption and reverse socialisation. Much of the literature on reverse socialisation discusses the ways in which parents learn from their children through the transference of information (Ekström *et al*., 1987; Gentina and Muratore, 2012). The finding of '*positive pester power*' in this study suggests that, in the context of an action-oriented environmental education programme (such as the Green-Schools programme), children are directly influencing *behaviours* through their pestering techniques (putting sticky notes under light switches/'lecturing'/telling-off, etc.) thus contributing to our current understanding of the processes of reverse socialisation and pester power. Positive pester power extends our understanding of reverse socialisation in this context as children are directly

influencing the skills or behaviours of a household, not just their knowledge base or attitudes. It also extends the pester power literature by highlighting the positive impact of such a technique used by children. This has very important implications for both the legitimization of the Green-Schools programme and the overall potential for it to positively impact behaviours of society. It suggests that the transference of sustainable behaviours across social contexts is occurring; schoolchildren are acting as catalysts for behaviour change in the home context through the use of '*positive pester power*'. The idea that '*pester power*' exists in this context opens up new avenues for both the conceptualisation of pester power in the literature, i.e. it does not always carry negative connotations, and the Green-Schools explicit aim of imparting behaviour change in the home and wider community.

It appears, that even though respondents reported behaviours that can be deemed as environmentally conscious, these were not motivated by ethical attitudes or intentions. Previous studies have shown that ethical intentions do not necessarily translate to ethical behaviours (Chatzidakis *et al*., 2006; Eckhardt *et al*., 2010), which in turn has contributed to the behavioural gap and the contention that the ethical consumer is a myth (Eckhardt *et al*., 2010) but so too can behaviours change in the absence of positive attitudes or intentions, as affirmed by Davies and Gutsche (2016). Participants in this research directly engaged in sustainable behaviours due to the influence of their environmentally educated children. This expands on previous literature which tended to 'end' at the fact that positive attitudes tended not to be borne out in behavioural change, by indicating that positive pester power can be used as one method of bridging the behavioural gap. From here we can postulate that positive attitudes do not necessarily result in sustainable behaviour change (Carrigan, 2017), but *neutral* attitudes to the environment can lead to positive behaviour, due in part to positive pester power imparted by Green-School children. This finding therefore contributes to the debate on how to not only bridge the gap, but further our understanding on how to facilitate more mainstream behaviour change in this context.

6.0 Conclusions & Future Research

Therefore, focussing attention on the Green-School programme, or potentially other programmes that take an action-orientation, may positively influence not only schoolchildren's

acceptance of the NEP but, in a similar way to what Prothero *et al*. (2010) reported, help consumers to change the current DSP through their everyday behaviours. In other words, in addition to influencing the newest generation of consumers (children) which should bear long term benefits, the Green-Schools programme has the potential to positively impact the current adult generation through positive pester power. It also indicates that the attitudes, intentions or aspirations are insufficient, but requires further stimuli, in terms of both reminders and facilities (see Verplanken and Wood, 2006; Verplanken, 2017). The research presented in this paper confounds previous criticism of the Green-Schools initiative which suggest that the benefits of the programme would only be felt in schools where sustainable behaviour is supported by adequate recycling facilities and constant reminders (Satchwell, 2013), and that there might not be any positive spillover into wider community where such prompts don't exist. Instead, this research indicates that children act as drivers of sustainable behaviour in the home. Further research is needed to determine whether the findings of the research are generalizable into the international context. Indications from other sustainability and health-related initiatives such as the plastic bag levy and the smoking ban suggest that Irish people respond well to generally imposed positive initiatives (Convery *et al*., 2007), while otherwise mirroring the more widely held attitude-behaviour gap identified in other research. Therefore, these findings need to be explored in a wider context. Nonetheless, the Green-Schools initiative may provide a method for bridging the attitude- behaviour gap in relation to sustainable behaviour and extend our understanding of the role of children in progressing sustainability.

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Appendix 1

Survey Questions

Table 1.1 Thoughts on the environment

1	Do you think it is important for your school to have a Green Flag?

	a. Yes b. No
2	Do you think environmental problems are: *a. an urgent problem* *b. a problem for the future* *c. not a problem* d. *I don't know*
3	What do you think of the following statements? a. "There is NOTHING I can do about the state of the environment" b. "There is NOTHING my family can do about the state of the environment" c. "Green Schools HELPS the state of the environment" d. "Caring about the environment is IMPORTANT to me"

Table 1.2 Learning and Discussing Environmental Issues

1	How did you hear/learn about the environment? (a) newspapers/books (b) TV/radio (c) internet (d) teachers (e) family/friends (f) other
2	Have you discussed environmental issues in the last month? (a) at home (b) with friends (c) in the classroom (d) not at all (e) other

Table 1.3 Everyday Sustainable Activities in the Home

1	How do you travel to school on most days? a. walk b. cycle c. car d. school bus e. other
2	Do you do any of the following while you are at home: a. Put dry litter (eg. paper, clean plastic bottles) in a recycling bin? b. Turn the tap off while you are brushing your teeth? c. Turn off lights when you are leaving a room for a short time? d. Unplug your Play Station/ Xbox/ Nintendo/ Mobile Phone Charger/ Computer etc. when you are not using them?

Table 1.4 Promoting Sustainable Behaviours

1	Does anyone in your household ask you to do any of the activities listed in Question 13? (Recycle; turn off water tap; turn off lights; unplug electronics) a. Yes b. No
2	Do you ask anyone in your household to do any of the activities listed in Question 13? (Recycle; turn off water tap; turn off lights; unplug electronics) a. Yes b. No
3	Do you encourage others (e.g. family, friends, and classmates) to be more environmentally friendly? a. Always b. Sometimes c. Never