European Management Journal xxx (2016) 1–14

Contents lists available at ScienceDirect

European Management Journal

journal homepage: www.elsevier.com/locate/emj

Recycling today, sustainability tomorrow: Effects of psychological distance on behavioural practice

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ARTICLE INFO

Article history:
Received 14 October 2015
Received in revised form
11 May 2016
Accepted 12 May 2016
Available online xxx

Keywords:
Construal level theory
Psychological distance
Recycling
Sustainability
Consumer

ABSTRACT

Much research has reported an attitude-behaviour gap in ecological behaviours. This research seeks to contribute important insights to this literature through a study that uses construal level theory (CLT) to understand the role and impact of psychological distance in explaining sustainable and recycling behaviours. Using a qualitative approach, the research found that consistency between mental construal and all dimensions of psychological distance was pertinent to recycling and sustainable behaviours. While theoretically CLT suggests there should be consistency across psychological distance dimensions and mental construal, there is limited research that explores all distance dimensions. Further, highlighted was the need for a near distance perspective to move individuals to behavioural action. Contrary to previous research, this served to facilitate rather than inhibit behavioural action. Finally, the results suggest that where sustainable behaviours are facilitated and/or required engagement in behaviour can be increased. These findings are important for public policy by highlighting the need to represent recycling behaviour in terms of temporal, spatial, social and hypothetical closeness.

1. Introduction

Research has consistently revealed widespread awareness and concern for ecological issues in a consumer context (e.g., Kilbourne & Beckmann, 1998; Polonsky, Vocino, Grau, Garma, & Ferdous, 2012; Rondinelli & Berry, 2000; Steger, 2000; Szekely & Knirsch, 2005; Van Wijk & Persoon, 2006). However, researchers are also challenged by the gap between ecological attitudes and corresponding behaviour (e.g., Carrigan & Attalla, 2001; Moraes, Carrigan, & Szmigin, 2012; Papaoikonomou, Ryan, & Ginieis, 2011; Young, Hwang, McDonald, & Oates, 2010) across a range of sustainable behaviours, including recycling (e.g., Kok & Siero, 1985; Nigbur, Evanthia, & Uzzell, 2010).

Sustainability and recycling behaviour are interrelated, with recycling viewed as a key issue in sustainability (Fuller, Allen, & Glaser, 1996) and dominantly as a pro-environmental consumer behaviour (e.g., Barr & Gilg, 2005; Steg & Vlek, 2009; Welfens, Nordmann, & Seibt, 2015). As such, we understand recycling, among others, as a behaviour that may offer one fruitful pathway to a more sustainable consumer society. The Brundtland report defines sustainability as "a development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Report, 1987, 1). Here we find a discourse which seeks to motivate individuals' consumption *via* future-oriented arguments, where some present inconvenience is associated with long-term benefits to others. Recycling is part of this discourse. Recycling "involves systematically converting specific types of waste into useful resources by breaking down objects into their constituent parts, which are then reused" (Brosius, Fernandez, & Cherrier, 2013, 288). Engaging in recycling now should have future benefits. Questioned, however, is the extent to which this "future-for-others" (Brosius et al., 2013, 289) perspective actually motivates individuals to move towards sustainability (Prothero et al., 2011; Viswanathan, Jung, Venugopal, Minefee, & Jung, 2014). Further, issues such as uncertainty of environmental science, remoteness of environmental impacts and time lags (Dilling, 2007) can mean the known impact of sustainable and recycling behaviours remain distant. Specifically, in recycling, while our physical distance from recycling has reduced via uplift collection schemes across much of the developed world, a move deemed to increase recycling behaviour (e.g., Latif, Omar, Bidin, & Zainudin, 2012), the benefits of recycling in encouraging reduced resource

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http://dx.doi.org/10.1016/j.emj.2016.05.004
0263-2373/

consumption have been questioned (Catlin & Wang, 2013; Ebreo & Vining, 2001). Such distance characteristics highlighted above appear to resonate with the concept of psychological distance used in the social cognition literature (e.g., Liberman & Trope, 2008).

While subject to growing interest in marketing (e.g., Chetty, 1999; White, MacDonnell, & Dahl, 2011; Williams, 1992), psychological distance is derived from social cognition (e.g., Liberman & Trope, 2008). Construal Level Theory (CLT) posits that psychological distance affects how we mentally represent the world around us and theorises that objects or events that are psychologically distant to us are perceived in terms of abstract construal and are, thus, characterised by central, primary features. Conversely, when objects or events are psychologically proximal they are perceived in terms of concrete construal, focusing on peripheral and secondary features (e.g., Liberman & Trope, 2008; Trope & Liberman, 2010; Trope, Liberman, & Wakslak, 2007). Consider, for example, recycling. A concrete construal of this behaviour might include such details as the nature of waste, the colours of the waste and the frequency of waste collections. In contrast, an abstract construal of this behaviour might be preserving the environment for future generations. Four dimensions of psychological distance are proposed, namely, temporal (later rather than now), spatial (elsewhere rather than here), hypothetical (possible rather than uncertain) and social (others rather than me) (Pahl & Bauer, 2011).

While research on CLT gives rich insights by manipulating distance experimentally, it rarely explores all four dimensions but rather tends to focus on temporal and/or spatial distances (e.g. Maglio, Trope, & Liberman, 2013). For instance, research has explored psychological distance in the context of recycling (Agerström & Björklund, 2009a; Agerström, Björklund, & Carlsson, 2012; Fessel, 2011) and environmental concerns (Agerström & Björklund, 2009a). This research has, however, been limited to the exploration of temporal distance (Agerström & Björklund, 2009a; Agerström et al., 2012; Fessel, 2011), social distance (Agerström et al., 2012), moral dilemmas (Agerström & Björklund, 2009a; Agerström et al., 2012), anticipated (Agerström & Björklund, 2009a) or self-reported behaviour (Fessel, 2011). Furthermore, research has highlighted the potential social bias in self reported environmental behaviour (e.g., Auger & Devinney, 2007; Beckmann, 2005). Our aim is to consider each of the dimensions of psychological distance as potentially important to sustainable and recycling behaviours (e.g., it happens in a social context, outcomes can be uncertain and we make a choice whether to engage in the behaviour now or perhaps sometime in the future). Thus, the current research will examine the impact of *all* dimensions of psychological distance, namely, temporal, social, spatial and hypotheticality on behaviour. To achieve this, it is necessary to gain insights into individuals' actual behaviour, to explanations surrounding behaviours, but also to examine the compromises and dilemmatic situations of individuals' experiences. To achieve this a qualitative methodology is necessary to facilitate the exploration of the impact of mental construal and psychological distance on sustainable and recycling behaviours as they are naturally occurring in households.

Despite increasing proximity to recycling, if recycling is perceived as distant and of little everyday relevance, the challenge is to overcome the psychological distance experienced and make these issues more compelling and meaningful to motivate behavioural action. We, thus, propose that psychological distance will play a key role in this regard, and draw on CLT to delineate the cognitive process by which this could occur. The current research will explore the impact of psychological distance on recycling behaviour through empirical interviews and observations of individuals in family households. Sustainable behaviours will be examined in addition, as a wider and often voluntary facet of environmental behaviours also subject to words-deeds inconsistencies. Implications for behavioural participation are discussed.

2. Theoretical background

2.1. Recycling today: understanding tomorrow

General consistency does exist for the view that significant changes in individual behaviour are required for society to move towards sustainability (e.g., Gordon, Carrigan, & Hastings, 2011; Newman, Howlett, Burton, Kozup, & Tangari, 2012; Peattie & Collins, 2009). This has been significant in moving environmental problems from a position of distant future impacts to temporally near and in our immediate environment. Such urgency regarding the need to take action has resulted in local authority initiatives which require citizen cooperation (Latif et al., 2012). In a key initiative in the move towards more sustainable living, many households in developed countries are now required to clean, sort and recycle much of their waste (Aadland & Caplan, 2006). Such schemes are deemed critical in improving access to recycling facilities and, thus, reducing challenges to recycling behaviour, including convenience, ease (Derksen & Gartrell, 1993) and access to facilities (e.g., Latif et al., 2012; McCarty & Shrum, 1994). Despite these developments, and while understanding recycling attitudes and behaviours has been a focus of research since the 1970s (e.g., Baumol, 1977), participation in recycling remains low (e.g., Latif et al., 2012). In Europe, 475 kg of waste was produced per inhabitant in 2014 (511 kg in France), and overall, 22% of waste is recycled. On average, per year, 25 million tons of plastic waste is collected and 25% is recycled (in France, 7.22 million tons of plastic waste is collected and 17% is recycled). In 2010, the worldwide production of steel was around 1.4 billion of tons and 40% was recycled. Aluminium, despite being 100% recyclable, 67% was recycled in Europe (vs. 49% in France) (planetoscope.com).

While there is extensive literature exploring recycling, to-date this literature has been divided on the theoretical perspectives predicting and explaining recycling behaviour. From 1970 to 1990, research focused on isolated/contextual variables, such as demographics and psychographics to predict recycling behaviour. Since 1990, research has centred around four main theoretical frameworks, namely, cognitive, normative, affect-based, and habit-based (Steg & Vlek, 2009). While affect-based and habit-based approaches are valuable, both are under examined in current literature on recycling due to their lack of theorisation and measurement (for instance, habit is frequently confused with past behaviour). Cognitive approaches have relied on the Theories of Reasoned Action and Planned Behaviour (Ajzen & Fishbein, 1977) and personal values (means-end theory, Reynolds, 1985). The former approach considers that individuals engage in reasoned choices to maximise the benefits of their actions. The concept of attitude is at the core of this approach. As such many studies have used the Theory of Reasoned Action (e.g. Hopper & Nielsen, 1991; Vining & Ebreo, 1990) and the Theory of Planned Behaviour (e.g. Kaiser & Gutscher, 2003; Kaiser, Hübner, & Bogner, 2005) to predict intention to engage in recycling behaviour, with conflicting results (e.g. Oreg & Katz-Gerro, 2006; Taylor & Todd, 1997). Relying on personal values, the means-end theory has also been used to explain recycling behaviour (Bagozzi & Dabholkar, 1994; Reynolds, 1985). While this model seems relevant to physical products, Bagozzi and Dabholkar (1994) argue that this approach is inadequate to explain recycling behaviour, which remains abstract in its consequences.

A key criticism of the cognitive approach is the lack of normative consideration when performing recycling behaviour. In seeking to

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address this, the Norm Activation Model (Schwartz, 1977) and the Value-Belief Norm Model (Stern, 2000) focus on moral obligations to recycle. Applications of these models have, however, found that norms appear to have a low correlation with behaviours (Stern, 2000; Stern, Kalof, Dietz, & Guagnano, 1995). Finally, the theory of normative conduct, which focuses on the influence of social norms (injunctive and descriptive norms) on behaviours (Cialdini, Reno, & Kallgren, 1990) has been validated in experimental studies about littering in public spaces, but has not been used to predict recycling behaviours.

Given the limitations of previous theoretical frameworks, the current research looks at CLT for additional insights. Recycling and sustainability appear to lend themselves to a distance framing. Physical proximity of recycling opportunities and sustainability discourses seek to place these behaviours as proximally near. This has served to move the spatial distance of recycling from being 'elsewhere' into the home. Further, as such behaviours require collective cooperation among citizens and authorities, social distance may move from recycling being the domain of a distant other to one of having personal responsibility. In highlighting the relevance of local action for global problems, this has rooted environmental problems at both a local (e.g., household waste) and global level (e.g., climate change) (Brucks, Reips, & Ryf, 2007). This is not without its challenges for individuals as many environmental problems are complex at a global level and uncertainties can exist as to the effectiveness of behaviour at a local level (Moser & Dilling, 2004). Thus, hypotheticality is unclear as recycling may be considered either as a positive force in environmental protection or as an action with an uncertain outcome. Indeed, for some, environmental knowledge is positively related to recycling behaviour (e.g., Hansmann, Bernasconi, Smieszek, Loukopoulos, & Scholz, 2006; Perrin & Barton, 2001), while for others there is no relationship (Bagozzi & Dabholkar, 1994). Consequently, in light of the proposed relationships between recycling and sustainability and the temporal, social, spatial and hypothetical dimensions of psychological distance, we suggest that CLT (Liberman & Trope, 2008) which facilitates the exploration of psychological distances experienced by individuals could be critical in providing insights into (non)recycling behaviours and, thus, the attitude-behaviour gap. Indeed, mental representations are a key concept for understanding how attractive an action or an event can be for consumers (Lynch & Zauberman, 2006).

2.2. Construing recycling and sustainable behaviour

CLT (for review see Trope et al., 2007) states that the same behaviour can be characterised in both an abstract or concrete manner. This is important as individuals' can be induced to adopt either abstract or concrete construal independent of their decisional status (Freitas, Gollwitzer, & Trope, 2004), thus, facilitating the promotion of certain behaviours, such as, recycling. Under CLT, abstract construal focuses on central, primary features, which lack specific contextual information. Conversely, concrete construal focuses on peripheral and secondary features, which include specific context information. In terms of action, abstract construal relates to superordinate goals which explain 'why' an action is performed and relates to aspects of desirability. Concrete construal relates to subordinate goals which explain 'how' an action can be performed relating to aspects of feasibility. Psychological distance informs the formation of abstract or concrete construal. An increase in psychological distance is more likely to lead to the formation of abstract construal, while a behaviour which is psychologically near is more likely to result in the formation of concrete construal.

Psychological distance is perceived or experienced distance and includes the dimensions of temporal, spatial, social and hypotheticality (Liberman, Trope, McCrea, & Sherman, 2007). The propositions of CLT have received significant empirical support. To-date the temporal dimension of psychological distance has been the subject of most research. For example, Trope and Liberman (2000) found that individuals place greater importance on an object or event's central features compared to peripheral features when considering a decision in the distant rather than near future. Similarly, distant activities tend to be described in abstract terms and near future activities in concrete terms (Liberman & Trope, 1998). Research suggests that the remaining aspects of psychological distance have a similar effect on mental associations (e.g., Fujita, Henderson, Eng, Trope, & Liberman, 2006; Henderson, Fujita, Trope, & Liberman, 2006; Libby & Eibach, 2002; Todorov, Goren, & Trope, 2007; Wakslak, Trope, Liberman, & Alony, 2006). For example, Henderson et al. (2006) found that under spatially distant conditions participants formed more abstract representations of behaviour rather than focusing on specific actions. In terms of hypotheticality, Todorov et al. (2007) found that participants assigned greater weight to abstract desirability concerns (as opposed to concrete feasibility) when deciding to enter lotteries with low probabilities (i.e., distance chance) versus high probabilities (i.e., near certainty). Research by Nan (2007), in the context of responses to persuasive messages, found that the persuasive impact of gain-framed messages were stronger when considered socially distant (e.g., others) versus socially proximal (e.g., self). In keeping with the premise of CLT, Bar-Anan, Liberman, and Trope (2006) found that across the four dimensions of psychological distance there is consistency in that people experience stronger associations between psychological proximity and concrete construal and between psychological distance and abstract construal. While these findings support the view that all four dimensions relate to one theoretical concept of psychological distance, there is limited research that explores all dimensions of distance to generally support this assertion.

Some research has explored psychological distance in the context of moral or pro-social behaviours, including, as in the current research, sustainable and recycling behaviours. Research exploring temporal distance has found that taking a long term focus which triggers more abstract construal results in sustainable choices, when compared to a short-term focus, triggering more concrete construal (Agerström & Björklund, 2009a, b; Giacomantonio, De Dreu, Shalvi, Sligte, & Leder, 2010). It is argued that this is due to a greater emphasis upon moral rather than hedonistic values with greater temporal distance. These findings lend support to previous research which found that a distant future perspective tends to activate an ideal self identity reflective of core values, while proximal distance tends to activate a pragmatic self concerned with issues of feasibility (Kivetz & Tyler, 2007). Sanna, Chang, Parks, and Kennedy (2009) similarly found that increased cooperation occurred under abstract construal when considering social concerns regarding depleting common fish stocks.

Research more generally, however, has revealed conflicting findings regarding whether abstract or concrete construal is most beneficial is aiding goal pursuit (e.g., Bandura & Schunk, 1981; Latham & Seijts, 1999; Stock & Cervone, 1990; Vasquez & Buehler, 2007). Fessel (2011) highlights that it is consistency between construal and action level that is critical, not construal level alone. CLT posits consistency between dimensions of psychological distance and construal level, such that proximal distance will activate concrete construal and distant future abstract construal. Theoretically such consistency is considered important as individuals develop associations between construal and action levels (Liberman et al., 2007), resulting in a focusing of mindset and action that match their construal level (Fujita, Eyal, Chaiken, Trope, & Liberman,

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2008). Fessel (2011) found such consistency between temporal distance and construal level pertinent to aspiration and goal pursuit. In the context of recycling, he found that concrete goals result in higher levels of proximal future aspiration, while abstract goals result in higher levels of aspiration in the distant future. These arguments are in keeping with regulatory fit theory. Regulatory fit occurs when the manner in which a choice is made sustains an individual's current goal orientation (Higgins, 2000; 2005). The congruence afforded between goal orientation and means of goal pursuit, as proposed by regulatory fit theory, results in a 'good feeling', where the decision-maker has a positive reaction in relation to their decision (Avnet & Higgins, 2006). Those experiencing regulatory fit are considered to engage more strongly in what they are doing (Higgins, 2000, 2005). The feeling that they have made a 'right decision' increases the value of the goal pursuit process (Freitas & Higgins, 2002; Higgins, 2000), which can transfer to the outcome (Camacho, Higgins, & Luger, 2003; Higgins, 2000; Higgins, Idson, Freitas, Spiegle, & Molden, 2003). In the context of sustainability and recycling, therefore, behaviours could conceivably be construed as either globally abstract or as locally concrete. In terms of CLT, such a difference in mindset could have critical implications for sustainable choices based on fit between construal and action levels.

In the current research we have suggested that psychological distance is critical to understanding recycling behaviours given the potential relationship between the dimensions of psychological distance and the context of recycling and sustainability. As such we consider that psychological distance will provide valuable insights into currently reported inconsistencies in behaviour in this area. While current literature on CLT provides important illuminations, a number of pertinent questions remain. Firstly, CLT theorises that how we construe events around us is affected by psychological distance. Four dimensions of psychological distance have been posited and they are each deemed to have a consistent relationship in terms high/low distance and high/low construal (e.g., Bar-Anan et al., 2006). Research, however, has tended to focus on temporal and/or spatial distances. The claim of consistency, therefore, across *all* dimensions of psychological distance requires further research to evidence assertions. Secondly, there is much empirical evidence to support the hypotheses of CLT, however, research to-date has tended to manipulate construal in experimental research that uses scenarios to explore behavioural intentions and/or choices. In taking a different approach, the current research observes recycling behaviour as it naturally occurs. This allows the exploration of actual construal experienced in relation to recycling behaviour and further goes beyond the exploration of intention as a proxy for behaviour as in many previous applications of the Theories of Reasoned Action and Planned Behaviour. Given the challenges identified in relation to self-reported behaviour (Auger & Devinney, 2007) and reports of an attitude-behaviour gap, such observations, coupled with interviews, will allow any challenges to enacting the behaviour to be more readily observed. This is important given the claim that with an increase in proximal distance individuals tend to move from idealised values to pragmatic concerns (Agerström & Björklund, 2009b), suggesting that such concerns may inhibit recycling and sustainable behaviours. The current research seeks to investigate these issues through a study of households and their recycling and sustainable behaviours.

3. Research method

Given contradictory findings and reports of the continued existence of an attitude-behaviour gap in the context of recycling and sustainable behaviour, a research paradigm that allows for exploratory research was deemed necessary. This study has, therefore, adopted a qualitative approach based on semi-directive interviews, which explores the meanings underlying consumer actions (Blumer, 1969; Denzin & Lincoln, 1998), alongside observations of recycling behaviours (Chao & Lam, 2011; Gamba & Oskamp, 1994). Such an approach also facilitated a focus on actual behaviour to gain a better understanding of recycling practices in a natural setting, which in the context of the current research, was in the home. Many government and non-government bodies aspire for recycling to become a part of our everyday lives and, as such, it concerns household behaviour (Barr & Gilg, 2005; Meneses & Palacio, 2005); we explored consumer experiences on this issue (Thompson, Locander, & Pollio, 1989).

3.1. Participants and procedure

Interviews and observations were conducted with 10 family households over a one year period. Households were recruited from the researcher's acquaintances using a snowballing approach, and no importance was given to environmental behaviours. Attention was paid to diversity in the type of habitation (apartment vs. house) and the nature of locality (rural vs. urban). The research took place in a French city where, as across much of the developed world, interest in sustainability is increasing and legislation has sought to encourage recycling behaviour (Latif et al., 2012). The data was collected in two key stages.

Firstly, the author, at the invitation of the research participants, spent the evening dinner period with each of the family households, a time when families are particularly engaged with disposal of waste items. Observations sought insight into the general organisation of waste management in households, for example, what types of waste containers were present, where waste containers were located in the home and in which rooms within the home and the route waste takes from plate to waste container. A total of 27 h of observations of waste disposal practices were collected and recorded. Secondly, semi-directive interviews were conducted with the parents in each household to explore more deeply their thoughts and feelings about sustainability and recycling. Ten mothers and 6 fathers[1], between the ages of 35 and 45 years were interviewed. During the interviews participants were encouraged to describe their experiences and actions generating a conversational quality. Interviews began by asking general questions related to sustainability (McCracken, 1988) (e.g., "what does the term sustainability mean to you? Which actions do you take to enact sustainability in your everyday life?"), and then focused on recycling behaviours ("Tell me about recycling in your home. How many waste containers do you have? How do you sort waste? Who sorts waste?"). Data collection ended when saturation in the practices was attained (Thompson et al., 1989). All participants were assured of anonymity and no incentive was offered for participation. The interviews were approximately 1 h in duration and were audio-recorded and fully transcribed. The sample size is in keeping with previous research using an interview approach seeking rich insights (Fournier, 1998; Luedicke, Thompson, & Giesler, 2010; Thompson, 1997). A brief summary of our participants is presented in Table 1.

3.2. Data analysis

In exploring psychological distance, specific attention was given to the representation of CLT in relation to recycling and sustainability through the use of Semin and Fiedler's Linguistic

[1] 2 parents were divorced and 2 fathers were unavailable during the process of data collection.

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Table 1
Participant summaries.

Family 1: Corinne (mother, 43yrs, company manager) & David (father, 45yrs, company manager) Married, 2 children (10yrs & 12yrs) House, rural	Corinne is aware of specific issues such as the consumption and production of palm oil and its consequences on the environment. Despite such concerns she doesn't engage specifically in sustainable behaviours. Recycling is expressed as a constraint and is not achieved as expected by local authorities. David views sustainability as a concern for future generations. He is aware of environmentally related energy problems but does not translate these concerns into action. He does not feel the immediate need to change his consumption habits and does not recycle his waste.
Family 2: Anne Francoise (mother, 40yrs, stay-at-home mother) Married, 4 children (2–9yrs) house, urban	Prior to moving to her current location Anne Francoise consumed ethically as the facilities were provided in her previous town to do so. Today, she feels blasé about sustainability and recycling. She does not recycle as she feels lacking in knowledge and experiences uncertainty about this issue.
Family 3: Caroline (mother, 35yrs, medical representative) & Fabrice (father, 36yrs, garage owner) Married, 3 children (2–10yrs) house, rural	Caroline is not concerned about sustainability and this is reflected in her behaviour. She likes living without constraints and recycling is an effort for her. She does not feel knowledgeable and is uncertain about recycling and would like to have more information about it. Fabrice is aware of general environmental problems and states that he recycles but does not engage in other sustainable behaviours. Observations reveal that he does not recycle his waste. He expresses negative meanings and feelings about recycling.
Family 4: Anne Laure (mother, 38yrs, pharmacist) & Jean Michel (father, 38yrs, pharmacist) Married, 2 children (9yrs & 13yrs) house, urban	Anne Laure is uncertain as to what sustainability is and expresses a reluctance to behave more sustainably as she believes it is a constraint to her family's life. She does not express any feelings regarding recycling and, thus, seems to be uninterested in the practice. Jean Michel feels knowledgeable about sustainability and follows the guidelines of local authorities concerning recycling of plastic. He does not express a need to do more.
Family 5: Celine (mother, 35yrs, nurse) & Eloi (father, 37yrs, nurse) Married, 3 children (2–9yrs) house, urban	Celine is uncertain and lacks knowledge regarding sustainability. Despite this she is sensitive to sustainable issues and tries to consume organic food or to compost her waste. She organises her kitchen to recycle waste, and feels positive about this practice. She is constrained by the stage her children are at, for example, she considers her children too young to bicycle in town. Eloi feels blasé about sustainability. For him, it is mainly a political discourse. Despite his negative feelings about it, he does act in sustainable ways. For example, he built a wooden stair in his house, he recycles his waste, he cycles to work. In terms of recycling he does not wish to do more than what is required by local authorities.
Family 6: Aude Marina (mother, 36yrs, stay-at-home mother) Common law couple, 2 children (2yrs & 9yrs) Apartment, urban	Aude Marina does not consider the issues surrounding sustainability and recycling. She recycles by following local authority guidelines.
Family 7: Isabelle (mother, 44yrs, saleswomen) Single, 2 children (9yrs & 14yrs) apartment, urban	Isabelle views sustainability as a means for companies and governments to make money. Her discourse is politically oriented and raises the main constraint of having affordable ethical products. She reluctantly engages in recycling and considers space in her home a constraint to recycling.
Family 8: Nathalie (mother, 35yrs, trade union manager) & Laurent (father, 36yrs, horticulturist) Married, 2 children (7yrs & 9yrs) house, rural	Nathalie changed her family lifestyle towards more sustainable living. She seeks to socialise her children towards sustainability (through books or movies). Recycling is well organised at home and she expresses positive emotions regarding recycling. Laurent is more concerned about sustainability in the workplace than at home, where influenced by his wife, he expresses positive emotions related to sustainability. His main concerns are energy and water savings. He considers recycling to be fully integrated into his everyday lifestyle.
Family 9: Magali (mother, 35yrs, teacher) & Thierry (father, 36yrs, sales representative) Married, 2 children (5yrs & 8yrs) house, rural	Magali was influenced by her brother to embrace a sustainable lifestyle. She has organised space to recycle family waste and engages the whole family in this practice. She regards sustainable change as requiring a collective family effort. Thierry follows the values of his wife and changed his consumption habits to behave in a sustainable way (e.g., reduced consumption, household waste sorting and composting). He feels close to nature and goes on vacation with his family to green farms or camping in France.
Family 10: Melanie (mother, 40yrs, teacher) Single, 2 children (10yrs & 13yrs) apartment, urban	Melanie seeks to integrate sustainability into her everyday behaviours. For example she travels to work by public transport, seeks to reduce water and power usage and engages in recycling. She wishes others would do the same as she does. She tries to transmit her positive values regarding sustainability to her children.

Categorization Model (1988). The model explains how to categorize an event or an action in terms of abstraction. Four categories are provided. We use Magali (Mother 9) to illustrate each of these categories and, thus, our application of the model across all participants. Firstly, Descriptive Action Verbs are used for description and don't provide interpretation. They are a concrete reference to a behaviour and are, thus, easily verifiable. The action referred to is specific and has a beginning and an end (e.g., “I take all the plastic off and throw them in the bin”). Secondly, the Interpretive Action Verbs describe and interpret a concrete behaviour, such as recycling (e.g., “As soon as recycling have been organised, we've done it right away, it was natural to us”). Thirdly, State Verbs do not refer concretely to a behaviour and are non-verifiable. The behaviour referred to has no clear beginning and end and is charged with positive or negative connotations (e.g., “We are sensitive to consume organic food”). Finally, Adjectives refer to a classification of individuals in relation to others and are conceptualised in abstract terms. Adjectives refer to the action/event under study rather than at the individual level (e.g., “We recycle even if it is complicated”). Semin and Fiedler (1988) state that the more we move through these four categories, the more we move towards abstraction; with Descriptive Action Verbs and Interpretative Action Verbs being more concrete and State Verbs and Adjectives being more abstract. Using this model participant experiences were categorized in terms of whether they were abstract or concretely construed with regard to sustainability and recycling behaviours (see Tables 2 and 3). In our overall methodological approach we sought not to direct participant discussion of psychological distance but rather to allow such dimensions to freely emerge, as such, there are some gaps in terms of dimensions of psychological distance where participants' did not outline experience(s) of a given dimension. We accept this as an outcome of our non-directive approach which focused on participant experiences in relation to the behaviours examined.

As outlined above, in exploring the application of existing theoretical dimensions of psychological distance there is a

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Table 2
Recycling: CLT and psychological distance.

	Temporal	Spatial	Social	Hypothetical	CONCRETE/ABSTRACT	Recycling observed
Corinne	LOW	LOW	LOW		CONCRETE	NO
David	HIGH	LOW	HIGH		CONCRETE	NO
Anne Francoise	LOW	LOW	LOW	HIGH	CONCRETE	NO
Caroline	HIGH	LOW	LOW	HIGH	CONCRETE	NO
Fabrice	LOW	HIGH	HIGH	LOW	CONCRETE	NO
Anne Laure	HIGH	LOW	LOW	HIGH	CONCRETE	NO
Jean-Michel	LOW	LOW			CONCRETE	YES
Celine	LOW	LOW	LOW		CONCRETE	YES
Eloi	LOW	LOW	LOW		CONCRETE	YES
Aude Marina		LOW	LOW	LOW	CONCRETE	YES
Isabelle	LOW	LOW	LOW	LOW	CONCRETE	YES
Nathalie	LOW	LOW	LOW	LOW	CONCRETE	YES
Laurent	LOW	LOW	LOW	LOW	CONCRETE	YES
Magali	LOW	LOW	LOW	LOW	CONCRETE	YES
Thierry	LOW	LOW	LOW	LOW	CONCRETE	YES
Mélanie	LOW	LOW	LOW	LOW	CONCRETE	YES

Table 3
Sustainability: CLT and psychological distance.

	Temporal	Spatial	Social	Hypothetical	CONCRETE/ABSTRACT	SELF-REPORTED regular sustainable behaviour
Corinne	HIGH	LOW	LOW	LOW	ABSTRACT	NO
David	HIGH	HIGH	LOW	HIGH	ABSTRACT	NO
Anne Francoise	HIGH	HIGH	LOW	LOW	ABSTRACT	NO
Caroline	HIGH	HIGH	HIGH	HIGH	ABSTRACT	NO
Fabrice	HIGH	HIGH	LOW	HIGH	ABSTRACT	NO
Anne Laure	HIGH	HIGH	LOW	LOW	ABSTRACT	NO
Jean-Michel	HIGH	LOW			ABSTRACT	NO
Celine	HIGH	LOW	HIGH	LOW	ABSTRACT	NO
Eloi	LOW	LOW	LOW	HIGH	ABSTRACT	NO
Aude Marina			LOW	HIGH	ABSTRACT	NO
Isabelle	HIGH	HIGH	HIGH	HIGH	ABSTRACT	NO
Nathalie	LOW	LOW	LOW	LOW	CONCRETE	YES
Laurent	LOW	LOW	LOW	LOW	CONCRETE	YES
Magali	LOW	LOW	LOW	LOW	CONCRETE	YES
Thierry	LOW	LOW		LOW	CONCRETE	YES
Mélanie	LOW	LOW	LOW	LOW	CONCRETE	YES

deductive aspect to the research, however, the qualitative approach adopted allows participants to describe actions, examples and scenarios that illuminate the nature of their understandings of psychological distance within a recycling and sustainability context. Through this approach the data analysis supported the framing of codes reflective of the theoretical constructs of psychological distance pertinent to participants. Thus, the coding themes deductively relate to existing theory but are inductive in their elaboration and deliberations of these themes (Chatzikadis, Hibbert, & Smith, 2007; Mason, 1996; Patton, 1990).

4. Findings

The research findings are discussed and organised around recycling and sustainability themes in relation to construal and distance dimensions.

4.1. Recycling in close proximity

Magali regards recycling as “normal” and in the context of her everyday life she “did it right away”. She considers recycling concretely seeing it as a present issue and not only a concern for future generations: “we need to pay attention to what we do today with our waste”. She further illustrates her approach in organising the ‘how’, feasibility, aspects of recycling in her home:

> “The recycling, it's a military organization! I take my bags down to the cellar and I empty my bag full of yogurt packaging in the yellow bin. The management of my waste, it's a lot of back and forth, because of my compost. When the little container in my kitchen sink is full, I take it to the compost. All the cardboards, everything which goes in my yellow container, I put them in a bag in the cellar stairs, and I empty it regularly … All the magazines, the newspapers, we keep everything, as it lights the fire … and the ashes, I collect them to throw them along the trees, because it kills the weeds and it is a fertilizer for trees” (Magali).

For Magali, the devil is in the detail as construing her recycling goal concretely increases her focus on the feasibility and means of attaining that goal. All our informants expressed concreteness in relation to recycling, focusing on feasibility aspects of the behaviour (see Table 2) and using, in the main, descriptive action verbs in their discourses. Magali highlights how recycling was embedded in the organisation of waste management in the home.

Further, waste collection services play a role in reducing psychological distance by requiring household recycling. For instance, containers are usually collected once or twice a week and public facilitates are available for recycling glass. Thus, local authorities are encouraging routine recycling behaviours (Derksen & Gartrell, 1993) by giving access to recycling facilities (e.g. Latif et al., 2012). Previous research (Agerström & Björklund, 2009a) argues that abstract construal will result in recycling choice. Rather, in the

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current research, recycling was viewed as a present decisional problem. Among our informants, this places recycling as proximal, with a focus on the 'how to' feasibility aspects of the behaviour. Construing recycling concretely increases the perceived feasibility of the recycling goal by focusing on the means of goal pursuit. This provides functional advantage by supplying the 'how' information necessary to carry out the behaviour (Fessel, 2011; Liberman & Trope, 1998; Vallacher & Wegner, 1987, 1989).

Drawing on regulatory fit theory, Fessel (2011) develops this further by arguing that the motivational power of a concrete goal in the near future may not be limited to functional advantages, rather the fit between concreteness and promixity may lead to a subjective perception of 'rightness' in the behaviour (Avnet & Higgins, 2006). Further, regulatory fit theory proposes that this positive reaction strengthens behavioural engagement and confidence in reactions to decisions (Camacho et al., 2003; Higgins, 2000; Malaviya & Sternthal, 2009).

In keeping with regulatory fit theory, CLT supports the need for consistency between dimensions of psychological distance and construal level, arguing that such consistency is pertinent as individuals develop associations between construal and action levels (Liberman et al., 2007) that result in a matching between level of construal mindset and action (Fujita et al., 2008). Consistency across construal level and all dimensions of psychological distance was evident among those informants who recycled their waste[2] (see Table 2). For instance, recycling for Melanie is concrete as it is "sorting waste everyday thanks to recycling containers provided". It is spatially and temporally close to her, as it is happening in her home everyday and waste collection happens every evening on her street. Further, for her, recycling is above all "using things that are recyclable for another use. It's finding a new utilisation of things to avoid waste". She expresses a low hypothetical distance, as she believes recycling will help the environment. She further expresses a low social distance, as she collects information in the media to improve her daily recycling practices. Melanie's statement should be considered in light of her sustainable lifestyle and engagement (see Table 1). In brief, Melanie perceives recycling concretely and consistency across all psychological dimensions.

Consistency highlights the need for compatibility (Ajzen & Fishbein, 1977) and specificity at the level of experience and perception of construal and psychological distance if behavioural action is to follow behavioural concern. This is highlighted by Fujita, Henderson et al. (2006) who note that where an event is conceptualised as abstract all concrete features become irrelevant and likewise, where an event is conceptualised as concrete all abstract features are rendered irrelevant. We, thus, suggest that concrete construal across distance dimensions results in a consistent and pragmatic response to recycling behavioural choice.

Inconsistency between construal level and psychological distance is illustrated by Anne Françoise, who expresses uncertainty as to the outcome of household recycling:

> "I've seen a TV show describing how garbage trucks were taking household recycled containers and how they were putting everything in the same container after, so you think 'Shit, I encumber my kitchen and in fact, everything is going in the same container!'" (Anne Françoise).

Anne Françoise's statement should be considered in light of the fact she feels blasé about sustainability and recycling. The lack of consistency between her experience of concrete construal and high hypothetical distance, we argue, results in conflict, where on the one hand, recycling is real and probable through concrete construal, but on the other is imaginary and improbable through her experience of high hypothetical distance (Trope & Liberman, 2010). This reveals that consistency between one element of psychological distance and concrete construal is not sufficient to support performance of the behaviour. In other words, it cannot be assumed that by reducing temporal distance via waste collection schemes, for example, that recycling behaviours will result.

In keeping with Anne Francoise, those who did not recycle experienced a lack of consistency between construal level and dimensions of psychological distance (see Table 2). This is in conflict with CLT and, as outlined by regulatory fit theory, suggests a lack of confidence in decisional outcomes (Camacho et al., 2003; Higgins, 2000; Malaviya & Sternthal, 2009).

Our informants were shared in construing recycling as proximal. As noted previously, this is perhaps not surprising in light of local authority requirements and improvements in ease and access to facilities. Perhaps as a result we find a greater number of our informants engaging in recycling behaviour than those engaging in sustainable behaviours. In the section that follows we turn our attention to sustainable behaviours which, in comparison to recycling, are voluntary behaviours which lack the specificity of behavioural requirement and local authority guidelines.

4.2. Sustainability: locally near or globally distant

4.2.1. Consistently concrete

The context of sustainability suggests general support for our findings that concrete construal places behaviour at the level of feasibility and achievement and that consistency across construal and psychological distance is pertinent in achieving fit across distance and decisional problem. Consistent with our findings on recycling we find that for those engaging in sustainable behaviours, sustainability is regarded as proximal and consistency is experienced between concrete construal and near psychological distance across all distance dimensions (see Table 3). Nathalie outlines her proximal experience of sustainability:

> "Thanks to awareness, watching affecting movies … we have the opportunity to receive a newsletter that explains how to sort, gleaning information here and there, also again thanks to the medias … We understood the sustainable approach, so us, we don't need to be encouraged to act sustainably anymore … Now, it's concrete for us, you know why you're doing it, and it's becoming even more interesting to do so" (Nathalie).

This statement should be considered in light of her family engagement towards more sustainability living.

Nathalie outlines sustainability as close in her experience. The consistency between her conception of sustainability as a behaviour that is near and the fit across near distance construal and dimensions of psychological distance appear to support her experience. As a consequence, more satisfactory decisions result from the match between feasibility related behaviours and the near future (Eyal, Liberman, & Trope, 2009). The focus on feasibility through concrete construal is important in the context of sustainably where individuals continue to outline barriers to behaviour that contribute to the so called attitude-behaviour gap in this area (e.g., Carrigan & Attalla, 2001; Kok & Siero, 1985; Moraes et al., 2012; Nigbur et al., 2010; Papaoikonomou et al., 2011). Such challenges arguably require a focus and resolution of pragmatic

[2] One exception is noted in the case of Corinne. She perceives that she recycles in full compliance with guidelines, but under observation, it was revealed that she did not, thus, we consider that her distance narrative is dominated by her perception. Further, we do not have a distance experience for hypotheticality so cannot assume this is low.

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challenges to behaviour. This is illustrated by Thierry for whom consuming sustainably is easy. He argues that sustainability is "acting everyday to preserve the planet", and in consequence, he tries to "reduce [his] consumption, to buy less superfluously to consume better, to act responsibly, to recycle. [He] also tries to eat healthy and local products". This is consistent with Thierry's family engagement to behave in a sustainable way. Contrary to previous research placing sustainable behaviours in the future (more than 10 years into the future) and considering them as abstract (Agerström & Björklund, 2009a, b), we argue that where behaviours are related to regular behavioural practices, representation at the concrete level may be pertinent. Recycling as discussed previously would follow that principle and many choices related to sustainability more generally are related to everyday consumer and citizen choices, including many aspects of domestic consumption choice. Indeed, in terms of spatial distance, previous research in organisation and consumer decision-making has argued that far spatial distance decreases ethical behaviour (Andorfer & Liebe, 2012; Barnett, Cloke, Clarke, & Malpass, 2005; Mellema, 2003). While abstract construal places sustainability at the level of desirability, concrete construal places emphasis on the feasibility of achieving sustainability (Liberman & Trope, 1998). With abstraction feasibility concerns become irrelevant and, thus, solutions to challenges in behavioural choice are placed at the level of future desirability. This suggests that while sustainability can be viewed as an abstract concept, as suggested by previous research, this does not address the immediacy of the environmental challenges facing society presently.

4.2.2. *Abstracting sustainability*

For most informants, however, sustainability remains distant, for example, Fabrice uses state verbs in his descriptions of sustainability: "sustainability is to prepare for the future". No clear beginning or end is expressed in his discourse and sustainability remains "vague" to him. This statement is consistent with his expression of negative meanings and feelings about recycling. This is contrary to findings by Agerström and Björklund (2009a) that abstract construal will result in more sustainable choices. Following Fabrice, in the current research we found that those holding an abstract construal did not engage in sustainable behaviours and lacked consistency across psychological distance dimensions (see Table 3). This inconsistent response to sustainable behaviour is illustrated by David:

> "It's being able to use resources and do everything for the next generations, so that they can use and sustain them in their future activities. So, we either limit products that are done with limited resources, for example oil, we limit their consumption. So it concerns insulation, car driving, industrial products, to limit their consumption.
>
> And are you doing so?
>
> Not enough. No. I don't do it. I know but don't do" (David).

David is clearly aware of sustainability but his behaviour does not follow this awareness, in keeping with findings related to an attitude-behaviour gap in this area (e.g., Carrigan & Attalla, 2001; Moraes et al., 2012). David expressed that he is not ready to engage in sustainable behaviours in his personal life. He demonstrates an understanding of sustainability and experiences it as socially near, however, he considers sustainability to be temporally and spatially far as it concerns next generations. David construed sustainability in abstract terms, thus, placing it at the level of future desirability rather than required action now. We do, however, sense some disquiet in his response where, while describing sustainability as distant, he notes that he doesn't do enough now in the present in relation to sustainability. Our research reveals that those holding an abstract construal did not tend to consistently experience a distant future perspective across all dimensions of psychological distance. Rather, one or more dimension of their psychological distance was inconsistent with their overall construal level.[3] As discussed previously, CLT posits consistency between dimensions of psychological distance and construal level (Trope & Liberman, 2003). What we find for those holding an abstract construal is that aspects of their perceived and/or experienced psychological distance are inconsistent suggesting that they are unable to experience congruence between psychological distance and mental construal in relation to behavioural choices. The lack of consistency found among those who did not engage in sustainable behaviours is further illustrated in the two quotes by Eloi below:

> "So, we are trying to buy local products or organic products for instance, when it is financially possible for us. But I would find it difficult to have a real eco-minded involvement. Because this would be activism. It means accepting to pay more for products which means not buying certain products anymore".
>
> "For me, it [sustainability] is completely opaque, it's woolly and we can't, well, we talk about sustainability for the environment, but us, we don't have the possibility to, well to have certainty as to the durability of the products. So me, I don't do all of that, because I'm like 'is it really good for economy?' Today we are installing wind machines everywhere, well, why not, but in 20, 30, 40 years, how much will it cost to the society to change those, and will we really gain for the environment? I think, as usual, that we take some very quick decisions and saying 'it's great, it's great' and then we'll see after if we were doing well or not" (Eloi).

Eloi has an abstract construal that is in keeping with his high level of hypotheticality, expressed through uncertainty as to the potential outcomes of so-called sustainably beneficial actions undertaken by individuals, organisations and through public policies. He also expresses low spatial, social and temporal distances through his experience of sustainability as present, illustrated in his consideration of more sustainable consumption choices. While through abstract construal Eloi places sustainability as the level of desirability, the presence of sustainability as psychologically near across some dimensions of psychological distance is not surprising given the mainstreaming of sustainability in, for example, the media, schools, retail outlets and as part of everyday interactions. We suggest that dissonance arises for Eloi as he seeks to distance himself from sustainability, sharing his concerns about reduced product choice, higher prices and unwanted associations with activism.

Research by Liberman and Trope (1998) found that primary goals are given more importance with temporal distance, further Kivetz and Tyler (2007) revealed that distal time perspective activates one's ideal self-identity, while proximal time perspective one's pragmatic self. In relation to this, Agerström and Björklund (2009a) suggest that future construed behaviours are directed by more enduring personality characteristics, while near future behaviours are more susceptible to influence. In the current research, for those holding an abstract construal, the activation of concrete distance in terms of some aspects of psychological distance

[3] With the exception of Isabelle, but she also did not engage in sustainably motivated behaviours.

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suggests that their primary viewpoint may be disposed to near distant influences (Agerström & Björklund, 2009a). As illustrated by Eloi we suggest that this resulted in some discomfort between his desire to distance himself from sustainability initiatives not in keeping with his self-identity and current concerns, while experiencing issues related to sustainability as proximal in his environment. Anne Laure similarly experienced aspects of sustainability as proximal under abstract construal. She experienced tensions between distal desirability and proximal social and hypothetical distance through her awareness and understanding of public transport options which she is familiar with from childhood:

> "I would have been happy to use the tramway to go to work, but the problem is, it is far from the house, and if I had a station in front of the house … well, I think the problem is that we drive the children to their different schools, and I should go back home, park my car again and then walk ten minutes to get to the tramway station and finally to be at work … And we never take the bus either. I find it disgusting" (Anne Laure).

Anne Laure is aware of sustainability issues and her psychological distance is proximal across social and hypothetical dimensions. Temporally and spatially, however, sustainability is experienced as distant and, thus, sustainable choice is presently in conflict with other lifestyle choices, such as personal time, convenience and location of good schools. In short the inconsistency that exists between construal and some dimensions of psychological distance creates tension between distal and proximal perspectives, whereby one's decision not to engage in sustainable behaviours presently is influenced by near distant considerations. As revealed in Table 3, participants who experienced consistency across all dimensions of psychological distance and construal level engaged in sustainable behaviours. As noted, consistent with the context of recycling, we find that where there is inconsistency across psychological distance dimensions there is a failure to undertake behaviour. In terms of seeking to examine the so-called attitude-behaviour gap, the current research, thus, suggests inconsistency across distance dimensions as pertinent in highlighting the potentially limited insights provided by exploration of any one dimension of psychological distance in isolation, an approach which has dominated previous research exploring CLT.

5. Discussion and conclusions

5.1. Theoretical implications

The current research presents theoretical contributions in three key areas. Firstly, the current research found that those participants who engaged in sustainable and recycling behaviours experienced consistency between mental construal and *all* dimensions of psychological distance. Their recycling and sustainable behaviours were experienced as proximal. Where inconsistency was experienced across psychological distance and construal level or where abstract construal was experienced, in both sustainable and recycling behaviours, engagement in these behaviours did not occur at all or in keeping with local authority requirements (see Fig. 1A). For example, for an individual to use public transport they must experience public transport as concrete and they must experience public transport as proximal in terms of temporal, spatial, social and hypothetical distance. Such a proximal focus will allow individuals to focus on the feasibility of carrying out the behaviour.

Previous research exploring moral behaviours, including sustainability and recycling, found that such choices increased with temporal distance and abstract construal (Agerström & Björklund, 2009a, b). What this previous research did not explore was psychological distance beyond temporal distance. The current research observed a high number of participants who experienced abstract mental construal and far temporal distance in terms of sustainable behaviours, however, behavioural choice did not follow (see Table 3). As highlighted in our findings, it is wholly possible to view sustainability as abstract, to view it as temporally far but to experience one or more other dimension of psychological distance as near. Inconsistency, therefore, between aspects of psychological distance suggests contradictory identifications between construal and distant dimensions potentially create conflicting behavioural associations (Fujita et al., 2008; Liberman et al., 2007). Indeed, reasons cited for the well-documented attitude-behaviour gap in ethical/sustainable contexts centre on multiple and competing identities and demands that impede and immobilise behaviour (e.g., Carrington, Zwick, & Neville, 2016; Cherrier, Black, & Lee, 2011). It is these very inconsistencies in mental representations and experiences that the current research reveals as direct barriers to behaviour. Further, such inconsistency between abstract mental construal and near psychological distance serves to expose individuals to near distant influences creating tension between distal and proximal perspectives (Agerström & Björklund, 2009a) and producing a lack of fit and, thus, confidence in decision outcomes (Camacho et al., 2003; Higgins, 2000; Higgins, Idson, Freitas, Spiegel, & Molden, 2003). Such inconsistencies could be manifested in terms of dilemmas in how to attempt the behaviour and conflicts in approaches to behavioural action. This suggests that exploration of any one aspect of psychological distance in isolation may inhibit the full picture, which the current research suggests is pertinent to revealing the consistency necessary to facilitate corresponding behaviour. This is important where gaps between attitude and behaviour have been reported, as in the current research context. These findings were consistent across both behaviours examined regardless of their required (recycling) or voluntary (sustainability) status.

Secondly, in addition to suggesting the pertinence of consistency between mental construal and psychological distance, the current research also suggests concrete construal and near distance is pertinent to sustainable and recycling behaviours. This is important given the claim that with an increase in proximal distance individuals tend to move from idealised values to pragmatic concerns (Agerström & Björklund, 2009b), suggesting that such concerns may inhibit behaviours. Further, Fujita, Trope, Liberman, and Levin-Sagi (2006) found greater self-control and delayed gratification with abstract construal. Rather, what the current research suggests is that a high level of self-control and commitment to sustainable and recycling behaviours followed concrete construal and near psychological distance. The pragmatic and feasibility concerns which previous research has suggested will inhibit behaviour we propose were essential in enabling participants to address situational challenges and, thus, achieve consistency between their moral concerns and behavioural actions. This is critical as research suggests that barriers remain significant in the contexts of sustainability and recycling behaviours (e.g., Derksen & Gartrell, 1993; Dilling, 2007). A near distance focus renders such barriers relevant, placing the emphasis on overcoming barriers (Fujita, Henderson et al., 2006; Liberman & Trope, 1998). This was experienced by Nathalie who outlined how she overcame informational challenges which had been barriers to her achievement of sustainable behaviours. These findings were consistent across both sustainable and recycling behaviours.

Thirdly, previous research exploring CLT has overwhelmingly adopted an experimental methodology. Using this approach mental construal is manipulated and behaviour considered via scenarios. Taking a qualitative methodological approach the current research was non-directive and explored CLT as it naturally emerged and

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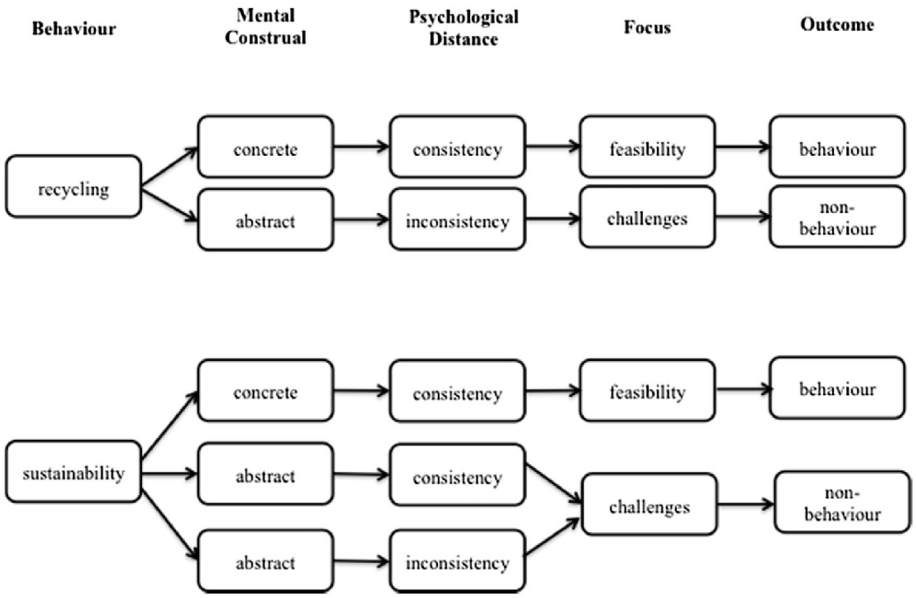

Fig. 1. A cognitive process of mental construal.

was actually experienced in relation to behaviour observed and/or described. We consider this pertinent as it allowed discrepancies between self-reported and actual behaviour to be revealed through observation and explored through interviews. This was helpful in reducing social desirability impacts which have been reported in ethical/sustainable consumption contexts (e.g., Auger & Devinney, 2007). An exploration of actual behaviour as experienced by consumers in the context of their everyday lives was pertinent in revealing the barriers and challenges to behaviour which may not readily occur in choice modelling research or experimental research where behaviours may not be experiential to participants. The qualitative approach adopted in the current research has enabled the exploration of multiple dimensions of psychological distance occurring in lives of consumers and, thus, the relations between them, offering a more holistic picture of the facilitators and barriers to behaviours (Black & Cherrier, 2010; Cherrier et al., 2011).

5.2. Managerial implications and future research

The promotion of sustainable and recycling behaviours is of critical importance to both ethically minded organisations and local authorities seeking to reduce the burden on landfills and promote more pro-social behaviours. Consumers are producers of waste and the consumption and post-consumption decisions they make are critical in promoting more sustainable behaviours, thus, they are a pertinent audience to reach. While individuals are producers of waste, we cannot ignore the role of organisations in producing much of the waste consumers purchase and then need to dispose of. Consumers then are only one part of the problem and its solution, but in recycling consumers do send an important message to governments and organisations in the form of behavioural votes signalling their interest in the environment (e.g., Black & Shaw, 2009). Thus, government and organisations are also critical stakeholders.

As revealed in the current research, information and knowledge continue to be barriers to behaviour in both these areas (Anne Francoise, Caroline, Anne Laure and Celine experienced these challenges). Effective communication is, therefore, pertinent (Kong, Salzmann, Steger, & Ionescu-Somers, 2002). CLT examined in the current research is pertinent to promoting recycling and sustainable behaviours as behaviours can be construed as either abstract or concrete. The current research revealed proximal psychological distance and mental construal as critical to sustainable and recycling behaviours. Using the Linguistic Categorization Model (Semin & Fiedler, 1988) utilised in the current research, proximal communication terms could be used in communication messages through the use of 'concrete' terminology. In the context of recycling, local authorities should use Descriptive and Interpretive Action Verbs in their communication as these use specific language. A communication campaign, for example, could focus on "Recycling, it's here and now", showing people acting in their home or at recycling centres. Further, to reduce the uncertainty and hypotheticality experienced regarding recycling, they could highlight the benefits for the planet and the environment, by focusing on tangible, concrete results of recycling, such as, "you recycled 1 ton of plastic, the planet won x litres of water and x% less CO_2". Recycling could, thus, be dramatised instead of merely explaining how to do it. We suggest communication strategies should be consistent in their representation of psychological distance to facilitate a shift towards a closer fit between psychological distance, mental representations and behavioural practice. Such communication strategies need to be clear and specific to also address practice based recycling uncertainties. Anne Laure and Anne Francoise, for example, both expressed uncertainty regarding cleanliness and recycling stating that they were uncertain as to whether items had to be cleaned before recycling and reported not recycling items as a result of this lack of clarity. They highlight a potential conflict between what people would naturally do (place a dirty item in a general bin) and what guidelines are in terms of recycling (dirt is not a barrier to recycling). Local authorities might then inform citizens of correct practices using the recommendations above. In addition, in promoting both recycling and sustainability, placing the consumer at the core of communications would assist in reducing the distance they then perceive in relation to such behaviours. Instead of explaining how to recycle, with abstract objects and waste, communication could feature consumers engaging in recycling or consuming sustainably. To move towards concrete mental construal there is a need to recontextualise recycling and sustainable behaviours. Building on these proposals, public policies

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could further sensitise public audiences in relation to their actions and the achievement of sustainability. For example, public policies could encourage individuals to maintain their behavioural efforts through positive communications regarding waste saved or amounts of CO_2 saved as a result of their actions. They could also organise each year a day dedicated to recycling to promote good practice and ways to reduce waste. Social distance could be reduced through the provision of professional or peer support where required.

Similarly, organisations seeking to promote more sustainable behaviours both inside and outside of the organisation should engage in communications that exhibit consistency of message, reveal positive outcomes from the behaviour to reduce uncertainties and place the behaviour clearly in the present. For example, "team up with a colleague and car share today. Reduce CO_2 emissions by x% in one week. The planet will love you". Organisations also have the opportunity to work on their industrial processes, in engaging, for example, in eco-conception to improve their environmental impact, and to further communicate their engagements on their packaging. They could also reduce the amount of overpacks and resource inputs into packaging, engaging in reuse and use of recycled materials. With appropriate communication to consumers, which relies on descriptive and interpretive action verbs, uncertainty surrounding organisations' practices could be reduced. As an illustration, organisations could mention on their packaging information such as: "reducing the packaging of this product has reduced CO_2 by x%" or "after use put this product in a recycling bin", as well as any wider commitments taken by the organisation in relation to sustainability. Further and inevitably, as recycling also itself creates waste and uses resources, organisations need to consider their waste impact by adopting responsible practices across the product and production lifecycle process (Stark, 2015). Such organisational practices could be encouraged by legislation requiring reduced resource inputs and outputs. This could, for example, take the form of a producer tax on excess packaging (Black, Shaw, & Trebeck, 2015).

The convenience of activities and the need to overcome any initial cognitive burden in behavioural change is pertinent for both sustainable and recycling behaviours as both serve as barriers to behaviour in these contexts. In terms of recycling participants reported space in the home as a barrier to behaviour, this suggests that in addition to making recycling as easy as possible in terms of bins and uplifting provided outside of the home, issues of sorting, space and time should be considered inside the home. Local authorities could, for example, consider extending as much recycling activity as possible to convenient locations outside the home, reducing the burden inside a householder's physical space and provide illustrations of how waste could be managed inside the home.

The current research has highlighted the pertinence of exploring all dimensions of psychological distance in any one behavioural context. Findings suggest that where there is inconsistency across psychological distance and mental construal, behaviour is also inconsistent. We argue that this is important in providing insights into the attitude-behaviour gap highlighted in recycling and in other ethical/sustainable behaviours (e.g., Carrigan & Attalla, 2001; Kok & Siero, 1985; Moraes et al., 2012; Nigbur et al., 2010; Papaoikonomou et al., 2011). While theoretically CLT suggests there should be consistency across psychological distance dimensions and mental construal, there is limited research that explores all distance dimensions. Thus, inconsistency may be hidden among dimensions not explored. We would urge that future research consider the potential for such effects in their methodological design. The current research also highlights the need for a near distance perspective to move individuals to behavioural action which facilitates resolution of feasibility concerns. This is contrary to previous research which suggests that distance facilitates moral choice. We argue that significant attempts are being made to move recycling and sustainability from abstract desirability to current action. In light of this we question the effectiveness of abstract desirability construal which places behaviour 10 years or 30 years into the future (Agerström & Björklund, 2009a, b). In our study of 10 households we were concerned with understanding how our informants enacted their recycling and sustainable behaviours. We suggest that future research test the stability of our findings through the exploration of differing moral behaviours, across larger sample sizes. Finally, more informants' in our study recycle than engage in other forms of sustainable behaviour. This is perhaps not surprising as recycling is more familiar and frequently practiced by the general public (Ebreo, Hershey, & Vining, 1999; Linn, Vining, & Feeley, 1994). More widespread recycling behaviour, however, suggests that where sustainable behaviours are facilitated and/or required engagement in behaviour can be increased. This is important when considering the expansion of other sustainable behaviours deemed important to the promotion of societal well-being especially in light of research findings that recycling may not encourage other pro-environmental behaviours (Catlin & Wang, 2013). Recycling may then allow individuals to think "they do enough" hindering a movement towards more sustainable behaviours (Eckhardt, Belk, & Devinney, 2010).

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Please cite this article in press as: Schill, M., & Shaw, D., Recycling today, sustainability tomorrow: Effects of psychological distance on behavioural practice, European Management Journal (2016), http://dx.doi.org/10.1016/j.emj.2016.05.004

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Please cite this article in press as: Schill, M., & Shaw, D., Recycling today, sustainability tomorrow: Effects of psychological distance on behavioural practice, European Management Journal (2016), http://dx.doi.org/10.1016/j.emj.2016.05.004