International Journal of Qualitative Methods
Volume 20: 1–9

DOI: 10.1177/16094069211991371
journals.sagepub.com/home/ijq
SAGE

How Is COVID-19 Shaping Families' Relationships With Food and the Food Environment in England? A Qualitative Research Protocol

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Abstract

Rates of childhood overweight and obesity continue to rise in England, along with a growing gap in obesity prevalence between children in the most and least deprived areas. To address child obesity, the UK government is increasingly considering how to intervene in the (food) environments that shape people's purchases, rather than focusing solely on individual health behaviors. With the COVID-19 pandemic and subsequent lockdowns having rapidly reconfigured life in the UK, it is important to understand how these changes may have impacted food practices and engagement with food environments. This remote, longitudinal qualitative study seeks to explore how the COVID-19 pandemic and its impacts are shaping families relationships with the food and the food environment. A sample of 60–80 parents/carers of school or nursery-aged children will be recruited from across three case study sites in England to take part in semi-structured interviews and set of flexible creative activities at three time points over the course of a year. Findings will provide practical policy insights for England's obesity prevention strategy as well as methodological insights in terms of conducting research into lived experience remotely.

Keywords

COVID-19, food environments, food practices, longitudinal qualitative research, obesity prevention

Background and Study Justification

Despite long being a policy and public health focus in the UK, rates of childhood overweight and obesity in the UK continue to rise. While obesity can affect people from across the socioeconomic spectrum, there is a strong socioeconomic gradient with children in the most deprived postcodes, more than twice as likely to be living with overweight or obesity than children in the least deprived postcodes (NHS Digital, 2020).

Acknowledging that the foods we buy and consume are a key influence on weight and metabolic health, and are influenced by a far wider range of factors than simply individual preference or "behavior" (Hawkes et al., 2015; Swinburn et al., 2013), UK public health policy makers are increasingly considering how to alter the food environments that shape people's food purchases. Food environments (FEs) can be defined as the foods available to people in their surroundings as they go about their everyday lives, and the nutritional quality, safety, price, convenience, labeling, and promotion of these foods (FAO, 2016).

The UK Department of Health and Social Care's, 2020 obesity plan proposes several policy changes related to the regulation of FEs. These include introducing calorie labelling in restaurants and banning buy one get one free offers (DHSC, 2020). At a local level, several local authorities have sought to use planning regulations to restrict the opening of new takeaways near schools (Keeble et al., 2019; Public Health England, 2014, 2020) or worked to ban the display of unhealthy food advertising (Lewisham Council, 2019). Additionally, voluntary measures, such as the Healthy Catering Commitment in London, have been used to influence the food being served in restaurants and cafes (Healthier Catering Commitment, n.d.).

To successfully move the dial on childhood obesity in the UK, policies and interventions that seek to change diets must incorporate a deep understanding of the context in which

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policies are implemented, and the ways in which people in those contexts live their lives (Wertheim-Heck & Raneri, 2020). For example, research has shown that it is not only the presence or absence of food outlets or advertisements in certain areas that shape consumption, but a wide range of factors, including the times of days people shop (Widener et al., 2017), familiarity and comfort in particular environments (Cannuscio et al., 2014), people's budgets (Scott et al., 2018), and the social and cultural salience of particular foods (Thompson et al., 2018).

When the COVID-19 lockdown came into force on March 24th 2020, the structure of life in the UK, as around the world, shifted rapidly. In addition to the anxiety and threat caused by the pandemic itself, changes included those related to income, employment, and the physical parameters of people's lives. Rather than being a leveler, both the virus itself, as well its secondary effects have had a significantly worse impact on black and ethnic minority groups, as well as those on lower incomes and with occupations that did not enable social distancing (Blundell et al., 2020).

Lockdown related restrictions also impacted people's engagement with the built environment, including the FE. At the start of lockdown people changed rapidly the way they obtained food. For example, relying on internet orders (or conversely being unable to shop online), taking longer to shop because of queues, or needing to coordinate childcare to avoid taking children into shops (Connors et al., 2020). Briefly, there were also concerns about the availability of food, as supermarkets were unable to keep up with increased demand, and staples such as eggs became scarce (Wentworth, 2020).

Numerous surveys have explored people's changing food practices since the start of COVID-19 and have presented a mixed picture. Research across Europe, the United States, Asia and South America found that, adults and young people reported cooking homemade meals more often, eating more fruit and vegetables, substituting sugary drinks for water, and consuming less fast food, baked goods, and alcohol (Bite Back, 2030, 2020; Deschasaux-Tanguy et al., 2020; Di Renzo et al., 2020; Ghosh et al., 2020; Obesity Action Scotland, 2020; Obesity Health Alliance, 2020; Robinson et al., 2020; Ruiz-Roso et al., 2020). However, these changes are largely reported by those on higher incomes, working from home, not in key-worker roles, and in households without children, who may have greater time and capacity to implement such changes (Chopra et al., 2020; Deschasaux-Tanguy et al., 2020; Obesity Action Scotland, 2020; Obesity Health Alliance, 2020).

Other studies have identified less favorable dietary trends such as increased snacking, greater consumption of foods high in salt, sugar and saturated fats, overeating and reduced intake of fresh products, including fruit and vegetables (Ammar et al., 2020; Deschasaux-Tanguy et al., 2020; Ruiz-Roso et al., 2020; Sidor & Rzymski, 2020; Siobhan Mitchell et al., 2020). Self-reported reasons for these changes include reduced access to healthy foods, eating to control mood and difficulties controlling food intake (Ammar et al., 2020; Bite Back 2030, 2020; Matsungo & Chopera, 2020; Pascual-Sanchez et al., 2020). Further, these changes are more likely to be reported by those with pre-existing mental health conditions, suspected or confirmed COVID-19 diagnosis, lower levels of educational attainment, and lower socioeconomic status (Chopra et al., 2020; Robinson et al., 2020).

Over one in five UK households are now poorer than they were pre-pandemic (Handscomb & Judge, 2020), with research indicating that people are buying cheaper and less healthy foods, borrowing from friends and family and relying on charitable support to make ends meet (Howes et al., 2020). Studies monitoring food bank use have found a significant increase in people requiring emergency food provision (Independant Food Aid Network, 2020) with the prevalence of food insecurity-lack of access to affordable, desired and nutritious foods—increasing fourfold in the first few months of lockdown (Loopstra, 2020b).

Increased food insecurity and food aid use has been particularly marked amongst households with children (Ipsos MORI, 2020; Loopstra, 2020). Between March and July 2020, schools and nurseries across the UK were closed to almost all pupils. Patchy implementation of the online National Voucher System, designed to replace means-tested Free School Meals, meant that many children were unable to access free schools meals (Gordon et al., 2020). This had significant impacts for the diets of these children, with many reporting skipping meals, alongside decreases in daily fruit and vegetable consumption (Dekeyter & Mann, 2020). It is clear that the pandemic and resulting policy interventions have considerable potential to exacerbate pre-existing diet-related health inequalities (Glover et al., 2020), particularly amongst households with children (Loopstra, 2020).

Early findings demonstrate how policy and societal changes have significant potential to disrupt practices such as those related to eating and food shopping. With this disruption, however, also comes the possibility to drive the establishment of new practices (Blue et al., 2014). It is as yet unclear what will happen as the COVID-19 pandemic develops. We do not know which changes, related to people's engagement with food and the FE, will persist, nor who might be most affected by the pandemic's continued impacts. It is, therefore, critical to gain an in-depth understanding of the dynamics of people's changing experiences of food and the FE to understand how they might shape people's capacity to be affected by, or respond to, government policies and actions designed to improve diets.

This longitudinal qualitative study seeks to explore families' food practices and experiences of the food environment both during the acute phase of the COVID-19 pandemic and in its aftermath. We propose to engage a sample of 60–80 parents of nursery and school-aged children from across three case study sites in England, that broadly reflects the ethnic and socioeconomic makeup in each case study site. Participants will take part in semi-structured interviews and a series of creative activities (photography, mapping, and voice recordings), three times over the period of 1 year.

Theoretical Positioning

This study sits within sociological and anthropological approaches that reframe understandings of food consumption from something done by autonomous individuals engaging in a series of "rational" choices or behaviors, to practices that are nested and reproduced within the context of particular social, political, physical, and economic structures (Cohn, 2014; Delormier et al., 2009). Such an approach additionally extends our understanding of health from a narrowly biological understanding to one that encompasses broader measures of wellbeing.

Given our focus on how people's actions and practices have changed since the onset of COVID-19, the research specifically on theories of social practice. Social practice theories have been engaged with extensively in food research (Backett-Milburn et al., 2010; Mattioni et al., 2020; Neuman, 2019; van Kesteren & Evans, 2020). They explore how materials, meanings, and competences combine to shape everyday activities, such as the preparation and consumption of food (Shove et al., 2012). Practices are mundane, habitual, and often unconscious (Backett-Milburn et al., 2010; van Kesteren & Evans, 2020; Will & Weiner, 2014). They come about not as "a direct result or outcome of mental processes, but emerge out of the actions and interactions of individuals in a specific context (Cohn, 2014). Through enacting them, practices contribute to the production and reproduction of our identities, our preferences, and our tastes (Backett-Milburn et al., 2010; Warin et al., 2019). A focus on practices does not erase the individual from analysis, but it does emphasize that individual actions cannot be easily disentangled from context (Cohn, 2014). Thus, rather than identifying specific behaviors that need to be changed, a focus on practices helps us consider how people have come to engage in certain activities in the way they have, how these activities become embedded in routines, how certain activities relate to others, and how they interact to reinforce or shape broader contexts (Blue et al., 2014).

Aims and Objectives

The objective of this research study is determine how the UK government's obesity prevention strategy for England (and related public health agenda) should adapt to ensure equitable obesity prevention in light of changes related to COVID-19. It seeks to do this through the answering following research questions:

In what ways have families' experiences of, engagement with, and feelings about food changed since the onset of COVID-19, and how do they continue to change?

1. How are families' food practices changing, and how do they continue to change?
2. What aspects of COVID-19 & the response to it are shaping these changes and how is this happening?

Explanation and Justification of Methods

Study Design

This qualitative longitudinal study will take place remotely over a year. By engaging with participants over the course of a year, we will explore how food practices change with the changing COVID-19 situation (and its effects), and what changes may be sustained over the long term. Given the current necessity to conduct research remotely the methods are designed with two priorities in mind. The first is to find alternative ways to elicit a depth of data that would ordinarily require a researcher to be present with their participants. Second, because a key aim of the research is to understand practices rather than just perceptions, the methods are designed to enable us to investigate what participants do, as well as what they say (van Kesteren & Evans, 2020).

We intend to recruit an ethnically and socio-economically diverse sample of 60-80 parents from across three case study sites in England: Bradford, Folkestone & Hythe, and the London Borough of Brent. Participants will care for one or more child(ren) in school or nursery at the start of the study. After participants complete an online demographic survey, the researchers will engage with the participants three times over the course of the study: at baseline, 6 months, and 12 months. Each research engagement will comprise one semi-structured interview and a set of flexible creative activities: photography, mapping and oral diaries.

Methods

Survey

Interested participants will fill out a short survey either online, or via telephone if they do not have internet access. The survey contains demographic questions to allow us to calculate socioeconomic position (Kininmonth et al., 2020), determine additional demographic information such as gender, and ethnicity, and receive contact details. Once potential participants have filled out this form, the researchers will use the demographic data to ensure that we are recruiting a sample that broadly reflects the socioeconomic and ethnic diversity in each case study site. Providing there are spaces left within their recruitment bracket (i.e. we are not overly skewed in a particular direction), the researcher will contact the participant (via their preferred contact method).They will discuss the research in more detail, obtain consent if the participant is willing, and arrange a time for the first interview.

Semi-Structured Interview

We will conduct a semi-structured interview with each participant at the study outset, and then at 6 months and 1 year later. The interviews are intended to elicit data on participants' food practices and engagement with the FE, and explore how these practices may have changed since the start of COVID-19. The interviews will also focus on broader experiences since the start

of tCOVID-19, and the contexts in which participants have been buying and eating food. Interviews will be carried out remotely, with participants given the option of a phone or Zoom call. The researchers will also take detailed field notes immediately following the interviews.

Creative Activities: Photo-Elicitation, Spatial Map-Drawing and Oral Diaries

After the semi-structured interview, we will ask participants to spend time the following week engaging in a set of creative activities. The purpose is to provide a deeper understanding of participants' contexts and their lived experiences of food at a time when all research must be conducted remotely. Visual methods such as mapping and photo-elicitation are useful tools when researching taken-for-granted aspects of everyday life, such as food practices, which may be harder for participants to describe and interrogate in an interview setting (O'Connell, 2013). Participants can engage in all or just some of these activities, depending on their time, capacity, and access to technology. They will also be invited to involve their children. A week later we will discuss the creative outputs in a second interview.

Photo-elicitation. Photo-elicitation is a participatory, method where the participant takes photos related to a specific topic over a set period of time (in this case a week), and the photos and their meanings are discussed with the researcher (Harper, 2002; Spires et al., 2020). Since participants photograph what they wish, when they wish, the participant, rather than the researcher, controls the research narrative. We will ask participants to take photos of anything to do with obtaining and eating food, with additional prompts for things that make it harder or easier for them to get the food they want for their families. We will provide some brief written guidelines, comprising technical advice (e.g., not taking photos into the sun) and confidentiality related issues (e.g., not taking photos in private spaces, or that identify individuals). The participant will return the photos to the researcher over email or Whatsapp.

Graphic-elicitation. Graphic-elicitation is a tool to facilitate dialogue in interviews, and involves participants creating drawings, diagrams or maps in response to researcher probes, participants will be invited to draw spatial maps of their local area, annotating the places they attained food over the week, and the routes and methods of transport they took to get there, as well as other places they have spent time, such as schools, parks, workplaces etc, to contextualize how these food consumption practices fit into wider daily routines. Participant-drawn maps have been used by researchers to explore subjective perceptions of food environments (Sadler et al., 2019) and access spaces not otherwise possible for researchers to visit (Antona, 2019).

By providing a means to visually summarize complex information, such as daily routines, graphic-elicitation can make reflection and discussion of abstract concepts easier, and allows this process to be led by participants (Bagnoli, 2009; Rose, 2001). We will ask participants to photograph and send the researchers their hand-drawn maps.

Oral diaries. Events-based diaries involve participants responding to researcher-driven prompts in-the-moment when an event occurs (Krishnamurty, 2011).We will invite participants to record short oral diaries before and/or after they go to get food or prepare meals. We will ask participants to describe what their plans are before, and what the experience was like after. Again, participants will be able to send these recordings over email or via Whatsapp. This will allow for participants' accounts to be recorded in the more natural setting of their everyday life, providing us with deeper insight into their daily lived experiences.

Participants will be re-contacted 6 months later to organize a follow up interview and set of creative activities. This will also be repeated at 12 months.

Study Sample

The sample for this research will comprise a quota sample (Mason, 2017) of 60–80 parents/carers of school- or nursery-aged children across three case study sites: Bradford, Folkestone & Hythe, and the London Borough of Brent. These three case study sites have been chosen to ensure that we are able to recruit participants from a range of different FEs. Reflecting our intention to take an intersectional approach to the research design and analysis, the sample will, as far as possible, reflect the demographics in each of the case study sites with regard to income and ethnic makeup (Table 1). Additionally, we will seek to recruit families with a range of experiences, such as single and dual-parent families, and families with and without access to a car.

Recruitment will take place virtually. Recruitment material comprises a poster, short blurbs, and a website, all of which provide the researchers' contact details and a link to the initial survey. Interested parents are asked to fill out the survey or contact the researchers who can answer questions and/or fill out the survey for them.

Recruitment Channels Comprise:

1. Social media: we will post information about the research on local Facebook groups (subject to administrator approval) as well as disseminate the study through the researchers' twitter feeds.
2. Community group engagement: We will engage with community organizations in each case study area to encourage them to disseminate the research call through their networks.
3. Snowball sampling: Finally, we will utilize a process of snowball sampling where we will ask participants to share information about the study with their friends and acquaintances.

In all cases, potential participant will make the first contact with the researcher.

Table 1. Proposed Sample Based on Case Study Site Demographics.

	London Borough of Brent		Bradford		Folkestone & Hythe	
Data	Population Figures	Sample Quota	Population Figures	Sample Quota	Population Figures	Sample Quota
Nationality and ethnicity [a] [b]	18% White	3	63% White British	12	90% White British	18
	British	2	20% Pakistani	4	3% Asian Other	1
	14% White	4	3 % Indian	1	0.5% Black	1
	Other	1	3% White Other	1		
	19% Indian	2	2% Black	1		
	5% Pakistani	2				
	9% Asian other	2				
	8% Black African					
	8% Caribbean					
Income group	15% >£15,000	3	30% >£15,000	6	17% >£15,000	4
Household type	14% lone parent	3	8% lone parent	2	11% lone parent	3
Data source	(Brent Council, 2011)		(City of Bradford Metropolitan District Council, 2020)		(Folkestone & Hythe District Council, 2019)	

Data Handling and Analysis

Interviews will be recorded and transcribed verbatim, along with the oral diary memos. Maps and photos will be sent to the researchers via email or WhatsApp. Written transcripts and field diaries will be uploaded to the Qualitative research software NVIVO 12, to enable coding.

A cross-sectional approach will be taken to analyzing the longitudinal data (Grossoehme & Lipstein, 2016). This will enable us to analyze the data from each of the three research engagements separately, as well as consider how relationships and practices change over time.

Qualitative data will be analyzed using an adapted form of reflexive thematic analysis (Braun & Clarke, 2006, 2020) that will allow, given the large data set, for two researchers rather than one to conduct analysis. Reflexive TA involves a 5 stage process from familiarization with the data to generating and writing up themes (Braun & Clarke, 2006, 2020). It fits within a social constructionist epistemology that considers the development of themes to be a subjective and contingent process. It does not advocate for the development of code books, or measures of inter-coder reliability, but a process of open coding which is used as the basis for the generation of themes (Braun & Clarke, 2020). While the reflexive TA is generally le undertaken by one researcher, for purely pragmatic reasons, two researchers will be involved in the coding and analysis. We consider this adaptation to necessitate the development of a loose coding framework that still allows room for the inclusion of new codes. Following familiarization with the data, both researchers will conduct open coding on five transcripts. Through discussion and reflection on these initial codes, the researchers will generate an initial list of codes to input into NVIVO. The researchers will then each code half of the remaining transcripts. While the initial code list will be used, the researchers will also continue with open-coding for any aspects that are not covered by the original coding list.

Analysis will be theoretically informed, in that we wish to understand the (changing) elements of practices that shape experiences of food and food environments as well as the individual and structural factors that intersect to shape these practices. We will generate codes and themes inductively based on our reading of the data, however, rather than putting the data into pre-existing themes.

Photos and maps will be used primarily as means to facilitate in depth discussions (Rose, 2001) and validate the researchers' interpretations of textual data (Bagnoli, 2009), rather than as units of analysis in themselves.

Ethics

This study has received ethical approval from the City, University of London Health Sciences Research Ethics Committee. There are several ethical issues associated with conducting this research:

Visual research ethics. Photographic research brings with it an additional set of ethical issues (Wiles et al., 2008). These relate to the storage of photographic materials, the fact that participants may take photos of people or places that compromise anonymity, and the how this data is published.

Before the photo-elicitation phase, the researchers will provide brief guidelines on taking photos. These will include emphasizing that photos should not be taken that identify individuals (e.g., of their faces), in spaces where others' privacy could reasonably be expected, or in places that will identify a home or other personal landmark. If photos are taken that identify nonconsenting individuals, they will not be used in any publication.

Photos that are kept by the University will be kept in password protected files so that any photos that do compromise identity will not be easily accessible. Additionally, photos that identify people will not be used in publication. Efforts will also

be made to anonymize place in the event that it could provide specific information about where a participant lives.

Participant burden. Participating in this research project will take several hours of the participants' time over the course of a year. It In addition to being clear and honest about the amount of time participation will take, the researchers intend to be as flexible as possible when scheduling the interviews. This includes: offering out of hours interview times, offering interviews on either the phone or face to face on Zoom, and calling back at a different time if the participant is interrupted. Participants will be offered a £40 shopping voucher after the initial set of interviews, and a £20 voucher for each follow up as a means of thanking them for participating.

Impact of COVID-19 on people's lives. Covid-19 is having an impact on people's day to day lives and may make participation more challenging.COVID-19 will have affected different people very differently, such a through increased financial insecurity, loss of loved ones, or general challenges related to ongoing lockdown. This may make the topic of the research particularly sensitive for certain people.

To manage this, we will not actively recruit through any forum that has been set up specifically to deal with Covid-19 as this could be considered to be manipulative. As described above we will also endeavor to be gentle and sensitive in our conversations reminding participants that they are not required to talk about anything they don't want to and can withdraw from the research at will. Finally, the researchers will compile a list of support resources available in each case study area.

Sensitivity of research topics. In addition to any sensitivity related to the experience of COVID-19, talking about food can be challenging. Although the researchers will not mention weight or obesity, and will be guided by the participants in terms of how much they want to talk about dietary health, questions related to food can inevitably elicit reactions related to weight and there is a risk that parents may feel judged, or assume that the researchers are expecting certain answers. In addition some of the participants might have experienced food insecurity over the past six months and discussions of this nature might take an emotional toll.

Both the lead researcher and research assistant have experience of conducting qualitative research on sensitive issues and with a diverse range of participants. Efforts will be made to be open and non-judgmental during all discussions so that participants are put at ease. If it appears that a line of conversation is making a participant feel uncomfortable, the researcher will offer to move on.

Consent. As well as the fact that all research is being conducted remotely, the researchers do not have ready access to a printer to print off and send consent forms. This may make it harder to ensure that there is concrete evidence of informed consent. Alternative methods for gaining consent must therefore be considered. Consent for this project will be established in two ways.

A) Consent for providing personal data in the survey will be obtained by the participants choosing to fill out the survey. this will be explained at the start of the survey and a link will be provided to the participant information sheet.
B) Consent to take part in the rest of the study will be obtained by emailing or WhatsApping both the PI sheet and consent form to the participant prior to the interview and resending the consent form at the start of the interview. We will ask the participant to text or email back "yes" to confirm their consent and we will screen shot and save this exchange. We will additionally ask participants to confirm their consent to be recorded verbally at the start of the interview.

Rigor

Developing a clear research design and analytic process, which involves collecting data in a systematic way, from a range of complementary sources is an important step in conducting qualitative research that is both robust and rigorous (Dixon-Woods et al., 2004).However, the aims of this research are not to uncover objective truth, but explore how practices are (re)constituted in the context of changing events. Thus, reflecting the project's theoretical and philosophical underpinnings, it is suggested that true rigor in qualitative research might be established through processes that take us beyond these practical aspects to embrace theoretical and analytical complexity (Barbour, 2001). Rigor will be assured through a theoretically informed research design, flexibility and sensitivity in relation to our research participants, efforts to establish rapport despite not being face to face, and continuing reflexive praxis (Bandyopadhyay, 2011; Barbour, 2001; Lambert & McKevitt, 2002).

Discussion

It is currently unclear how COVID-19 may be reshaping food practices, nor how this will unfold as the nature of the pandemic changes. Through a qualitative, longitudinal design, this study aims to provide evidence of the impact of COVID-19 on food practices, to inform the UK Department of Health and Social Care's ongoing childhood obesity prevention strategy. In particular it aims to ensure that any findings that might exacerbate pre-existing inequalities can be accounted for. The findings will be disseminated through written reports submitted to DHSC, along with reports written for the research participants, and academic papers.

There are a number of research limitations. First, the time commitment associated with participating in the research favors participants who already have a certain level of resource. Secondly, we were only able to include participants who had a conversational level of English. This may have excluded certain migrant groups for whom this is not the case. Finally, remote methods mean that we may not be able to achieve the

same level of depth and context as might have been possible with face to face research. However, the necessity of conducting research remotely may also allow us to draw new methodological insights.

Acknowledgment

We are grateful to the families who took part in our patient and public involvement session, and our Advisory Board, for providing input into our study design.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This paper is independent research funded by the National Institute for Health Research (NIHR) Policy Research Programme (Policy Research Unit: Obesity/ PR-PRU-0916-21001). The views expressed in this publication are those of the authors and not necessarily those of the NIHR or the Department of Health and Social Care.

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Supplemental Material

Supplemental material for this article is available online.

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