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RESEARCH ARTICLE

Circular plastic consumption in everyday life: a nexus of practice perspective

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Plastic consumption is posing a critical challenge to global sustainability. Yet our understanding of the social and everyday dynamics of how and why people use plastics remains limited. Particularly, significant gaps in understanding exist concerning how plastics are embedded in households' daily routines and practices and how this varies across different daily life settings. This article aims to bridge this gap by offering an in-depth exploration of the social and material dimensions of plastic consumption in varied Dutch households. Employing a theoretically and methodologically innovative approach, the article advances understanding of the connectivity of daily practices influencing household plastic use. Combining a social practice theoretical framework with a future-oriented, multi-modal imaginary methodology, we explore practice dynamics across diverse households of distinct life stages and compositions. Our analysis uncovers the complex interplay between daily practice arrangements and their systemic integration, revealing how daily life's material, spatial and temporal dimensions are shaped and enabled by plastics. The study highlights the nuanced ways in which social variations in the organisation and institutional structures of daily life and engagement with socio-technical systems lock people into plastic consumption or enable transformative possibilities for sustainable change. By shedding light on the often overlooked social and everyday dynamics of plastic consumption, the article deepens theoretical understanding of practice connectivity while also opening new avenues for envisioning and facilitating transformation towards circular plastic consumption.

Keywords everyday social practices • household • plastic consumption • circularity
• practice connectivity • futures methodology

Key messages

- Domestic households and ordinary citizens hold a pivotal role in driving circular transformations regarding plastic consumption.
- Plastic material consumption both shapes and is shaped by social meanings related to preservation, efficiency, flexibility, spontaneity and transportability as observed at the site of everyday food practices.

- The social meanings engendered through plastic consumption are not limited to individual practice dynamics but are mediated through the interaction of plastic materials with certain spatiotemporal pathways of practice connectivity.
- Employment and integration of plastics within daily practice arrangements varies across households, strongly correlated with differences in the institutional-material, temporal and spatial arrangements of daily life.

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Introduction

Circular Economy (CE) policy and research agendas have largely overlooked the domestic sphere and the roles of daily citizens in circular transformations (Mylan et al, 2016; Hobson, 2021; Greene et al, 2024). Critical researchers highlight that CE discourse is predominantly technocentric and production-orientated, focusing on optimising material flows and waste reduction at the expense of socio-cultural dimensions of consumption (Merli et al, 2018; Friant et al, 2020; 2021). Given the significant influence of everyday social practices on demand, and evidence showing that technical efficiency alone is insufficient to address environmental burdens (Zink and Geyer, 2017), this sidelining of social dynamics is of critical concern.

The circular plastic transitions agenda exemplifies these tensions. Policies often prioritise technical and design-based solutions for resource efficiency and waste management (European Commission, 2018; Ellen MacArthur Foundation, 2022). This technocratic and individualised approach assumes that new circular habits can be diffused through educational campaigns, financial incentives and new products. However, it overlooks the everyday practices and social, material and provisioning contexts and practices which shape actions and choices (Hobson, 2021).

CE plastic transition research similarly focuses on supply-side and end-of-life solutions, emphasising technological solutions and individual behaviours over socio-material cultures (Núñez-Cacho et al, 2020; Jacobsen et al, 2022). This agenda seeks to identify external signals to steer consumer choices (Martinho et al, 2017; Pahl et al, 2017; Boesen et al, 2019), reflecting a trend in prioritising psychological and economic approaches to individual actions (Camacho-Otero et al, 2018; Hobson, 2021). Empirical evidence, however, shows that increased awareness about plastic's negative impacts does not necessarily lead to behavioural changes (Heidbreder et al, 2019), with research suggesting that situational contexts, infrastructures, social norms and convenience are more significant barriers to reducing plastics (Heidbreder et al, 2019; Wiefek et al, 2021). Yet significant knowledge gaps exist regarding how plastics are integrated into everyday life and the contexts enabling or constraining circular plastic consumption (Greene et al, 2024).

Joining a growing body of critical approaches to consumption in the CE (Shove, 2023; Greene et al, 2024), we argue that a systemic and social practice theoretical (SPT) perspective on circular plastic consumption is crucial to addressing these knowledge gaps and harnessing the potential of households in achieving circular

plastic futures (Nielsen et al, 2020; Shittu, 2021; Rabiú and Jaeger-Erben, 2024). A SPT approach shows how material consumption is both influenced by and reinforces the social conditions shaping our lives (Shove et al, 2012). The interaction between agency and structure, rather than individual choices and traits, determine opportunities for sustainable change (Shove et al, 2012).

Several studies apply a SPT framework to plastics in food-related practices. Researchers like Hawkins (2009; 2018a; 2019), Evans et al (2020), Shittu (2021) and Parsons (2022) demonstrate how plastics' technical-material features and the activities they enable are intertwined with social life, transforming food production and consumption since the 1950s and reshaping material cultures and norms. For instance, plastics' protective functions have influenced societal standards around food safety and hygiene (Evans et al, 2020; Parsons, 2022). These studies highlight how plastic materials and their meanings are embedded in daily life, making detachment from them challenging (Hawkins, 2021; Sattlegger, 2021).

Recent scholarship highlights the socio-material perspective's value in exploring circular plastic consumption in food practices. Emphasising consumer-led strategies like refusing, reducing and reusing plastics, researchers have examined how circular engagements are challenged by everyday contexts. Fuentes et al (2019) discuss the critical role of plastic packaging in communicating product information, transporting and storing food. Removing plastic from shopping necessitates reinventing these practices. Rabiú and Jaeger-Erben (2024) note that avoiding plastic packaging is constrained by expectations of efficiency and convenience. Similarly, Horne et al (2022) observe that plastic's lightweight, malleable and inexpensive qualities make it integral to small apartment living, limiting residents' ability to reduce or refuse plastic usage.

Existing social studies contextualise plastic consumption and explore opportunities for change, focusing on socio-material dynamics within specific food practices. However, the pervasive presence of plastics suggests a need to explore their role in connecting and sustaining multiple practices, an angle that remains underexplored in the literature. Furthermore, critical gaps remain in understanding variability of socio-material dynamics across households. Recognising diversity in daily practices and consumption patterns is crucial for understanding differentiated capacities and constraints on consumption change (Schäfer et al, 2012; Greene, 2017; Gram-Hanssen, 2021). Additionally, while circular plastic economy literature is growing, there is an empirical gap in understanding everyday visions and constraints of circular plastic consumption. This article addresses this gap by providing insights into how ordinary citizens experience and envision (circular) plastic consumption in their daily lives.

Building on SPT approaches, we advance a nexus of practice approach for understanding the role of plastics in daily domestic food practices. Plastics occupy a central in various daily domestic activities, especially food purchasing and consumption (Sattlegger et al, 2020; Shittu, 2021; Rabiú and Jaeger-Erben, 2024). Food practices, significant contributors to consumption, are deeply intertwined with daily routines, making them crucial for investigating practice connectivity and its impact on plastic use (Warde, 2016; Pfeiffer et al, 2017; Castelo et al, 2021). Our study examines the socio-material dynamics of plastic consumption in domestic food practices, including purchasing, preparation and eating. We consider 'domestic practices' to include activities within and beyond the household that are linked to the nexus of daily food-related practices.

Anchored in a qualitative case study of everyday plastic consumption among three life-course stage groups in a Dutch university town, our multi-modal methodology explores the role of single-use and reusable plastics¹ in daily food routines. It also uncovers obstacles to adopting and routinising circular plastic practices related to refusing, reducing and reusing, examining differences across households. The Netherlands offers a compelling context due to its leading but predominantly technocentric approach to achieving circularity by 2050 ([Government of the Netherlands, 2018](#); [Friant et al, 2022](#)).

The article is structured as follows. The next section reviews SPT advancements and introduces our nexus of practice framework. The following section details our methodology for connecting present and future consumption practices and identifying constraints and enablers of circular change. The fourth section analyses and discusses the empirical results. Finally, the fifth section concludes with implications of our arguments for future research and policy on circular plastic transformations.

Plastics in daily food practices: a nexus of practice approach

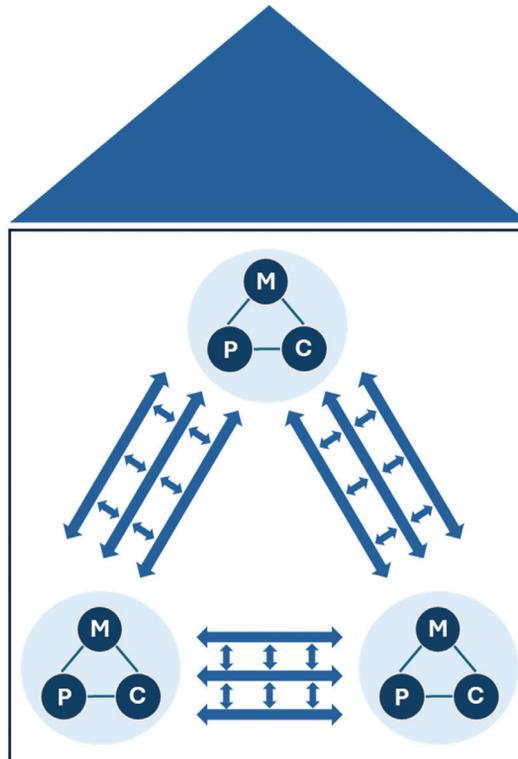
In this section, we articulate our practice-orientated approach to examining how plastic consumption is integrated into daily food practices. Drawing on [Nicolini \(2012\)](#) and [Castelo et al \(2021\)](#), we analyse the socio-material relations underpinning plastic consumption within the broader contexts of daily life. This lens helps us map the complex interplay of social and material dimensions of plastic use and the intersecting institutional, spatial and temporal aspects of life that influence plastic reduction opportunities. We also consider life-course variability, acknowledging how biographical factors shape daily practice arrangements and plastic consumption.

Socio-material relations

Departing from individualistic frameworks, our nexus of practice approach begins with [Shove et al's \(2012\)](#) conception of practices as routinised activities reliant on three interdependent and co-evolving elements: meanings, materials and competencies. [Shove et al \(2012\)](#) highlight the co-evolution and mutual reinforcement of materials and practices in which each perpetuates the other. While materials only come to have meaning through their use, it is the physical properties of materials themselves which enable the performance of certain practices and their associated meanings and competencies. Plastic consumption can therefore be conceptualised as the outcome of these socio-material interactions within everyday practice performance ([Warde, 2005](#)).

[Shove \(2017\)](#) elaborates three types of materialities based on their role in practices: infrastructures (for example, buildings, power grids), devices (for example, drills, cookers, plastic storage boxes) and resources (for example, electricity, ingredients for cooking, biological organisms). In the Plastocene, plastics infiltrate all three categories. However, this study focuses on the co-evolution of plastic materiality and consumption in relation to devices, exploring how plastic materials are directly integrated into everyday food practices, as illustrated in [Figure 1](#).

The elements constituting practices are deeply embedded within specific spatial, temporal and social contexts, leading to variations in practice performance and

Figure 1: The household as a nexus of practice arrangements

meanings (Shove et al, 2012; Castelo et al, 2021). For example, the meanings and practices of eating differ between family meals at home and solitary university lunches (Warde, 2016). Similarly, the integration and arrangement of plastics within food practices may also vary contextually.

SPT posits that practices are not isolated but form complex bundles and networks rooted in social contexts and systems of provision (Schatzki, 2002; Shove et al, 2012), creating nexuses that span time and space (Hui et al, 2017; Klitkou et al, 2022). Warde (2016) views food consumption as a compound practice involving interconnected practices like planning, shopping, cooking and eating. For instance, shopping is influenced by provisioning offerings, grocery store location, work schedules, life stages and prior experiences. The interrelations of practices influence individual practices and their elements (Shove et al, 2012). Systems of provision refer to the structured ways in which goods and services are produced, distributed and consumed within a society. They encompass the infrastructure, institutions and processes through which everyday goods and services are provisioned (Shove et al, 2012). SPT inherently accounts for systems of provision, recognising that provisioning systems, supply chains and production networks are integral to shaping and sustaining everyday practices. These elements are not isolated but are deeply interwoven with how practices are performed and sustained within different contexts. In this sense, broader provisioning systems both constitute and are shaped by practices, constraining or enabling possibilities for certain performances and their possible arrangements (Southerton et al, 2004; Shove and Trentmann, 2019).

The multi-dimensional connective tissue of social practices

In order to capture how plastic in food practices interacts with the wider nexus of daily domestic life and systems of provision, our analytical strategy draws on a 'zoomed out' lens (Castelo et al, 2021) that emphasises practice connectivity. Practice research highlights the critical role of practice elements, time and space in practice connectivity (Schatzki, 2002; Southerton, 2006; 2020; Shove et al, 2012; 2015; Shove, 2017). Shove et al (2012) and Shove (2017) argue that practices are linked through material interdependencies, such as materials, technologies and infrastructures, which connect and relate practices. For example, infrastructures like road networks and electricity grids link car driving with grocery shopping, work and school drop-offs, making car usage essential in daily life (Shove et al, 2015). Southerton (2006; 2013; 2020) emphasises that practices produce their own temporal demands, including periodicity, tempo, duration, synchronisation and coordination. These temporal features determine how practices interact and structure daily rhythms, including when and how food is bought, prepared and consumed (Warde, 2016).

Blue and Spurling (2017), however, critique these accounts for focusing on singular connectivity features like materiality, temporality or spatiality, and propose viewing practice arrangements as held together by a complex, multi-dimensional 'connective tissue' (Blue and Spurling, 2017: 25). This perspective suggests that material arrangements coexist with social, temporal and spatial connections, with multiple dimensions of connectivity shaping and being shaped by the practice bundles and complexes they form (Shove et al, 2015).

The entanglement of plastic materiality with certain temporal and spatial conditions has been emphasised by several scholars (Hawkins, 2018b; 2019; Shittu, 2021; Horne et al, 2022). They note how the portable and preservative functions of plastic have increased the availability of pre-prepared, ready-to-eat packaged foods and drinks, minimising cooking time and fitting contemporary spatiotemporal conditions of time-pressure and mobility (Chakori et al, 2021; Parsons, 2022). For example, Rabiou and Jaeger-Erben (2024) report increased single-use plastic use during travel or commuting due to the convenience of portable water bottles and disposable coffee cups. Similarly, Hawkins (2019) shows how plastic water bottles have changed drinking practices by facilitating water mobility, shifting the meaning of healthy hydration to daily self-care and making plastic water bottles ubiquitous. Other scholars highlight how single-use plastics foster a culture of 'immediacy' (Hawkins, 2018b). Hagberg (2016) details how plastic shopping bags enable impulse shopping by removing the need to plan ahead for carrying equipment. These studies reveal how plastic materials create spatiotemporal conditions that shape and sustain everyday practices and their meanings (Shittu, 2021).

Despite these insights, practice connectivity has not been fully applied to plastic or used to identify opportunities for circular change. We argue that a nexus of practice approach to circular plastic consumption can uncover new empirical insights and enrich theoretical discussions. In Figure 1 we adapt Shove et al's (2012) dynamic practice model to show how plastics embeddedness in daily practices relates to the multi-dimensional connective tissue sustaining domestic life. By focusing on this multi-dimensional connectivity in domestic food practice, this article aims to understand the co-evolutionary interaction between plastic consumption and the

temporal, material, provisioning and spatial aspects of daily life, offering insights for ongoing research on plastics, practice connectivity and sustainability.

Biographic dynamics at the nexus of practices

We expand our nexus of practice framework to encompass a biographic dimension. Recent research shows that temporal-spatial configurations of daily practices and consumption dynamics vary across the biographic life course (Greene, 2017; Greene and Rau, 2018; Greene et al, 2022). These variations align with societal institutions and structures that shape daily routines (Southerton, 2006; 2013). The relationship between time, space and materials in forming practice arrangements suggests that the role of plastics in daily life changes throughout the life course and among household types. Understanding these variations is crucial for grasping plastic consumption dynamics and identifying sustainable change avenues (Greene, 2017).

We conceptualise the life course as comprising different stages and transitions defined by life stage-specific patterns of practice bundles. These biographic configurations manifest within households, crucial everyday sites where material consumption, domestic food practices and broader structural systems intersect (Reid et al, 2010). Through this biographic nexus of practice lens, we examine how plastics integrate into domestic food practice bundles and interact with the temporal, spatial and institutional organisation of daily life. We aim to uncover how prospects for circular plastic consumption in homes are influenced by these interconnections and their variation across the life course.

Methodology

Responding to ongoing debates on SPT methodologies (Martens, 2012; Halkier, 2017; Greene and Royston, 2021) we advance a multi-modal approach to explore the experiential, social and material aspects of routine consumption. We combine traditional interviews with innovative visual, sensory and futuring techniques to understand interactions with plastic in daily life. Building on Greene and Royston (2021) and Davies and Doyle (2015) we developed a novel practice-oriented backcasting methodology to foster participant reflexivity on the socio-material conditions affecting their practices.

Data collection

Sample

A combination of purposive and snowballing sampling was used to recruit households at critical biographic life stages: university students; parents with children under ten; and retired individuals. The stages are distinct periods that shape everyday life (Nicholls and Strengers, 2015; Friis and Christensen, 2016; Wanka, 2020) and dynamics of consumption (Greene, 2017). Table 1 provides an overview of the participant socio-demographics. Participants were recruited through personal networks, including acquaintances, colleagues, friends, social media platforms and alumni networks. Recruitment flyers were also distributed in family-dense residential areas. Initial respondents were encouraged to share the project details within their own social circles.

Table 1: Breakdown of participants' characteristics

Life-course category	Pseudonym	Age	Gender	Nationality	Household composition
Student	Casper	23	Male	Italian	Shared student house
	John	23	Male	Dutch	Shared student house
	Lucy	25	Female	Chinese	Living alone
	Pierre	25	Male	Italian	Living alone
Family	Brian; Rachel	35	Male; female	Dutch	Two children
	Derek	38	Male	Dutch	Three children
	Nick; Rosie	38; 33	Male; female	Dutch	Two children
	Fiona	35	Female	Dutch	Two children
Retired	Laura	73	Female	Dutch	Living alone
	Daniel	63	Male	Dutch	Living with partner
	Mark	69	Male	Dutch	Living with partner
	Vincent	73	Male	Dutch	Living with partner

Figure 2: Research stages



Stage 1

We employed a phased, multi-modal approach involving two co-creation sessions per participant, spaced two to three weeks apart. As shown in Figure 2, each stage involved generating various distinct types of data.

The initial co-creation session aimed to develop an overview of current everyday practices and contexts related to plastic consumption in food practices. To address the limitations of talk-based methods in capturing practical interactions between humans and materials, we incorporated visual collages and household walking tours (Martens, 2012; Halkier, 2017). Visual collages helped participants reflect on and articulate the varieties of plastics in their daily lives. Home walking tours facilitated the exploration of social and material dimensions of food-related plastic consumption in participants' living spaces.

Stage 2

In the second co-creation session, participants envisioned alternative configurations of their daily food practices to reduce, refuse and reuse plastics. This phase aimed

to identify potential changes, including: practices that might be transformed or abandoned; the impact of circular practices on other practices/wider routines; and socio-material constraints hindering circular changes.

To support this, we employed backcasting, a futuring technique that starts with imagining an alternative future and then works backwards to chart a path to that reality (Dreborg, 1996; Davies and Doyles, 2015). Inspired by Giddens' (1986) concept of 'critical situations' and Hitchings' (2012) idea that interviews can provoke reflective reassessment of routine practice, our methodology focused on initiating discussions on future scenarios to evoke a reflexive examination of present and possible practice transformations towards circular plastic use in households.

Analysis

We used 'ATLAS. Ti' to aid in the thematic analysis of our data. Through three iterative cycles of coding cycles, we identified, analysed and refined key terms to reveal patterns in the data. Analysis combined inductive and deductive methods, drawing on predefined biographic and SPT concepts while remaining open to the emergence of new insights. This iteration process led to the categorisation of coded terms in the central themes outlined in the next section.

Findings

In this section, we present participants' accounts of how plastics are embedded within their everyday food practice arrangements, exploring socio-material dynamics within the temporal-spatial organisation of daily life. We also examine how circular plastic consumption constraints intertwine with material-temporal-spatial entanglements and vary across life course contexts.

The role of plastics in daily domestic food practices

Participants discussed five key food-related practices where plastic usage is prevalent: food storage, food preservation, food on-the-go,² shopping and cooking. Our analysis explored the role of plastic in defining the relational dynamics between these everyday practices and other daily practice activities. Specifically, we observed how plastics' social meanings – *transportability, efficiency, convenience, flexibility and spontaneity* – are mediated through their interaction with spatiotemporal pathways of practice connectivity.

Participants' accounts revealed how plastics embody varied social meanings across different contexts – domestic spheres, workplaces, education settings and on-the-go scenarios – depending on their role in facilitating food-related activities within these spaces. This broader lens reveals that the embedding of plastic in daily practice is intricately linked to situational demands. For example, several participants reported using plastics to prepare food at home for transport and consumption elsewhere. Derek commented on his family's use of Ziploc bags: 'If we need to take something to the zoo or if we go out on to the city, if you ... want to bring anything, it [plastic] takes less space ... when it's empty, you can simply throw away the plastic and therefore you need less room' (Derek, parent, three children).³ The light, malleable and disposable nature of plastic bring meanings of *transportability* to the practice of

eating, making it more conducive to the spatial demands of ‘being-on-the-go’. We observe a reciprocal relationship between elements of practice (Shove et al, 2012), where plastics (materials) foster specific meanings and uses through their interaction with other practice elements and contexts.

Similarly, university students commonly rely on plastic-wrapped items from campus canteens or vending machines for their immediacy during short lunch breaks:

I think being busy is definitely a factor ... you're focused on something, you don't really care about lunch ... lunch is something I need to do to get rid of so I can start again, it's a fuel. ... It takes too much time to go back home and cook and come back again. So I buy lunch in Uni. But when I buy lunch at Uni ... I also feel a lack of time, so I buy the quick stuff. But the quick stuff comes with plastic. (Casper, student, shared house)

Casper's narrative captures a common sentiment among university students: viewing food as a ‘fuel’ necessitates quick, effortless consumption. Plastic-wrapped food items emerge as the go-to solution, embodying *convenience* and *efficiency*, by minimising disruption to busy schedules. These experiences reflect the broader negotiation of time, efficiency and convenience within daily routines (Southerton, 2020). Plastics clearly shape the spatiotemporal dimensions of eating practices, embedding ‘temporal realities and effects’ within everyday life (Hawkins, 2018b: 93).

Another common practice across university and working participants is using plastic Tupperware for food preparation, storage and transportation to meet the demands of university or work life:

On the weekend, usually I [do a] big grocery, and ... prepare the food that I can have for the ... following week ... I cook in bulky amounts, like chickpeas, beans, rice, pasta ... [food that] is quite quick and that you can easily put in a Tupperware ... [that] can last a bit in the Tupperware and ... you easily carry around. And then you can warm it, because the warming is really important. (Pierre, student, living alone)

Pierre's use of plastic Tupperware illustrates a common practice among participants for managing meals. By preparing meals in bulk over the weekend and using Tupperware for storage and transport, Pierre extends the life and accessibility of his meals throughout the week. Tupperware's durability, microwave compatibility and portability support the extended temporal and spatial reconfiguration of his eating practices to align with his academic commitments.

Drawing on Warde's (2016) conceptualisation of food practices as compound activities involving planning, shopping, cooking and eating, participants' narratives reveal plastic's co-evolutionary role in changing food practices by expanding spatial and temporal boundaries of these activities. Tupperware facilitates the integration of food practices within broader daily routines and enables flexibility in how and where eating occurs, responding to institutional time constraints and travel demands. Conversely, as observed in Casper's case, plastic consumption can enable immediate, unplanned eating outside of the domestic sphere, reconfiguring and extending linkages between interconnected food practices. These examples show how planning practices and individual agency mediate the integration of single-use or reusable plastics into daily

food routines, highlighting plastic's potential to reinforce or disrupt traditional food consumption practices and posing challenges for supporting circular consumption.

These observations parallel the works of [Warde \(1999\)](#) and [Jackson et al \(2018\)](#) who discuss how convenience foods allow consumers to fragment and rearrange food practices across time and space. The examples given earlier further substantiate and advance these works by highlighting how plastic packaging's material and technical capacities facilitate these time-space orientations ([Hawkins, 2021](#); [Parsons, 2022](#)).

Variations in practice connectivity across the biographic life course

The investigation into plastic consumption revealed distinct life-course patterns, highlighting differences between families, students and retirees in their reliance on plastic materials for daily food practices.

Families and students reported greater dependency on single-use plastics, often using plastic-wrapped convenience food like pre-chopped vegetables, semi-prepared meals and frozen foods to streamline cooking processes. This reliance is driven by the need to integrate food practices into densely packed routines, crammed with work, university and childcare commitments. For instance, Rosie shared: 'These days, with two kids and both of us working, we try to make dinner in under 20 minutes just to save as much time' (Rosie, parent, two children). Conversely, retirees, with more flexible schedules and fewer immediate obligations, cooked more from scratch, typically using fresh and wholefood ingredients, resulting in less consumption of plastic-wrapped products.

Further distinctions among life stage groups revealed varied ways plastics interrelate with the spatial and temporal demands of daily life. Families, bound by structured routines around work and childcare, often plan, store and pack their meals ahead of time. Students, while also navigating institutional commitments, experience greater *spontaneity* in their daily arrangements, leading to more reliance on single-use, plastic-packaged, ready-to-eat food. This aligns with the *spontaneous* and less-structured nature of student life. The backdrop of everyday practice arrangements is therefore important for structuring varieties in patterns of plastic consumption.

Echoing findings by [Rabiou and Jaeger-Erben \(2024\)](#), the consumption of plastic-packaged food among parents is significantly influenced by the extent to which their commitments require travel or commuting. Participants who frequently travel or commute highlight the role of ready-to-eat food and drinks in aligning eating practices with work. Brian reflects on his plastic usage, noting a marked reduction since transitioning to remote work compared to his previous job: 'Fully working from home has reduced my plastic consumption. In the past, I travelled a lot for work and I consumed a lot more on-the-go ... you order something on the train or ... buy something at a tank stop [petrol station]. So working from home has reduced that by a lot' (Brian, parent, two children).

A more spatially distributed lifestyle, which requires consuming food outside the home, leads to higher dependence on plastic. Variations in spatial-temporal lifestyle dynamics result in different food practice arrangements leading to varied reliance on plastic materials. This reliance is linked to needs for *transportability*, *efficiency*, *flexibility* and *spontaneity* or *impulsiveness*. These insights suggest that such needs manifest more frequently within certain spatiotemporal lifestyle arrangements, which are shaped by institutional commitments and structural conditions. For example, Fiona reflects on

the differences in the institutional structuring of daily life between herself and her mother and how this affects their cooking practices:

[T]he difference is my mum made her own bread [and so on], but nowadays mothers also have a job so I think for now I'd rather put my time into the kids then making bread or peanut butter ... these plastic-packaged products are made by other people, a bakery or a manufacturer. (Fiona, parent, two children)

Fiona's narrative suggests how 'having a job' outside the home introduces new time constraints and scheduling issues related to balancing cooking with spending quality time with children. To coordinate these practices effectively, Fiona relies more on plastic-packaged foods, unlike her mother, who had more time to cook from scratch. Narratives like this reveal lived insights into the co-evolution of developments in food packaging, industrial food processing and women's increased participation in formal workforce over the 20th century (Warde, 1999; Hawkins, 2018a; Jackson et al, 2018). These reflections will be unpacked further in the discussion section.

Participants' experiences further contribute to research emphasising the role of institutional commitments in shaping daily routines and consumption practices (Southerton, 2006; 2020; Greene, 2017). For instance, Greene (2017), alongside Southerton (2006) and Nicholls and Strengers (2015), highlights a tightly coordinated, temporally orchestrated complex of practices among working parents with young children. Conversely, more impulsive and less regimented daily routines characterise student life. Additionally, Wanka (2020) and Greene (2017) observe that retirees, with enhanced temporal autonomy and flexibility, have more freedom to determine their daily routines, impacting resource use significantly. Our participants' experiences substantiate and extend these narratives, showing how plastic consumption both enables and is shaped by these interconnected practice dynamics.

Constraining possibilities for circular plastic consumption

The preceding discussion explored the complex interconnections between plastics and the spatiotemporal frameworks underpinning domestic food practices, highlighting how plastics shape and are shaped by daily rhythms and routines. This section examines participants' visions of circular plastic engagements and how these confront and potentially disrupt established routines.

Participants envision circular plastic engagements across shopping, cooking and on-the-go scenarios. For many, refusing or reducing plastic usage means relying less on convenience foods in favour of home-cooked meals. This shift, however, raises concerns about the increased time and effort required (Rabiu and Jaeger-Erben, 2024). Casper reflects on reducing plastic sauce bottles:

Time is just too limited ... it's hard to find time for me to do things that I already want like ... sports, for example. ... Coming back from uni at five ... you [barely] have time to relax, it's already six, so then you go out to do sports and you came back at seven, seven-thirty and then you need to cook, you don't have time to make tomato sauce from scratch. (Casper, student, shared house)

In Casper's scenario, reimagining plastic's role in cooking clashes with valued notions of *convenience* and *efficiency* due to the perceived misalignment with existing time constraints. This issue extends to the broader nexus of daily life, complicating the integration of eating practices within university and wellness routines.

Participants frequently cited challenges in relation to reconfiguring current routines to accommodate circular consumption. For example, shopping at zero-waste shops requires more deliberate meal and shopping planning, and physical readiness with reusable containers and bags, constraining shopping practices' temporal and spatial aspects. Lucy reflects:

I think you really have to plan ... otherwise you will not have the right containers and stuff. You can't just go into the store and say I want this and that and then buy it. So if you spontaneously wanted to buy some groceries ... the limitation is that you really need to plan. (Lucy, student, living alone)

Several scholars have highlighted that the planning and organisation required for plastic-free shopping is a significant obstacle to integrating this practice into daily life (Zeiss, 2018; Wiefek et al, 2021). Participants' experiences resonate with these studies and highlight that reducing plastic consumption in food shopping challenges the temporal demands of other daily practices. John articulates: 'After uni, when I'm hungry and I want pasta, I'm not gonna go to home and then to the zero-waste shop with my big container. I'm just gonna go to Jumbo [Dutch supermarket] quickly and get another {plastic-packaged} bag' (John, student, shared house). As John's narrative suggests, tensions arise not solely from reconfiguring the single practice of shopping but from how this reconfiguration disrupts how this practice can be fitted within other daily arrangements.

While all participants exhibited a conscious and concerned awareness of plastic's pervasiveness in their daily lives, the extent to which circular practices could be integrated varied. Those with more hectic, unstructured and spatially distributed lifestyles faced greater challenges in accommodating circular plastic consumption. There was a clear divide in perceived capacities between students and families, on the one hand, and retirees on the other. Students and families voiced concerns about the scarcity of time and energy for circular practices. In contrast, retirees expressed more confidence and exhibited higher levels of circularity in their routines, attributing this to the increased temporal autonomy afforded by retirement. Retiree Daniel shares: 'I'm doing this much better since I don't work anymore. Of course, I always felt like this [wanting to reduce plastics]. But well, it was easier to get away with not doing when you are very busy. Now I have plenty of time ... so retirement is good for the environment' (Daniel, retiree, living with partner). This sentiment was echoed across the retirees, who acknowledged the challenges of adopting circular practices during their working years, especially when managing professional commitments and childcare. In contrast, a family that avoids plastic-packaged food and shops at zero-waste stores benefits from one parent working from home with flexible working hours, which allows them to integrate circular practices into their domestic routine due to increased time and access to circular services.

Students saw the planning and organisational demands of circular practices as potential obstacles, a concern less pronounced among families. Casper, a student, suggests that due to their more structured schedules and responsibilities, parents

might find it easier to adopt circular practices: ‘I think for families it’s easier than for students ... because families in general ... have a more organised schedule for groceries and ... more responsibility as well because if you are parents you need to buy food for your kids’ (Casper, student, shared house). Casper’s observation suggests the ability to plan and organise time is crucial for circular plastic consumption, with parents potentially having greater capacity in these areas due to their more structured lifestyles.

In addition to routine-related challenges, obstacles to circular plastic consumption interconnect with the provisioning and availability of circular alternatives. Participants reported that finding circular options is inconvenient and requires visiting multiple locations, suggesting that the convenience of plastic-packaged products is partly due to their centralised availability.

I think time is one of the most valuable commodities that we currently have. You want to do your groceries in one place. And all the supermarkets offer a lot of packaging. ... It’s not that people don’t want to use package-less products or to reduce their plastic consumption, it’s just the easiest thing is to buy the first thing that you can find. (Brian, parent, two children)

Relatedly, a student highlighted the challenges encountered during on-the-go situations, such as the absence of refill stations for water bottles, pointing to broader systemic barriers to circular practices: ‘One limitation of the reusable water bottle is that once you finish your water and maybe you’re like walking around somewhere, it’s not easy to find a fountain or a refill station. Then what else can you do? You go to the supermarket, and you buy a plastic bottle’ (Pierre, student, living alone). Participants noted that outlets promoting circular alternatives often clash with institutional schedules. John highlighted the misalignment between his university timetable and the operating hours of zero-waste shops: ‘Just when I’m done, all those shops are also done [closed]’ (John, student, shared house). In contrast, supermarkets, which stay open late, better align with contemporary work and study commitments. These insights align with those of [Fuentes et al \(2019\)](#) who also identified limited opening hours as a significant barrier to plastic-free shopping.

These narratives reveal how the social meanings associated with plastic consumption are shaped by structural and institutional contexts of daily life. They show how broader provisioning systems are both influenced by and influence the spatiotemporal organisation of daily routines, with implications for consumption. The limited availability of plastic-free alternatives and supporting infrastructures amplifies challenges related to effort, inefficiency, time and spatial constraints in adopting circular practices. Provisioning systems that fit existing spatiotemporal pathways are more readily integrated into practices. For instance, two of the four families reported experimenting with an online grocery delivery from a zero-waste shop, finding it as convenient and time-efficient as supermarket orders. This resonates with [Zeiss \(2018\)](#), who noted, ‘package-free shopping can be successful as long as it neatly fits into peoples’ existing lives and practices’, and [Friis and Christensen \(2016\)](#), who found that new energy practices that synchronised with daily routines were more easily adopted by families. Accordingly, provisioning systems that align with existing socio-temporal arrangements play a crucial role in facilitating the uptake and routinisation of circular practices into everyday life.

Conclusion

This article began by highlighting the marginalisation of social and everyday consumption dynamics in circular plastic transitions. Where consumption is considered, existing research and policy has predominantly concentrated on steering individual behaviours and habits, largely overlooking the socio-material contexts underpinning plastic consumption patterns, thus potentially hindering progress towards circular futures. Employing a nexus of practice perspective, this article begins to address these gaps by exploring the role of plastic within the organisation of daily life, uncovering challenges in integrating circular plastic practices into varying food routines. Here, we synthesise our insights and consider implications for policy and research on circular plastic consumption.

Our analysis resonates with previous empirical insights on the interactions between plastic materiality and social meanings like efficiency, convenience and flexibility in food practices. In line with the works of [Evans et al \(2020\)](#) and [Rabiou and Jaeger-Erben \(2024\)](#), this study supports the contention that plastic consumption is rooted in the socio-material orchestration of daily practices, not just individual choices. Expanding on these insights, we demonstrate that social meanings of plastic consumption transcend individual practices and are influenced by spatiotemporal dimensions of practice connectivity.

Drawing on [Blue and Spurling's \(2017\)](#) conceptualisation of a multi-dimensional connective tissue, our findings reveal the interplay between plastic materials and the spatiotemporal dimensions of practice connectivity to facilitate novel configurations of food routines across space and time. The social meanings equated with plastic materials are strongly rooted in these spatiotemporal and material dynamics. This reciprocal relationship resonates with and advances prior research that has similarly observed the entwinement of plastic socio-materiality within distinct temporal and spatial contexts ([Hawkins, 2018b; 2019; Shittu, 2021; Horne et al, 2022](#)).

This article advances research further by exploring how the pursuit of circularity, in necessitating novel interactions with plastic materials, disrupts individual food practices and the broader nexus of connected practices. Tensions between circularity and social expectations like transportability, efficiency and flexibility were notably pronounced in relation to their connectedness with dynamics of work and university practices. Those navigating more hectic, unstructured and spatially dispersed lifestyles anticipated greater challenges in integrating circular plastic consumption into their daily routines, with these challenges often shaped by the structuring effects of institutional obligations. In line with [Blue and Spurling's \(2017\)](#) argument that 'trajectories of change are an expression of the ways in which practices complexes interconnect', our findings bolster calls for sustainable consumption policies to consider interrelations among practices ([Greene et al, 2022](#)), specifically how institutional and provisioning practices constrain circular practice change.

Furthermore, our findings contribute to a growing field of work demonstrating that opportunities for changing practices are not uniformly distributed across the life course ([Nicholls and Strengers, 2015; Gram-Hanssen, 2021; Greene et al, 2022](#)). Similar to this study's findings, these investigations reveal that individuals encumbered with extensive institutional and personal commitments demonstrate the least flexibility in reorienting daily practice arrangements towards sustainable consumption ([Nicholls and Strengers, 2015; Greene, 2017; Greene et al, 2022](#)). The implication is that policies targeting circular plastic consumption must be tailored to diverse material needs and

social conditions (Greene et al, 2022; Horne et al, 2022). For example, students might benefit from enhanced support in meal planning and shopping skills, while families might benefit more from policies facilitating working arrangements.

By offering detailed insights into context-specific differences in daily practice meanings and performance configurations across biographic households, this article reveals how social meanings and performances associated with plastic consumption are rooted in certain institutional-material and spatiotemporal relations. These findings confirm that single-use plastic consumption is a constituent enabler of modern, convenience-oriented time-pressed lifestyles (Chakori et al, 2021; Parsons, 2022; Rabiú and Jaeger-Erben, 2024). Significant parallels can be drawn with Jackson et al (2018), Warde (1999) and Hawkins (2021), who explore how convenience foods, domestic technologies, and innovations in food processing and plastic packaging create new opportunities for sequencing food practices across space and time. These developments have altered gendered divisions of labour, reducing women's time on domestic tasks but creating new coordination and scheduling challenges (Jackson et al, 2018). As daily life structures evolve, so do temporal and spatial configurations of daily routines, increasing demand for time-saving opportunities. As supported by the findings of this article, new material and technical devices with specific temporal and spatial qualities facilitate these practice configurations.

Participants' insights resonate with reflections that new material engagements may necessitate reorganising daily life and domestic labour (Hobson et al, 2021). Our finding that retirees or those with flexible work arrangements find circular practices more accessible provides empirical evidence for this. Similarly, Sutcliffe (2022) indicates that circular activities often require more time, money and effort, highlighting the limitations of standard wage labour in supporting these activities. Resonating with Schor (2005) and Greene et al (2022), these insights suggest that contemporary working rhythms may impede sustainable consumption pathways. Accordingly, the connections between plastic consumption, time, space and workplace institutions should be considered in circular-consumption related policy.

Given that practices and their socio-material dynamics are shaped by broader structural and social contexts (Shove et al, 2012), these systems and institutions influence circularity (Spaargaren, 2003; Southerton et al, 2004; Greene, 2017; Rabiú and Jaeger-Erben, 2024). Resonating with literature exploring how infrastructures and provisioning systems shape practices and demand (Shove et al, 2015; Shove and Trentmann, 2019; Wiefek et al, 2021; Rabiú and Jaeger-Erben, 2024), participants highlighted that limited plastic alternatives and a lack of supportive infrastructures increase the challenges of circular plastic consumption, including heightened effort, inefficiency, time and spatial constraints. These insights suggest that widespread change is unlikely in contexts where provisioning systems supporting linear socio-material interactions continue to dominate. They further highlight the role of structural conditions in rendering circularity more or less accessible and emphasise the need for changes in mainstream provisioning systems, including supermarkets and the food-on-the-go sectors (Rabiú and Jaeger-Erben, 2024). Future-oriented plastic consumption research should incorporate perspectives from those involved in the wider systems and services that households rely on. This will help to foster a more comprehensive vision of plastic futures, bringing together insights from everyday citizens with experts and professionals engaged with the economic, political and technical dimensions of systems shaping everyday practices.

To date, practice research has predominantly concentrated on analysing past and present practices, with increasing attention to the future as a temporal register. Building on [Davies and Doyle \(2015\)](#), this study's significant methodological contribution is the application of a backcasting approach to probe possibilities and constraints of present and future circular practices. By imagining alternative lifestyles, participants were confronted with their current dependence on linear plastic usage, thus strengthening their ability to articulate constraints towards circular transformations. As outlined in this article, recent practice research is demonstrating the utility of 'disruption' in eliciting discursive reflexivity regarding practices ([Rinkinen, 2013](#); [Greene et al, 2022](#)). This study observed that backcasting can similarly support participants in contemplating alternative practices. Nevertheless, further research is needed to develop tools and methodologies for future practice trajectories ([Davies and Doyle, 2015](#)).

This article has begun to address critical gaps in understanding prospects and challenges for household CE transformations through a nexus of practice lens. While providing preliminary insights into circular plastic economies from citizens' and households' viewpoints and capturing variation in household capacities for circular practices across the biographic life course, more sustained and larger scale explorations of the everyday dynamics of circular transformation are needed. Future work should explore varied capacities for circular transformation across biographic and social contexts, throughout both high-consuming and developing world contexts. Another fruitful avenue for inquiry is advancing a nexus of practice lens to examine change dynamics across different consumer practice domains. Realising the CE within domestic settings requires examining how circularity can be integrated into the household nexus across various materials and practices, including plastics, e-appliances, consumer goods, and daily food, energy and mobility practices. Understanding dynamics of circular change within these consumption arenas is crucial for addressing challenges associated with adopting circular practices across multiple domains. We contend that approaches that draw on a situated nexus of practice perspective hold great potential for uncovering the everyday and socio-material dynamics of circular transformation.

Notes

¹ It is crucial to differentiate between how plastics are actually used and how they are intentionally designed to be used. While single-use plastics can be repurposed and reused over time, they are specifically designed for one-time use, after which they are meant to be discarded. This stands in contrast to reusable plastics, which are purposefully designed with durability in mind, enabling them to be used multiple times.

² Food consumption which involves a complementary activity beyond eating and suggests a temporal element of immediate consumption ([Hirth et al, 2021](#)).

³ Participants are referenced according to: pseudonym, life-course stage and household composition.

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Conflict of interest

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