



Seeing the Issue Differently (Or Not At All): How Bounded Ethicality Complicates Coordination Towards Sustainability Goals

S. Wiley Wakeman¹ · George Tsalis² · Birger Boutrup Jensen² · Jessica Aschemann-Witzel²

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Abstract

Sustainability problems often seem intractable. One reason for this is due to difficulties coordinating actors' efforts to address socially responsible outcomes. Drawing on theories of bounded ethicality and incorporating work on communicating shared values in coordinating action this paper outlines the lack coordination as a matching issue, one complicated by underlying heterogeneity in actors' moral values and thus motivation to address socially responsible outcomes. Three factors contribute to this matching problem. First, we argue it is not actors' simple cognitive awareness, but their moral awareness of social issues that explains why certain actors move to address problems while others do not. In other words, actors may recognize sustainability problems, but are not motivated to solve them as they are not understood as moral problems. Second, we posit that progress requires alignment in issues that some actors find worth addressing whereas others do not, thus explaining how heterogeneity in moral perceptions interrupt coordination towards socially important goals. Finally, we propose that progress is undermined if actors myopically focus on level-specific outcomes in ways that elucidates why institutional responses often fail to address individual outcomes and vice versa. We use the existing literature on the socially important issue of food waste to examine our theoretical contribution and develop a typology that explains conditions that inhibit (or promote) coordination. Thus, our work proposes a psycho-structural view on matching and coordination toward sustainable outcomes, highlighting how psychological and structural constraints prevent effective coordination in addressing sustainability goals.

Keywords Sustainability · Bounded ethicality · Matching · Coordination · Food waste

Introduction

Sustainability has become an increasingly important facet of social and organizational life, attracting both heightened scholarly debate (Aguinis & Glavas, 2012; Bauman & Skitka, 2012; Eccles et al., 2014) and practitioner attention (Elkington, 2020; Kor et al., 2017). Despite this attention, advancement towards sustainable outcomes often seems slow, hindered by unknown forces. The lack of continued progress towards sustainability goals begs the question

as to why, despite the apparent widespread recognition of these socially desirable goals in both academic and practitioner work, we fail to meet these goals? In short, if we recognize the social problem, why do we not solve it? This paper provides one solution for the lack of progress towards socially responsible outcomes, suggesting that it is not simply a lack of explicit awareness (Simon, 1956) or definitional problems—where actors work towards differently defined sustainable goals (Sheehy, 2015)—that thwart action in addressing problems. Rather, we posit that the lack of progress is due to individual psychological impediments that interact with structural constraints in ways that prevent effective recognition and coordination in solutions.

We point to the literature on bounded ethicality as the core psychological mechanism inhibiting coordination (Chugh et al., 2005). In this literature, research finds that actors are limited in their moral awareness, seeing only some issues as morally important. We take this finding a step further, suggesting that it is not simply seeing an issue as morally relevant or not. Rather we explore how bounded

✉ Jessica Aschemann-Witzel
jeaw@mgmt.au.dk

¹ Department of Management and Organization, Stockholm School of Economics, Sveavägen 65, 113 83 Stockholm, Sweden

² Department of Management, MAPP Centre – Research on Value Creation in the Food Sector for Consumers, Industry and Society, Aarhus University, Fuglesangs Allé 4, 8210 Aarhus V, Denmark

ethicality complicates social coordination to address sustainability goals, suggesting that actors' heterogeneous recognition of underlying moral values ultimately interrupts progress.

If actors similarly recognize issues as morally charged this provides a foundation for collaborative progress. Similar recognition aligns actors' interests as the morality of the issue helps explain actors' intrinsic motivation to address them. However, if actors believe that different issues are morally important, this prevents common action due to misaligned moral awareness. In other words, progress towards sustainable outcomes is stymied by a lack of agreement in understanding what is morally relevant and thus worth addressing. Additionally, we explain why this coordination problem is often masked by apparent cognitive (versus moral) recognition, complicating coordination of actors to address these goals. Thus, we contribute to the literature that examines the various impediments that inhibit progress towards sustainable outcomes, outlining this problem not as one driven by lack of explicit awareness (Chugh et al., 2005; Simon, 1978; Tenbrunsel, 2005), a process of (motivated) forgetting (Shu et al., 2011; Tenbrunsel & Messick, 2004), or definitional issues (Sheehy, 2015), but one that arises due to coordination issues stemming from actors who hold heterogeneous sets of moral values (Graham et al., 2013) and thus motivation to address sustainability issues (Jones, 1991).

Sustainability goals are an integral part of a corporate social responsibility; however, these goals are multifaceted. This is reflected in the various typologies of sustainable outcomes in existing scholarship (Carroll, 1979, 1999), as well as the fact that the United Nations has defined no less than 17 sustainable development goals (SDGs) (United Nations, 2018). Working collaboratively towards meeting these goals is made difficult by the fact that actors weight these goals differently. In addition, despite that the SDGs have in principle equal significance, existing literature on behavioural ethics shows that most actors tend to focus on some goals more than others. Not only is it overly optimistic to believe that actors find *all* these goals equally important, but it contravenes the extant scholarship. In fact, a closer look at the ethical underpinnings of these goals and existing scholarship suggests that rather than understanding all socially important goals as moral issues, individuals are moral pluralists, developing a hierarchical ranking of issues that demand their limited attention (Graham et al., 2013; Rai & Fiske, 2011; Skitka, 2002). While all goals may seem equally important, we are often forced into social dilemmas that pit values against each other, forcing actors to pick one at the exception of another. For instance, should employees be loyal to co-workers or uphold broader standards of honesty (Waytz et al., 2013)? Should consumers focus on fair and cost-conscious access to food or should they make sure to select environmentally friendly items? These dilemmas

explain how actors often are required to make "right vs. right" choices, where actions uphold one moral value often violate another as well as demonstrate an underlying hierarchy of values inherent to any decisions or underlying social coordination efforts.

To make progress on sustainability goals, we argue it is critical to understand actors' motivations from this pluralistic view of morality (Graham et al., 2013; Rai & Fiske, 2011). Although there may be the broad cognitive awareness of sustainability goals, if actors place significant value on certain outcomes at the exception of others (Mullen & Skitka, 2006) it helps to explain why actors may be motivated to address some social issues but not others. Thus, we contribute to existing literature to suggest that it is not that actors are unaware (Simon, 1956), situationally forget (Palazzo et al., 2012; Shu & Gino, 2012; Shu et al., 2011). We also note that this differs from a similarly problematic issue where actors have difficulty in addressing sustainable goals because they hold different definitions of what is or what is not sustainable (Banerjee, 2008; Christensen et al., 2013; Sheehy, 2015). Actors may very well understand the existence and social importance of these issues. However, the lack of progress towards sustainable goals is explained by the fact that actors hold heterogeneous sets of moral values (Graham et al., 2013); and these underlying differences leads actors to be "morally aware" of some issues and not others (Chugh et al., 2005), leading to different underlying motivations to address issues. In other words, in contrast to previous work, actors may commonly recognize issues within their awareness and even recognize that they fall under broader sustainable goals, but ultimately hold heterogeneous motivations for addressing them.

We take this argument a step further to suggest that not only does underlying heterogeneity in moral values, and thus moral awareness, explain actor *motivation* to address some sustainability goals and not others, but it clarifies why it is so difficult to *coordinate* efforts to address these ends. While actors may understand their preferences (and goals), the preferences of others are obscured, even if both actors are aware of existing issues. In other words, coordination between actors is a matching issue, where coordinating actors hold hidden and heterogeneous information that impedes effective coordination (Murnighan & Roth, 1977; Roth & Murnighan, 1982) often leading to situations where actors hold views of the world that align with others, but enact behaviors that differ from personal views to conform to mistaken perceptions of social consensus (Miller & McFarland, 1987; Prentice & Miller, 1993). In the context of progress towards sustainable outcomes, it is actors' moral values and underlying motivation to address issues that remains hidden. When values do align between actors, and this alignment can be effectively communicated, individual efforts are reciprocated in ways that help motivate continual efforts to address sustainably

goals. However, actors often make unreciprocated efforts to address sustainability goals that undermine current success in addressing issues, but also negatively impact future motivation to address goals.

Finally, we suggest that coordination of moral awareness extends beyond the specific underlying values to actors' level of analysis (e.g., individual, group, institutional: Fiore et al., 2017; Liljenstrom & Svedin, 2005; Singer, 1961). When actors address sustainability goals at their level of analysis, their efforts and solutions may fail to effectively incorporate actors at other levels. Consequently, both individuals and institutions might align in core values in ways that seem to suggest they would make progress to address goals related to these values; however, if they myopically focus on proximal outcomes (ignoring effects at other levels), this inhibits coordination by reducing their broad awareness of the various routes to meet this sustainability goal.

We find support for our propositions in a review of scholarship examining the sustainable goal to reduce food waste. In this review, we explain how actors, whether consumers or retailers, are hindered by coordination issues stemming from conflicting, misaligned, or absent beliefs regarding the importance of food waste as a sustainability goal. Additionally, we find that retailer efforts to address food waste is often complicated by their inability to accurately understand consumer values, as well as the fact that consumer values are heterogeneous in ways that lead efforts to address sustainable outcomes to backfire. We offer a typology that helps illuminate the relative (mis)alignment of market actors along core moral values and level of analysis, as well as opportunities to improve coordination across actors. Together, this theoretical framework helps to explain how psycho-structural factors help contribute to the relative success of efforts to address sustainability, providing scholars and practitioners a template with which to diagnose coordination issues.

Sustainability and Food Waste

The issue of food waste has received increased attention in the past few years. Governments, international non-governmental organizations and food market actors have seen value in addressing this problem, enacting potential solutions for reducing food waste at all stages of the food supply chain. Assessments indicate that approximately one third of the food that is produced for human consumption is wasted (Alexander et al., 2017; Gustavsson et al., 2011), contributing to about 30% of greenhouse gas emissions (Garnett, 2011) and playing a significant role in climate change. Moreover, food waste is also regarded as a social inequality issue (Gjerris & Gaiani, 2013), and a substantial financial drain on economies (Chalak et al., 2016). The negative implication of food waste suggest that it should be an important

sustainability goal for almost everyone. However, research shows that initiatives that aim to address this broad problem, have had limited success.

Who then is to blame for the lack of progress in reducing food waste? Research suggests that despite self-professed awareness of food waste as an issue (Neff et al., 2015), a large share of it occurs in consumer households, where the amount of avoidable food waste has been estimated to represent as much as 50% of total food waste in Europe (Hebrok & Boks, 2017; Kummu et al., 2012) and 60% in the US (Griffin et al., 2008). Food waste at the retail stage is estimated to be only about 5% of the food waste in developed countries (EU, 2010). The conclusion from this seems to be that consumers themselves play a significant role in the production of food waste, by unintentionally failing to grasp the full impact of food waste on sustainability issues (Gjerris & Gaiani, 2013) despite them acknowledging that wasting food is wrong and seeing the issue as one with profound ethical content (Evans, 2011).

Research also points to the important role that retailers play in the production of food waste due to the power they wield both within the supply chain (Devin & Richards, 2018) and on the retail-consumer interface (Aschemann-Witzel et al., 2017b). For instance, retailers often make strategic decisions on standards of appearance (de Hooge et al., 2018; Stuart, 2009), and decide on the size of the product units they sell, or the breadth of an assortment offered. These are decisions that ultimately can contribute to food waste in the supply chain (Devin & Richards, 2018). Moreover, retailers enact pricing tactics, and these have been blamed to trigger over-purchasing that contributes to food waste (Aschemann-Witzel et al., 2017b; Evans et al. 2017; Hegnsholt et al., 2018; WRAP, 2011), suggesting that retailers fail to coordinate with consumers to reduce food waste, perhaps themselves not understanding it as an important social goal, or believing that consumers do not see it as a pressing need worth addressing.

However, recognition of these problems is not a solution in and of itself. In fact, becoming aware that retailers play an important role when considering food waste concerns, some have begun to take action against food waste with a variety of initiatives e.g., information and awareness initiatives, redistribution of excess food (Aschemann-Witzel et al., 2017a; Kulikovskaja & Aschemann-Witzel, 2017), and abolishment of 'buy one get one free' (BOGOF) price promotions (Aschemann-Witzel et al., 2016; Evans et al., 2017). These actions are socially responsible in so much as they integrate social concerns in business operations, specifically being aware of the values and goals of consumers that helps to alleviate the environmental and social impacts of businesses (Dahlsrud, 2008). The fact that some retailers recognize how their actions affect consumers, whereas others do not, manifests the fact that actors are not always

aware of the values and goals of others, even if these goals may be both important and beneficial as the goal of reducing food waste is.

Bounded Ethicality

Why are actors seemingly unaware of the issues that surround food waste? One assumption might be that it is difficult to understand that food waste is an issue. However, the growing attention that is paid to this issue by policy makers, retailers, and consumers pay to this issue, and the significant impact it has on social and economic outcomes, makes it increasingly unlikely. To explain the lack of progress, we turn to established findings in cognitive psychology to provide an answer. This literature suggests individuals are limited in their ability to recognize all issues, a phenomenon referred to as bounded rationality (Chugh & Bazerman, 2007; Gigerenzer & Goldstein, 1996). Organizational scholars have used this framework to explain how various organizational decisions involve processes of “satisficing” where decisions are made not on all available information, but on information that actors have cognitively assessable to them (March & Simon, 1993; Simon, 1956). We follow the progression of this research into ethical domains, arguing that one reason that actors may not make efforts to address issues surrounding food waste is because these issues fall outside of the scope of their *moral* awareness.

Moral issues are important because they help motivate action to help uphold core held values (Graham et al., 2013), ultimately explaining why actors take efforts to address certain social goals. We suggest that one reason actors fail to address issues surrounding food waste is because they do not see food waste as morally charged. In other words, actors are not limited by their cognitive awareness—whether or not they actually understand that food waste exists—but by their ethical awareness—whether or not they see the issue of food waste as violating core moral values and thus worth addressing. When actors see food waste as something other than an ethical problem, they understand that this issue may be important to many, but it is simply not to them. This is echoed by theories of bounded ethicality (Chugh et al., 2005; Tenbrunsel, 2005) where actors fail to act in ethical ways, as they simply do not see the underlying immorality of their behavior, being seemingly unconscious to how they may violate moral values held by others.

More critically, we suggest that this bounded ethicality is not caused by contextual pressures, as in the case with moral blindness (Palazzo et al., 2012), nor is this the result of a similar phenomenon where actors morally forget what the right thing to do is (Shu & Gino, 2012; Shu et al., 2011; Tenbrunsel & Messick, 2004). Though we readily admit that these sort of contextual and motivational shifts influence

unethical behavior. Instead, we propose a persistent structural view on why actors are constrained by their bounded ethicality, even if they are cognitively aware of these issues. In this view, we build on contributions by scholars who outline ethical behaviors as being driven by a plurality of underlying values (Graham et al., 2013; Rai & Fiske, 2011). Thus, rather than assessing behaviors as being either (1) moral or (2) immoral, pluralists assess how behaviors confirm or violate a series of different moral standards. Often in organizations, behaviors may confirm one moral value (e.g., loyalty) while simultaneously violating another (e.g., honesty), such being the case with whistleblowing (Waytz et al., 2013). If actors are in fact moral pluralists, each actor will not only hold a hierarchical set of moral values, but some of these values will be particularly important to them (Mullen & Skitka, 2006) whereas other are less so, helping to explain why actors address some social issues and not others.

Consistent with the idea of heterogeneity in held values, existing literature illustrates that individuals differ in their attentiveness, and exhibit heterogeneous reactions, to both issues of food waste, with some seeing food waste as a practical outcome whereas others are driven by moral guilt (Qi & Roe, 2016). Similarly, some actors consider factors that contribute to food waste, like price promotions, whereas others do not (Lichtenstein et al., 1993; Tsalis, 2020). This heterogeneity is attributable to the discrepant interpretation of price promotions across consumers (Aydinli et al., 2014; Bertini & Aydinli, 2020), which is influenced by an array of underlying consumer values. For example, some consumers are concerned about their social status and use the prices of goods they buy to signal prominence, while others aim for getting good deals, which gives them a sense of being competent shoppers (Völckner, 2008).

Thus, in the case of food waste, some actors may understand the issue and the inequality it perpetuates as it aligns with values central to their moral code, activating the motivational drive to address these issues. However, other actors, those who weigh the moral value of food waste differently (or not at all), may not be similarly motivated as food waste falls outside of their moral awareness, thus stealing the motivational spark that motivates efforts towards this goal. In other words, the underlying heterogeneity of moral values, where core values motivate response and peripheral ones do not (Skitka, 2002; Skitka et al., 2005), explains motivation issues within actors, helping to understand why some actors address some issues but not others (see Fig. 1).

P1 Heterogeneity in moral values within actors explains diversity in motivation to address sustainability issues.

Importantly, this heterogeneity also complicates social coordination. If actors hold differing motivation to address social issues due to their perceived moral importance, it

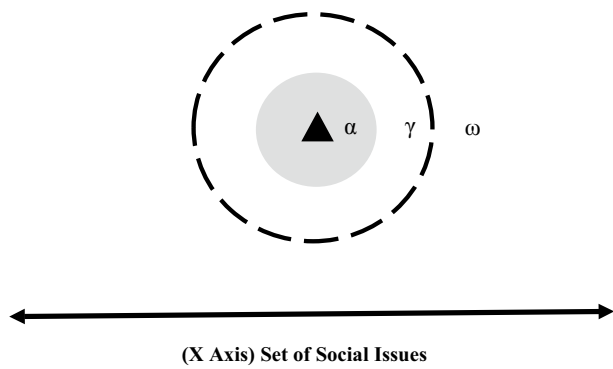


Fig. 1 Awareness of sustainability issues based on set of issues (X-axis) and actors' cognitive awareness (Dashed Circle) and moral awareness (Shaded Circle), indicating how some issues exist outside of their awareness (Omega), within their cognitive awareness (Gamma), and within their cognitive and moral awareness (Alpha)

complicates coordination towards sustainability goals. For example, it may be that two actors commonly see the existences of social issues, but vary in their underlying views of whether the issue is morally charged, and worth addressing (see Fig. 4). Thus, actors may fail in their efforts as they do not commonly see sustainability goals as worth addressing. Thus, we propose that when actors hold heterogeneous sets of moral values, they often fail to make progress towards issues surrounding food waste due to underlying misalignment in motivation to address issues.

P2 Heterogeneity in moral values between actors inhibits effective coordination to address social issues.

Does alignment along moral values means that actors effectively address sustainable outcomes like that surrounding food waste? It depends. In some situations, alignment may be enough to encourage these to address food waste due to a shared understanding of the values being championed. However, this situation assumes and is reliant on the fact that actors are often coordinated in the ways they would address the problem because they are likely (1) in close proximity to each other and (2) are both human. In other words, as two individuals they are likely to focus on procedures and outcomes that are both proximal and reasonable given their capabilities as individuals. But not all actors see the solutions to the issue of food waste in the same way. And more importantly, not all actors are individuals. Instead, market actors are often retailers who hold very different views of what is likely success or progress towards addressing issues of food waste given their view as an organization. Because actors differ in focus, in no small part due to some being individuals and others being institutions, we argue that progress towards sustainable outcomes such as food waste will often suffer from a level issue (Singer, 1961) whereby

actors address problems in ways that are proximal to their views and competencies. In some instances, institutional solutions may positively align with individuals' solutions, or vice versa. But often, institutional problems only focus on outcomes related to organizations, or in fact only to outcomes related to themselves (Devin & Richards, 2018). Thus, in addition to issues that inhibit coordination due to misalignment of underlying moral values, we also argue that individuals and institutions focus on outcomes at their level of analysis, preventing meaningful coordination between consumers and retailers to address food waste (see Fig. 6).

P3 Level-specific solutions help to address sustainability goals inhibit ordination between actors at different levels.

However, there are times when individuals and institutions do align in meaningful ways that help address food waste outcomes. For example in Denmark, the growing awareness of the issue of food waste has sparked an increasing number of various initiatives from retailers that aim to address the issue (Kulikovskaja & Aschemann-Witzel, 2017). For a subset of the Danish consumers these initiatives provide them with a means to actively engage in the battle against food waste, e.g. by purchasing foods that are about to expire, and for another subset, with the opportunity to achieve economic benefits by buying price reduced foods. From the retailers' perspective, these initiatives are beneficial and worth supporting because they avoid costly products disposals, and help them maintain a positive reputational image that strengthens their brand value (Aschemann-Witzel et al., 2015).

A Typology of Coordinated Action

In this section, we outline a typology that helps explain how and why heterogeneity in the perception of sustainability issues as moral goals inhibits coordination. We explain how and why actors are limited in their awareness of issues, as well as why this limited awareness is confounded when coordinating across different market actors. Finally, we explain how level-issues add another layer of complication to an already fraught system of coordination, thus explaining how psychological limitations and social structures together interact in ways that prevent, or in some very key instances allow, coordination between actors to address sustainability goals.

Defining Awareness

Though there are many things actors consider in everyday life, work in psychology and organizational behavior suggest actors have limits upon their awareness. Research has

long suggested that decisions are based on a limited set of information (March & Simon, 1958; Simon, 1956). In other words, actors do not consider every piece of information, even if it may be particularly relevant to their issues. Rather, they consider only those that are in their cognitive awareness. In Fig. 1, we highlight how actors (black triangle) consider information that is within their awareness: Issues Alpha (α), Omega (ω), and Gamma (γ). In the figure, distance helps to represent the relative importance of issues. As issues approach the center of the triangle, they are considered to weigh more heavily on the Actor's decision making progress, and are less important (or considered) as they move away from the center.

Cognitive Awareness

The first is an actor's cognitive awareness (dashed circle), indicating the information, events, and issues that they effectively consider (versus those that exist). In models of bounded rationality (March & Simon, 1958), actors consider only the information they are aware of. In Fig. 1, issues Alpha and Gamma fall within this awareness, whereas issue Omega does not. Thus, the actor represented in the figure would actively consider Alpha and Gamma, but not Omega. It may be that Omega simply did not fall under the Actor's awareness, or that cognitive processes led to the discounting of the issue, pushing it to the periphery of awareness (e.g., discounting: Kahneman & Tversky, 1979).

Although Omega may be important to others, or even critical to sustainability efforts, this individual actor's inherent psychological limitations, due to inability to consider all relevant issues due to psychological limitations represented by their bounded rationality, means it will go unconsidered by this actor.

Moral Awareness

When considering the importance of issues, some are more psychologically and socially important. Rather than just coming to mind or being considered by actors, they are understood as something that ought to be done, representing a moral obligation (Mullen & Skitka, 2006) and motivating emotions that help direct specific actions (Tangney et al., 2007). These issues fall within an actor's moral awareness (Butterfield et al., 2000; Rest, 1986), a sphere of attention that is similarly bounded by cognitive constraints (Chugh & Kern, 2016; Chugh et al., 2005). We argue that these issues are of particular importance to understanding when and why individuals are motivated to address sustainable outcomes.

While sustainability outcomes are ethical by virtue of them being seen as outcomes that are valued by broader society (Jones, 1991), we point to moral awareness and bounded ethicality to help explain why actors are not

broadly motivated to address all sustainability issues. Though these issues are of social importance, such that the United Nations has outlined goals that are socially important, not all goals fall within actors' moral awareness. Rather, only sustainable outcomes that align with core individual values (Graham et al., 2013) or that are enforced in social contexts and are thus seen by actors as morally important fall within an actors' moral awareness.

We take care to note that the set of sustainable issues that are contained within an actor's awareness are not static. There are various reasons the set of issues change. Situational pressures (Ethical Blindness/Blind Spots: Palazzo et al., 2012; Sezer et al., 2015), personal motivation (Ethical Fading: Tenbrunsel & Messick, 2004), and related (un)ethical decisions (Gino & Bazerman, 2009) help issues fall outside of ethical awareness. This helps explain why some issues may be considered ethical and worth addressing, but the motivation to address these issues may wane or be absent at different times. We emphasize that our propositions also differ from existing literature that examines the definitional problems associated with sustainability (Sheehy, 2015). In this scholarship, research shows how coordination is difficult because everyone is working with different and evolving definitions of sustainability (Basiago, 1995; Carroll, 1999; Göbbels, 2002), a condition that leads to a loose coupling between motivation and issues. We acknowledge that actors can have different definitions of sustainability. However, our argument still holds in conditions where actors commonly come to a common understanding of the issues surrounding sustainable goals. We suggest that actors hold heterogeneous motivation for addressing some sustainability goals to the exception of others, even if both goals fit may fit within a commonly accepted definition.

Although our argument helps to explain how actors may (1) be aware of sustainability issues and (2) be motivated to address them, our argument is focused not simply on how individual actors become aware of sustainability issues. Instead, we argue that progress to address sustainability issues is complicated by coordination between actors, where actors hold heterogeneous sets of issues to be important and thus must match with other actors who hold similar views on the importance of sustainability issues. At the core of this argument is that sustainability issues require coordination across actors if they are to be effectively addressed. It is possible that there may be certain actors who hold tremendous resources and influence in ways that allow them to address sustainability goals, but even these actors require support from others in order to help meet their goals. In the spirit of John Donne who wrote that "No man is an island" so to do sustainability goals require men and women to coordinate to address these socially responsible ends.

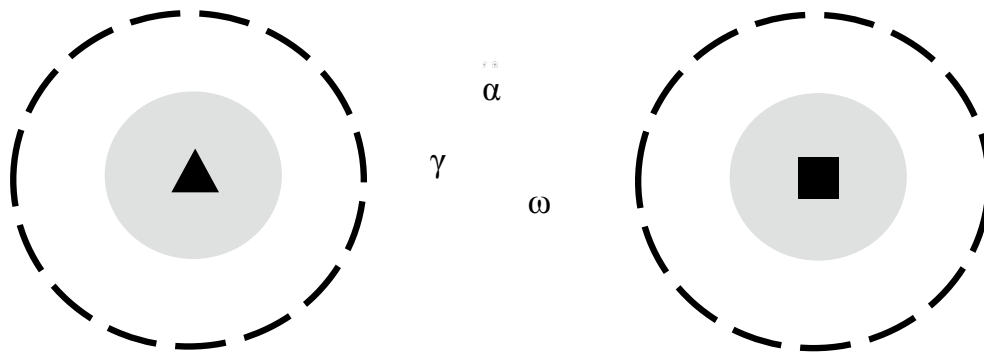


Fig. 2 Lack of awareness where sustainability issues (Gamma, Alpha, Omega) fall outside of actors cognitive (Dashed Circle) and moral (Shaded Circle) awareness, prohibiting coordination towards this goal

Social Coordination

Though we outline the relevance of cognitive and moral awareness, these concerns are only one half of our argument. Progress towards sustainable outcomes also requires social coordination where actors engage with others to pursue these common ends. This coordination includes both momentary arrangements (e.g., spot transactions) to more robust social exchanges or arrangements (Blau, 1964; Ouchi, 1980). Within these exchanges, actors communicate and make efforts towards shared goals. Coordination is conditional on two outcomes. First, actors need to effectively communicate the goals they find valuable versus those that they do not.¹ Second, actors must hold shared values that outline the common goals that they hold and why they make progress towards them. We focus on the conditions surrounding this latter condition, where actors match and coordinate (or do not) on shared moral values, making progress towards sustainability goals.

In the following section, we outline a typology of conditions that explain why and when actors effectively make progress towards sustainability goals based on (1) their underlying awareness of social issues, (2) the specific issues they find morally important and worth addressing, and critically (3) shared moral issues that explain why actors would work together to address issues.

¹ While communication is key to our argument, for parsimony we assume that actors effectively communicate goals they find meaningful to others. However, there are various reasons these values are not communicated based both on personal motivation where actors approach certain people and not others based on personal perceptions (e.g., Competence and Warmth: Casciaro & Lobo, 2008; 2015; Fiske, 2018), or social mispredictions where actors hold common views but, due to mistaken beliefs that others hold contrary views, they withhold communication of beliefs to avoid social disapproval (e.g., pluralistic ignorance: Miller & McFarland, 1987).

Lack of Awareness

There will be some situations in which actors do not coordinate, as they simply do not recognize the issues at stake. Figure 2 represents such a condition where Actor A (Triangle) and Actor B (Square) fail to recognize issues Gamma, Alpha, and Omega. It may be that the lack of awareness is driven by lack of experience, or that such issues have contextually pushed beyond an actor's explicit awareness. Though events, learning, or social pressure can drive these issues into active awareness, the lack of awareness by either party explains one condition under which progress will not be made to address sustainability goals. For example, retailer decisions regarding package sizes, date labelling, and product shelf life serve retailers' objectives, but disregard possible outcomes that occur after the products are sold. However, research within the domain of food waste identifies that these exact aspects play an important role in exacerbating food waste at the consumer level (Aschemann-Witzel et al., 2016; Williams et al., 2012).

Common Awareness without Moral Motivation

Figure 3 outlines a common condition surrounding sustainability issues, one where actors are aware of an issue (alpha), but neither finds the issue to be morally motivating and thus make no progress toward addressing them. We speculate that for those who *do* find this issue to be morally important (e.g., a third actor not represented in the Figure) becoming aware of this condition may be particularly frustrating as the issue is within the depicted actors' awareness, but neither is motivated to address it. If third parties are aware of situations where two actors recognize existing sustainability issues, but fail to understand that cognitive awareness and moral awareness are two different states of motivation, they may find this situation infuriating, coloring their perception of actors in ways that explain why they might not approach these actors and thus limiting

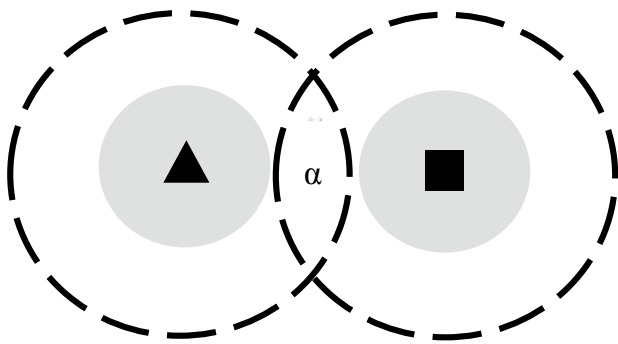


Fig. 3 Common awareness without moral motivation where sustainability issue Alpha falls into the cognitive awareness (Dashed Circle) of both actors (Triangle, Circle) but not within the moral awareness of either (Shaded Circle), ultimately inhibiting coordination to address this goal

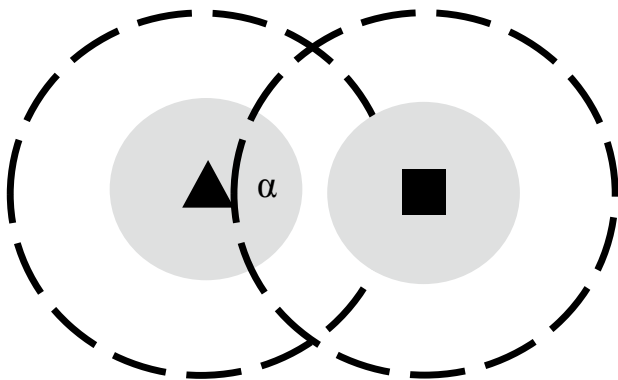


Fig. 4 Asymmetric moral awareness where sustainability issue Alpha falls into one actor's moral awareness (Shaded Circle, Triangle) whereas it is recognized (Dashed Circle) but not seen as morally important by another (Square), inhibiting coordination towards this sustainability goal

opportunities to exert pressure on actors that force these issues from cognitive awareness to moral awareness.

Research on food waste points to situations where, despite being an issue that falls within the sphere of awareness of actors, no or limited action is taken to address this issue. On one hand, actors within the food service industry, (e.g., restaurants and canteens), are driven primarily by the aim to provide good portions of attractive, fresh food and manage their establishments in an efficient manner (Betz et al., 2015; Heikkilä et al., 2016; Silvenoinen et al., 2015). On the other hand, patrons' decisions to discard food are primarily based on the palatability of the food they are served (Lorenz et al., 2017), and are even encouraged to leave leftovers abiding to a social restaurant etiquette that commands the existence of leftovers despite the awareness of the issue of food waste (Sirieix et al., 2017). While both restaurants and consumers may understand that reducing food waste is economically beneficial

to them, they both fail to make steps to address their misuse of food.

Asymmetric Moral Awareness

There are also situations in which one actor finds an issue to be morally important, but another one does not. In Fig. 4 we outline such a situation where one actor (Triangle) finds issue Alpha to be morally important, however another actor (Square) is aware of Alpha, but does not find it morally important in a way that inhibits coordination between actors. This mirrors a similar context to the one we speculated about above, where one actor sees an issue as morally important, but others do not both complicating coordination and potentially causing the first actor to be motivated to either (1) convince the others actors that this issue is morally important and pushing it into their moral awareness or (2) potentially avoiding these actors because they are frustrated by their apparent inaction towards these goals.

This condition is illustrated when retailers employ measures that aim to counter food waste, consumers still adhere to their own practices that lead to food waste for a variety of reasons. For example, consumers who aspire to maintain an identity of a good provider, or adhere to cultural norms of food abundance, may see these goals as worth obtaining, despite the resulting higher risk of creating food waste (Porpino et al., 2015, 2016). Individuals also are driven by social needs that place a higher value on consumption than addressing food waste, whether socializing (Wansink, 2004), expressing their emotions (Kemp et al., 2013), or simply automaticity (Cohen, 2008). Moreover, individuals have certain expectations regarding product availability in retail outlets, deviations from which may result in dissatisfaction, and consequently hinder the effectiveness of initiatives that aim to counter food waste. For example, the initiative of some German bakers to reduce their product assortment towards the end of day to limit food waste, was met with discontent by customers and compelled actors to abandon that initiative (Aschemann-Witzel et al., 2017a). In situations like these, food consumption assumes a higher significance even if food waste issues are understood, leading to individuals valuing consumption above other goals (i.e., food waste).

Coordinated Moral Awareness

The context in which progress is made towards sustainability issues is outlined in Fig. 5. In this situation, issue Alpha sits within both actors cognitive awareness and moral awareness. As both actors recognize this issue and find it morally important, they are motivated to address it together, improving progress through coordinated action. Turning to research on food waste, retailers have traditionally offered food products that would be most appealing to consumers, and

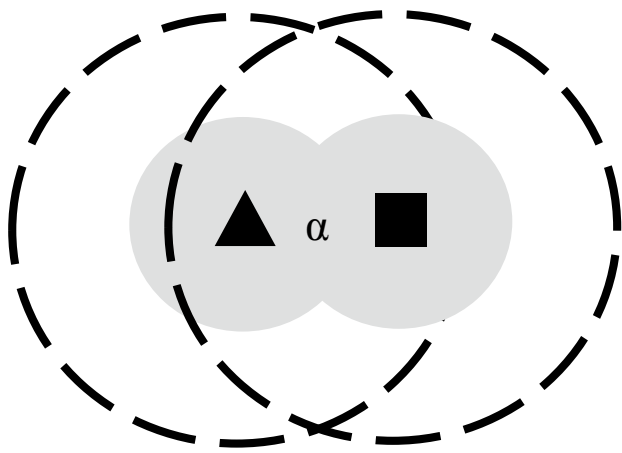


Fig. 5 Coordinated moral awareness of sustainability issue (Alpha) by actors (Triangle, Square) where issue is both with cognitive (Dashed Circle) and moral (Shaded Circle) awareness, allowing motivation to jointly address the existing sustainability goal

imposed strict criteria on the appearance, weight, size and shape of these foods (de Hooge et al., 2018). This practice has resulted in massive food losses, when perfectly edible food was discarded based on aesthetic criteria. On the other hand, consumers have been reluctant to purchase these food products (Göbel et al., 2015; Loebnitz & Grunert, 2015) based on formed associations of deformities with increased food borne risks (Block et al., 2016) and even negative self-perception (Grewal et al., 2019). This food loss has recently received increasing attention, both for its environmental, and economic ramifications, as well as the ethical underpinnings of this practice, flagging the issue as one with a profound moral content, and bringing it within retailers and consumers' moral awareness. In Denmark, various initiatives have been implemented as a result of the attention the issue has received and an increasing number of retailers include sub-optimal products on their shelves, which consumers increasingly purchase (de Hooge et al., 2017).

Level of Analysis

While the coordination of actors is difficult due to heterogeneity in what actors are aware of and, importantly, what they find morally important and willing to address, there is a fundamental problem that inhibits coordination between actors: level of analysis. So far, we have defined protagonists as “actors” a label that purposely does not define whether actors are individuals (e.g., consumers, workers, politicians) or institutions (e.g., grocery stores, retailers, governmental bodies). Our ambiguity is intentional as it helps us to introduce another issue surrounding coordination that lies in the inability of actors to address sustainable ends because their awareness is focused on solutions that exist at their level

of analysis. While it is possible that solutions institutions propose are broadly effective at an individual level, these solutions often ignore existing differences in motivation, personality, or demographics that help to explain why certain individuals address social issues whereas others do not.

How do level of analysis issues complicated coordination issues? We argue that level of analysis issues exist because the perception of issues at different levels of analysis lead to discrete difficulties when solving problems. For instance, it may be that consumers (individual level of analysis) and grocery retailers (institutional level of analysis) both see the broader issue of food waste as a moral issue that is worth addressing. Grocery retailers, realizing that their purchasing practices often lead to the rejection of food due to aesthetic qualities (e.g., ugly fruit: Devin & Richards, 2018), factors that are unrelated to the nutritional benefit they provide consumers. Thus, in an effort to reduce food waste, grocery retailers may buy and sell this produce. However, this effort to address the sustainability issue of food waste ignores the question of whether consumers will actually buy ugly fruit, similarly seeing it as a moral issue, or whether they simply do not see the purchasing of ugly fruit as a moral issue. Thus, while some consumers see the solution enacted by grocery retailers as one way to address food waste (left hand side of Fig. 6) others might need more targeted solutions that drive the issue into their awareness (right hand side of Fig. 6), such as posters at the point of purchase that indicate the importance of buying ugly fruit when reducing food waste. Ultimately it will be the mechanism that shift issues or actors' awareness onto sustainability goals that will determine coordination, and by extension the unified progress of society to address these worthwhile ends.

Aligning Values?

Given the potential for lack of coordination across sustainability issues, one of the pertinent questions is how and when do actors shift from states where they are not coordinated to those where they are. While a tremendous amount of literature is focused on identifying mispredictions and situations where we behave in unethical ways, less presents the “moral fixes” we can use to make others more aware of these moral issues in ways that they advance from simple cognitive awareness to moral awareness, motivating actors to address these socially desirable goals. Consistent with our typology, we argue that alignment happens when (1) issue fall under actors' awareness and (2) they are subsequently seen as morally important. While this progress seems simple, there is reason to suggest that many times actors are simply not aware of the fact that their behavior is morally charged and need to be reminded of this fact. For instance, interventions may be designed to broadcast what moral values actors find important. At a personal level, it may be simple things like

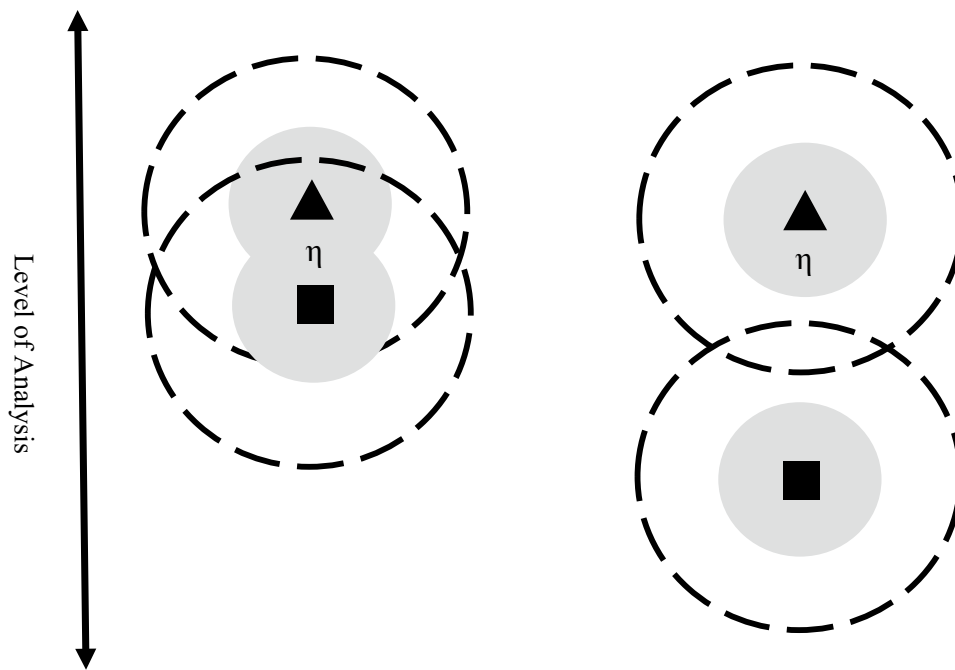


Fig. 6 Relative alignment of actors and moral issues (Eta) across level of analysis (Y-Axis), resulting in either aligned awareness and solutions (left hand column) or misalignment (right hand column) inhibiting progress towards addressing issues

bumper stickers or bracelets that help signal allegiance with particular values, but for institutions it may be signs and advertisements that help consumers understand what values (and goals) are supported by organizations.

The appearance of these signals speaks to the importance of structural and contextual changes that make the morality of decisions salient (Zhang et al., 2014). It may be that efforts such as these to install a condition of “vigilance” (Zhang et al., 2015) help actors understand that issues are morally charged and are more effective in getting them to address these socially important ends. Importantly, it may be that organizations need to make reminders (1) persistent—assuring that actors become contextually aware of the morality of their actions in different contexts—as well as (2) let them evolve—helping to assure that morality reminders can change with consumer sentiment or the arrival of new goals that evolve to become socially or contextually important.

General Discussion

In this paper, we propose a theory that progress towards sustainability goals is inhibited by both actors’ own heterogeneity in recognizing these issues as morally charged and in the difficulties in coordinating (matching) actors who hold heterogeneous motivation to address these socially relevant goals. We situate these findings in existing scholarship concerning moral awareness, explaining how actors may have

common awareness of issues, but do not find all of them morally relevant and worth addressing (Graham et al., 2013; Mullen & Skitka, 2006). In other words, actors are not all motivated by the desire to address sustainability goals, even if they may commonly agree that they are socially relevant. Given the lack of time and resources many have at their disposal, and the multitude of sustainability goals, the belief that all goals are equally important and obtainable seems implausible, or only reasonable in a world where time and resources are more abundant. In reality, it is the heterogeneity of underlying moral values that allows actors to strategically limit their efforts in ways that maximize resources at their disposal given their contextual needs.

Our work contributes to existing literature on contextual morality. Existing work has explained how moral decisions often face a variety of cognitive and contextual hurdles. We contribute to this work to suggest that it is not that actors are unaware of social issues (Simon, 1956), situationally forget them (Palazzo et al., 2012; Shu & Gino, 2012; Shu et al., 2011; Tenbrunsel & Messick, 2004), or have difficulty in accurately defining these outcomes (Banerjee, 2008; Christensen et al., 2013; Sheehy, 2015). Rather actors are aware of the issues, but they differ in the motivation to address these problems due to differences in seeing the problems as morally charged. These differences lead to coordination issues that complicate efforts.

We also contribute to the existing work on food waste as a socially undesirable outcome. Work in this space

readily explained how consumers see food waste reduction as a socially desirable goal (Aschemann-Witzel et al., 2019; Cappellini & Parsons, 2012; Evans, 2011; Graham-Rowe et al., 2014; however, existing scholarship comes to contradictory conclusions about how to reduce food waste (Betz et al., 2015; Heikkilä et al., 2016; Raak et al., 2017). We help explain how food waste may remain an important social goal, but how actors may not understand how their efforts contribute to the issue. In other words, they may both not understand how their actions are in fact morally charged and contribute to food waste, and also may disagree that food waste is a primary goal when compared to other outcomes (economic sustainability, inequality of resource access, etc.). Thus, the issue may persist despite the best efforts of actors and retailers alike.

Finally, we contribute to the research on business ethics in suggesting that sustainability goals require time and effort to effectively address. If actor motivations are heterogenous, as we argue, and if they evolve over time, as others have suggested (Carroll, 1999), it suggests that organizations would be well served in addressing sustainability goals through a variety of methods. Given the underlying differences in moral awareness, it is simplistic to assume that highlighting one sustainability goal is likely effective in reaching all consumers, or that lack of progress after enacting one solution means that consumers do not value sustainability. Rather, organizational should seek multiple routes for addressing sustainability and make them clear to relevant actors, increasing the chances that organizational efforts and actor motivation align in ways that help facilitate progress towards sustainable goals.

Limitations

Our work would benefit from a number of potential extensions. First, while we show that heterogenous moral values inhibit coordination, despite common recognition, it may be that failures to address sustainability goals may undermine subsequent motivation to address issues. If actors make repeated efforts to address sustainability outcomes, but mispredict social support in these efforts in ways that lead to their failure, they may think their efforts are ultimately futile and stop engaging in them as part of a learned helplessness (Seligman, 1972). While our work does not explore this per se, it may be fruitful to understand if actors once saw social goals as important, but given lack of progress in obtaining them, saw these goals as less relevant or no longer morally charged (Tenbrunsel & Messick, 2004). It may be that lack of social progress towards morally charged goals forces actors to abandon pursuit of these goals, and upholding of underlying values, as a compensatory mechanism that helps avoid persistent views of one's failure and resulting depression.

Practically, we explain how all actors can do a better job in outlining what goals they find morally important. While there may be common agreement that goals are worthwhile, it is reasonable to assume that actors will limit their effort to goals they think are (1) obtainable and those that are (2) personally relevant. Finding ways to broadcast sustainability outcomes (e.g., posters, advertisements, consumer apps, blogs, etc.) that match both of these conditions can help actors find like-minded individuals who might join and embolden their efforts to solve existing sustainability issues.

Conclusion

Using the existing scholarship on food waste, we develop a typology that helps explain why issues continue to exist that inhibit progress towards sustainability outcomes. Though actors are commonly aware of these social goals, heterogeneity in underlying moral values explains why some goals receive broad support whereas others do not. More importantly, we outline a matching problem that exists when actors hold heterogenous sets of morally important goals, explaining why progress is often so difficult. Ultimately, our work establishes a robust framework that allows scholars to understand when, why, and under what conditions actors may fail (or succeed) in making progress to address sustainability goals.

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Declarations

Conflict of interest The authors declare no conflict of interest.

References

- Aguinis, H., & Glavas, A. (2012). What we know and don't know about corporate social responsibility: A review and research agenda. *Journal of Management*, 38(4), 932–968
- Alexander, P., Brown, C., Arneth, A., Finnigan, J., Moran, D., & Rounsevell, M. D. A. (2017). Losses, inefficiencies and waste in the global food system. *Agricultural Systems*, 153, 190–200
- Aschemann-Witzel, J., De Hooge, I., Amani, P., Bech-Larsen, T., & Oostindjer, M. (2015). Consumer-related food waste: Causes and potential for action. *Sustainability*, 7(6), 6457–6477
- Aschemann-Witzel, J., De Hooge, I., & Normann, A. (2016). Consumer-related food waste: Role of food marketing and retailers

- and potential for action. *Journal of International Food & Agribusiness Marketing*, 28(3), 271–285
- Aschemann-Witzel, J., De Hooge, I. E., Rohm, H., Normann, A., Bossle, M. B., Grønhoj, A., & Oostindjer, M. (2017a). Key characteristics and success factors of supply chain initiatives tackling consumer-related food waste—A multiple case study. *Journal of Cleaner Production*, 155, 33–45
- Aschemann-Witzel, J., Giménez, A., & Ares, G. (2019). Household food waste in an emerging country and the reasons why: Consumer's own accounts and how it differs for target groups. *Resources, Conservation and Recycling*, 145, 332–338
- Aschemann-Witzel, J., Jensen, J. H., Jensen, M. H., & Kulikovskaja, V. (2017b). Consumer behaviour towards price-reduced suboptimal foods in the supermarket and the relation to food waste in households. *Appetite*, 116, 246–258
- Aydinli, A., Bertini, M., & Lambrecht, A. (2014). Price promotion for emotional impact. *Journal of Marketing*, 4, 80–96
- Banerjee, S. B. (2008). Corporate social responsibility: The good, the bad and the ugly. *Critical Sociology*, 34(1), 51–79
- Basiago, A. D. (1995). Methods of defining 'sustainability.' *Sustainable Development*, 3, 109–119
- Bauman, C. W., & Skitka, L. J. (2012). Corporate social responsibility as a source of employee satisfaction. *Research in Organizational Behavior*, 32, 63–86
- Bertini, M., & Aydinli, A. (2020). Consumer reactance to promotional favors. *Journal of Retailing*, 4, 578–589
- Betz, A., Buchli, J., Göbel, C., & Müller, C. (2015). Food waste in the Swiss food service industry—Magnitude and potential for reduction. *Waste Management*, 35, 218–226
- Blau, P. M. (1964). *Exchange and power in social life*. Wiley.
- Block, L. G., Keller, P. A., Vallen, B., Williamson, S., Birau, M. M., Grinstein, A., Haws, K. L., LaBarge, M. C., Lambertson, C., Moore, E. S., & Moscato, E. M. (2016). The squander sequence: Understanding food waste at each stage of the consumer decision-making process. *Journal of Public Policy & Marketing*, 35(2), 292–304
- Butterfield, K. D., Trevino, L. K., & Weaver, G. R. (2000). Moral awareness in business organizations: Influences of issue-related and social context factors. *Human Relations*, 53, 981–1018
- Cappellini, B., & Parsons, E. (2012). Practising thrift at dinnertime: Mealtime leftovers, sacrifice and family membership. *The Sociological Review*, 60, 121–134
- Carroll, A. B. (1979). A three-dimensional conceptual model of corporate performance. *Academy of Management Review*, 4, 497–505
- Carroll, A. B. (1999). Corporate social responsibility: Evolution of a definitional construct. *Business & Society*, 38(3), 268–295
- Chalak, A., Abou-Daher, C., Chaaban, J., & Abiad, M. G. (2016). The global economic and regulatory determinants of household food waste generation: A cross-country analysis. *Waste Management*, 48, 418–422
- Christensen, L. T., Morsing, M., & Thyssen, O. (2013). CSR as aspirational talk. *Organization*, 20(3), 372–393
- Chugh, D., & Bazerman, M. H. (2007). Bounded awareness: What you fail to see can hurt you. *Mind & Society*, 6(1), 1–18
- Chugh, D., Bazerman, M. H., & Banaji, M. R. (2005). Bounded ethicality as a psychological barrier to recognizing conflicts of interest. In D. A. Moore, D. M. Cain, G. Loewenstein, & M. H. Bazerman (Eds.), *Conflicts of interest: Challenges and solutions in business, law, medicine, and public policy*. (pp. 74–95). Cambridge: Cambridge University Press.
- Chugh, D., & Kern, M. C. (2016). A dynamic and cyclical model of bounded ethicality. *Research in Organizational Behavior*, 36, 85–100
- Cohen, D. A. (2008). Neurophysiological pathways to obesity: Below awareness and beyond individual control. *Diabetes*, 57(7), 1768–1773
- Dahlsrud, A. (2008). How corporate social responsibility is defined: An analysis of 37 definitions. *Corporate Social Responsibility and Environmental Management*, 15(1), 1–13
- de Hooge, I. E., van Dulm, E., & van Trijp, H. C. M. (2018). Cosmetic specifications in the food waste issue: Supply chain considerations and practices concerning suboptimal food products. *Journal of Cleaner Production*, 183, 698–709
- de Hooge, I. E., Oostindjer, M., Aschemann-Witzel, J., Normann, A., Loose, S. M., & Almlí, V. L. (2017). This apple is too ugly for me! Consumer preferences for suboptimal food products in the supermarket and at home. *Food Quality and Preference*, 56, 80–92
- Devin, B., & Richards, C. (2018). Food waste, power, and corporate social responsibility in the Australian food supply chain. *Journal of Business Ethics*, 150(1), 199–210
- Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science*, 60, 2835–2857
- Elkington, J. (2020). *Green swans: The coming boom in regenerative capitalism*. Greenleaf Book Group.
- EU. (2010). Preparatory study on food waste across EU 27: Technical report. Retrieved August 15, 2016 from http://ec.europa.eu/environment/eussd/pdf/bio_foodwaste_report.pdf
- Evans, D. (2011). Blaming the consumer—once again: The social and material contexts of everyday food waste practices in some English households. *Critical Public Health*, 21(4), 429–440
- Evans, D., Welch, D., & Swaffield, J. (2017). Constructing and mobilizing 'the consumer': Responsibility, consumption and the politics of sustainability. *Environment and Planning A*, 49(6), 1396–1412
- Fiore, S. M., Rosen, M., Salas, E., Burke, S., & Jentsch, F. (2017). Processes in complex team-solving? Parsing and defining the theoretical problem space. In M. P. Letsky, N. W. Warner, S. M. Fiore, C. A. P. Smith, N. W. Warner, C. A. P. Smith, & M. P. Letsky (Eds.), *Macro-cognition in teams: Theories and methodologies*. (pp. 143–163). Berlin: CRC Press.
- Garnett, T. (2011). Where are the best opportunities for reducing greenhouse gas emissions in the food system (including the food chain)? *Food Policy*, 36, S23–S32
- Gigerenzer, G., & Goldstein, D. G. (1996). Reasoning the fast and frugal way: Models of bounded rationality. *Psychological Review*, 103(4), 650
- Gino, F., & Bazerman, M. H. (2009). When misconduct goes unnoticed: The acceptability of gradual erosion in others' unethical behavior. *Journal of Experimental Social Psychology*, 45, 708–719
- Gjerris, M., & Gaiani, S. (2013). Household food waste in Nordic countries: Estimations and ethical implications. *Nordic Journal of Applied Ethics*, 7(1), 6–23
- Göbbels, M. (2002). Reframing corporate social responsibility: The contemporary conception of a fuzzy notion. *Journal of Business Ethics*, 44, 95–105
- Göbel, C., Langen, N., Blumenthal, A., Teitscheid, P., & Ritter, G. (2015). Cutting food waste through cooperation along the food supply chain. *Sustainability*, 7(12), 1429–1445
- Graham, J., Haidt, J., Koleva, S., Motyl, M., Iyer, R., Wojcik, S. P., & Ditto, P. H. (2013). Moral foundations theory: The pragmatic validity of moral pluralism. In L. Berkowitz (Ed.), *Advances in experimental social psychology*. (Vol. 47, pp. 55–130). Academic Press.
- Graham-Rowe, E., Jessop, D. C., & Sparks, P. (2014). Identifying motivations and barriers to minimising household food waste. *Resources, Conservation and Recycling*, 84, 15–23
- Grewal, L., Hmurovic, J., Lambertson, C., & Reczek, R. W. (2019). The self-perception connection: Why consumers devalue unattractive produce. *Journal of Marketing*, 83(1), 89–107

- Griffin, M., Sobal, J., & Lyson, T. A. (2008). An analysis of a community food waste stream. *Agriculture and Human Values*, 26(1–2), 67–81
- Gustavsson, J., Cederberg, C., Sonesson, U., Otterdijk, R. V., & Meybeck, A. (2011). *Global food losses and food waste*. (pp. 1–38). Food and Agriculture Organization.
- Hebrok, M., & Boks, C. (2017). Household food waste: Drivers and potential intervention points for design—An extensive review. *Journal of Cleaner Production*, 151, 380–392
- Hegnsholt, E., Unnikrishnan, S., Pollmann-Larsen, M., Askseldottir, B., & Gerard, M. (2018). *Tackling the 1.6-billion-ton food loss and waste crisis*. The Boston Consulting Group, Food Nation, State of Green.
- Heikkilä, L., Reinikainen, A., Katajajuuri, J. M., Silvennoinen, K., & Hartikainen, H. (2016). Elements affecting food waste in the food service sector. *Waste Management*, 56, 446–453
- Jones, T. M. (1991). Ethical decision making by individuals in organizations: An issue-contingent model. *Academy of Management Review*, 16(2), 366–395
- Kahneman, D., & Tversky, A. (1979). On the interpretation of intuitive probability: A reply to Jonathan Cohen. *Cognition*, 7, 409
- Kemp, E., Bui, M., & Grier, S. (2013). When food is more than nutrition: Understanding emotional eating and overconsumption. *Journal of Consumer Behaviour*, 12(3), 204–213
- Kor, Y. Y., Prabhu, J., & Esposito, M. (2017, December 19). How large food retailers can help solve the food waste crisis. *Harvard Business Review*. <https://hbr.org/2017/12/how-large-food-retailers-can-help-solve-the-food-waste-crisis>
- Kulikovskaja, V., & Aschemann-Witzel, J. (2017). Food waste avoidance actions in food retailing: The case of Denmark. *Journal of International Food & Agribusiness Marketing*, 29(4), 328–345
- Kummu, M., de Moel, H., Porkka, M., Siebert, S., Varis, O., & Ward, P. J. (2012). Lost food, wasted resources: Global food supply chain losses and their impacts on freshwater, cropland, and fertiliser use. *Science of the Total Environment*, 438, 477–489
- Lichtenstein, D. R., Ridgway, N. M., & Netemeyer, R. G. (1993). Price perceptions and consumer shopping behavior: A field study. *Journal of Marketing Research*, 30, 234–245
- Liljenström, H., & Svedin, U. (2005). System features, dynamics, and resilience. *Micro, Meso, Macro*. https://doi.org/10.1142/9789812701404_0001
- Loebnitz, N., & Grunert, K. G. (2015). The effect of food shape abnormality on purchase intentions in China. *Food Quality and Preference*, 40, 24–30
- Lorenz, B. A. S., Hartmann, M., & Langen, N. (2017). What makes people leave their food? The interaction of personal and situational factors leading to plate leftovers in canteens. *Appetite*, 116, 45–56
- March, J. G., & Simon, H. A. (1958). *Organizations*. New York, NY: Wiley
- March, J. G., & Simon, H. A. (1993). Organizations revisited. *Industrial and Corporate Change*, 2(3), 299–316
- Miller, D. T., & McFarland, C. (1987). Pluralistic ignorance: When similarity is interpreted as dissimilarity. *Journal of Personality and Social Psychology*, 53(2), 298
- Mullen, E., & Skitka, L. J. (2006). Exploring the psychological underpinnings of the moral mandate effect: Motivated reasoning, group differentiation, or anger? *Journal of Personality and Social Psychology*, 90(4), 629
- Murnighan, J. K., & Roth, A. E. (1977). The effects of communication and information availability in an experimental study of a three-person game. *Management Science*, 23(12), 1336–1348
- Neff, R. A., Spiker, M. L., & Truant, P. A. (2015). Wasted food: US consumers' reported awareness, attitudes, and behaviors. *PLoS ONE*, 10, e0127881
- Ouchi, W. G. (1980). Markets, Bureaucracies, and clans. *Administrative Science Quarterly*, 1, 129–141
- Palazzo, G., Krings, F., & Hoffrage, U. (2012). Ethical blindness. *Journal of Business Ethics*, 109(3), 323–338
- Porpino, G., Parente, J., & Wansink, B. (2015). Food waste paradox: Antecedents of food disposal in low income households. *International Journal of Consumer Studies*, 39(6), 619–629
- Porpino, G., Wansink, B., & Parente, J. (2016). Wasted positive intentions: The role of affection and abundance on household food waste. *Journal of Food Products Marketing*, 22(7), 733–751
- Prentice, D. A., & Miller, D. T. (1993). Pluralistic ignorance and alcohol use on campus: Some consequences of misperceiving the social norm. *Journal of Personality and Social Psychology*, 64(2), 243
- Qi, D., & Roe, B. E. (2016). Household food waste: Multivariate regression and principal components analyses of awareness and attitudes among US household consumers. *PLoS ONE*, 11, e0159250
- Raak, N., Symmank, C., Zahn, S., Aschemann-Witzel, J., & Rohm, H. (2017). Processing-and product-related causes for food waste and implications for the food supply chain. *Waste Management*, 61, 461–472
- Rai, T. S., & Fiske, A. P. (2011). Moral psychology is relationship regulation: Moral motives for unity, hierarchy, equality, and proportionality. *Psychological Review*, 118(1), 57
- Rest, J. R. (1986). *Moral development: Advances in research and theory*. Praeger.
- Roth, A. E., & Murnighan, J. K. (1982). The role of information in bargaining: An experimental study. *Econometrica: Journal of the Econometric Society*, 50, 1123–1142
- Seligman, M. E. P. (1972). Learned helplessness. *Annual Review of Medicine*, 23, 407–412
- Sezer, O., Gino, F., & Bazerman, M. H. (2015). Ethical blind spots. Explaining unintentional unethical behavior. *Current Opinion in Psychology*, 6, 77–81
- Sheehy, B. (2015). Defining CSR: Problems and solutions. *Journal of Business Ethics*, 131, 625–648
- Shu, L. L., & Gino, F. (2012). Sweeping dishonesty under the rug: How unethical actions lead to forgetting of moral rules. *Journal of Personality and Social Psychology*, 102(6), 1164
- Shu, L. L., Gino, F., & Bazerman, M. H. (2011). Dishonest deed, clear conscience: When cheating leads to moral disengagement and motivated forgetting. *Personality and Social Psychology Bulletin*, 37(3), 330–349
- Silvennoinen, K., Heikkilä, L., Katajajuuri, J. M., & Reinikainen, A. (2015). Food waste volume and origin: Case studies in the Finnish food service sector. *Waste Management*, 46, 140–145
- Simon, H. A. (1956). Rational choice and the structure of the environment. *Psychological Review*, 63(2), 129
- Simon, H. A. (1978). Rationality as process and product of thought. *American Economic Review*, 68, 1–16
- Singer, J. D. (1961). The level-of-analysis problem in international relations. *World Policy*, 14, 77
- Sirieix, L., Låla, J., & Kocmanová, K. (2017). Understanding the antecedents of consumers' attitudes towards doggy bags in restaurants: Concern about food waste, culture, norms and emotions. *Journal of Retailing and Consumer Services*, 34, 153–158
- Skitka, L. J. (2002). Do the means always justify the ends, or do the ends sometimes justify the means? A value protection model of justice reasoning. *Personality and Social Psychology Bulletin*, 28(5), 588–597
- Skitka, L. J., Bauman, C. W., & Sargis, E. G. (2005). Moral conviction: Another contributor to attitude strength or something more? *Journal of Personality and Social Psychology*, 88(6), 895

- Stuart, T. (2009). *Waste: Uncovering the global food scandal*. WW Norton & Company.
- Tangney, J. P., Stuewig, J., & Mashek, D. J. (2007). Moral emotions and moral behavior. *Annual Review of Psychology*, *58*, 345–372
- Tenbrunsel, A. E. (2005). Bounded ethicality and conflicts of interest. In D. A. Moore, D. M. Cain, G. Loewenstein, & M. H. Bazerman (Eds.), *Conflicts of interest: Challenges and solutions in business, law, medicine, and public policy*. (pp. 96–103). Cambridge University Press.
- Tenbrunsel, A. E., & Messick, D. M. (2004). Ethical fading: The role of self-deception in unethical behavior. *Social Justice Research*, *17*, 223–236
- Tsalis, G. (2020). What's the deal? Consumer price involvement and the intention to purchase suboptimal foods. A cross-national study. *Food Quality and Preference*, *79*, 103747
- United Nations. (2018). Sustainable development goals. 17 goals to transform our world. Retrieved July 12, 2020 from <https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>
- Völckner, F. (2008). The dual role of price: Decomposing consumers' reactions to price. *Journal of the Academy of Marketing Science*, *36*(3), 359–377
- Wansink, B. (2004). Environmental factors that increase the food intake and consumption volume of unknowing consumers. *Annual Review of Nutrition*, *24*, 455–479
- Waytz, A., Dungan, J., & Young, L. (2013). The whistleblower's dilemma and the fairness–loyalty tradeoff. *Journal of Experimental Social Psychology*, *49*, 1027–1033
- Williams, H., Wikström, F., Otterbring, T., Löfgren, M., & Gustafsson, A. (2012). Reasons for household food waste with special attention to packaging. *Journal of Cleaner Production*, *24*, 141–148
- WRAP. (2011). Investigation into the possible impact of promotions on food waste. Retrieved October 20, 2017 from <http://www.wrap.org.uk/sites/files/wrap/WRAP%20promotions%20report%20FINAL%20241111.pdf>
- Zhang, T., Fletcher, P. O., Gino, F., & Bazerman, M. H. (2015). Reducing bounded ethicality: How to help individuals notice and avoid unethical behavior. *Organizational Dynamics*, *44*, 310–317
- Zhang, T., Gino, F., & Bazerman, M. H. (2014). Morality rebooted: Exploring simple fixes to our moral bugs. *Research in Organizational Behavior*, *34*, 63–79

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