

HUNTER, E., STONE, R.A., GREATWOOD, H.C., JOHNSTONE, A.M., GRIFFITHS, C., CRABTREE, D.R., DOUGLAS, F., on behalf of the FIO and DIO Food Team. 2025. Participants or pretenders? Addressing the challenge of inauthentic participation in academic research in the UK: experiences from the FIO and DIO Food research teams. Preprint].
Hosted on OSF: Centre for Open Science [online]. Available from: https://doi.org/10.31219/osf.io/gzfxh_v1

Participants or pretenders? Addressing the challenge of inauthentic participation in academic research in the UK: experiences from the FIO and DIO Food research teams. [Preprint]

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2025

1 Title:

2 Participants or Pretenders? Addressing the challenge of inauthentic participation in academic
3 research in the UK: experiences from the FIO and DIO Food research teams

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16 Abstract

17 Individuals participate in research for numerous reasons, however, the global economic
18 downturn may have driven some to participate solely for monetary recompense. While
19 inauthentic participation is more widely recognised in quantitative survey studies, it is
20 increasingly becoming an issue in qualitative research. Drawing on our experiences and
21 supported by the wider literature, we highlight ways in which inauthentic participation can be
22 identified and addressed. We argue it is pertinent researchers are aware of the risks and
23 potential impact of inauthentic participants and recommend researchers consider this
24 phenomenon from study planning stages onwards. We identify Universities and ethics
25 committees as well placed to provide training and ensure, where necessary, mitigation plans
26 are in place before granting study approvals. We suggest funders and publishers request
27 inauthentic participation be considered and reported. These recommendations would establish
28 awareness, prevent wasting valuable project resources, increase transparency of reporting and
29 ensure data integrity is protected.

30

31 Key words: inauthentic participants, imposter participants, data integrity, data validity and
32 reliability, research methods

33 Introduction

34 Across both quantitative and qualitative research studies it has been argued there are three
35 types of participants, 1) eligible participants who meet the inclusion criteria, 2) well intentioned
36 individuals who take part but are, in fact, ineligible, and 3) individuals who intentionally
37 participate knowing they do not meet study inclusion criteria (Jones et al., 2021). Participants in
38 the third category have been termed fraudsters (Teitcher et al., 2015), fraudulent participants
39 (Jones et al., 2021; Jean Louis et al., 2024; Salinas et al., 2023; Woolfall, 2023) and imposter
40 participants (Ridge et al., 2023; Roehl & Harding, 2022; Santinele Martino et al., 2024).
41 Individuals participate in research or research related activity such as Patient and Public
42 Involvement (PPI), authentically or otherwise, for a variety of reasons. Therefore, to reduce the
43 notion that researchers are suspicious or mistrustful of those considering taking part in
44 research, we refrain from using what we deem to be somewhat accusatory terms; ‘fraudsters’
45 or ‘imposters’ and instead use the phrase ‘inauthentic participants/ participation’ herewith.
46 The challenge of inauthentic participation in research has been more widely recognised and
47 documented in quantitative, survey research. To try and avoid duplicate entries, remove
48 misinformation and prevent the completion of surveys by bots or other actors, researchers
49 conducting online surveys are encouraged to use automated strategies (i.e., CAPTCHA
50 (Completely Automated Public Turing test to tell Computers and Humans Apart), blocking
51 multiple responses from the same IP address, including open-ended questions) and manual
52 processes (i.e., screening and evaluating the data for inconsistencies or reviewing time stamp
53 information to consider appropriate length of time to complete the survey) (Chandler &
54 Paolacci, 2017; Glazer et al., 2021; Godinho et al., 2020; Gutub et al., 2023; Jones et al., 2021;
55 Salinas, 2023; Teitcher et al., 2015; Waggoner et al., 2019). While such strategies are not
56 foolproof, they can help reduce the likelihood of misrepresentation or deception (Hauser et al.,
57 2019), or, as we prefer, inauthentic participation.

The authenticity of participants has also been questioned during in-person qualitative research (Flicker, 2004) and openly demonstrated to be questionable within in-person market research focus groups (Leitch, 2004). Following the COVID-19 pandemic, where in-person research was severely restricted, there was been an acceleration in online recruitment and data collection methods (REF). Consequently, in online qualitative research, there has been an increase in the number of studies reporting this phenomenon of inauthentic participants (Ridge et al., 2023; Roehl & Harding, 2022; Santinele Martino et al., 2024; Sharma et al., 2024; Woolfall, 2023). Left unchecked, inauthentic participation threatens research integrity and it compromises any recommendations for policy or treatment informed by the research. It could also go so far as to be detrimental to the intended population the research aims to help (Glazer et al., 2021; Hewitt et al., 2022; Pellicano et al., 2024; Teicher et al., 2015).

Academic researchers involved with the Food Insecurity in People Living with Obesity (FIO) Food project (Lonnie et al., 2023) and the related Diet and Health Inequalities (DIO) Food project (Crabtree et al., 2024), all experienced instances of inauthentic participants during both the recruitment and data gathering processes. Researcher experiences have been compiled to highlight this important issue, further discussions and guide future research and practice.

FIO and DIO Food Projects

Through four interlinked work packages (WPs), the FIO Food project aims to improve and support healthy and environmentally sustainable food choices within the UK food system and provide actionable evidence to guide policy around retail strategies to help address dietary inequalities in people living with obesity and food insecurity, (Lonnie et al., 2023). The related DIO Food project extends the scope of FIO Food by considering other vulnerable citizens (i.e., early years) who are facing diet-related health inequalities, delivered through three additional, interlinked WPs (Figure 1).

82 INSERT FIGURE 1 HERE

83 Figure 1: Outline of FIO and DIO Food Work Packages

84

85 Co-production with people we intend will benefit from this research, is a central tenet of the FIO
86 and DIO Food projects, and a core principle in our way of working with the research questions
87 and research data within these projects. Patient and public involvement (PPI) and advisory
88 groups were established in both the FIO and DIO projects respectively and are frequently
89 consulted to improve the relevance and quality of research (Hoddinott et al. 2018) and to
90 ensure co-production methods are embraced. Therefore, it is crucial that this current paper
91 does not undermine the trust we have built with these groups regarding their important position
92 within the research process. In addition, given that we are seeking insights to our research
93 questions from people who are experts by experience, and whom we wish to appropriately
94 compensate for their time and expertise, we feel it is necessary to protect this principle by
95 recommending researchers upskill in their ability to reduce, identify and manage fraudulent
96 participation in their research.

97 We theorise the determinants of this problem experienced in both the FIO and DIO Food
98 projects are a combination of the global economic downturn, political upheaval and war, which
99 may have driven many already vulnerable individuals into exceptionally difficult economic
100 circumstances, leading them to participate in research solely for compensation (Newman et
101 al., 2021; Ridge et al., 2023).

102 In our research, we sought to engage with and hear about the perspectives of people living with
103 food insecurity or food poverty, who are also seeking to manage or lose weight and, in some
104 cases, were living with severe economic hardship. Due to the nature of our research,
105 advertisements may have been particularly visible within communities including those living on
106 extremely tight budgets, where participation may be one way of supplementing their income.

While potentially less likely within the context of the in person FIO Food focus group research, we cannot rule out attempts by organised fraud to take part in our FIO Food quantitative online survey research or the DIO Food qualitative interviews, conducted online or by telephone and therefore, easier to infiltrate.

Based on our experiences and the experiences of other researchers within the FIO and DIO projects, we consider that there is merit in reporting case studies detailing our experience of inauthentic participants to:

- a) Help raise awareness about what we learnt with a range of research stakeholder groups
- b) Describe what actions we took to navigate instances of inauthentic participant data in our studies
- c) Discuss the practical and moral dilemmas we faced as researchers face-to-face or online

Case studies from FIO and DIO Food projects

FIO Food Project

Online survey

A quantitative, online survey was used to understand how people living with obesity and food insecurity shopped for healthy and environmentally sustainable food in the supermarket.

Ethical approval was obtained from the University of Liverpool Research Ethics Committee,

Ethics number 12027. To recruit, we used the participant pooling website, Prolific. On this

website we were able to filter who our study would be advertised to, using specific

demographics collected when the participant enrolled with Prolific. The demographics we used

were: participants residing in the UK, individuals with a body mass index (BMI) $\geq 30\text{kg/m}^2$, and a household income lower than the UK median (£26,000). Participants who took part were compensated with roughly £4 (this amount varied depending on the time taken to complete the survey).

To further verify that participants were living with obesity, we collected participants' height and weight to allow the calculation of BMI. Where the participant had a BMI $< 29.5\text{kg/m}^2$ (we allowed a 0.5kg/m^2 discrepancy), their survey response was rejected (with the reason for the rejection specified), and the compensation payment was unfulfilled. Using self-reported height and weight measures, several participants BMI indicated they were not currently living with obesity. Whilst it is possible participants may have accidentally misreported their BMI, or experienced a change in body weight since initially signing up with Prolific, it is also possible their attempt to participate was financially motivated. Rejecting participants not meeting eligibility criteria in relation to BMI resulted in complaints regarding the withholding of payment. On Prolific, participants are able to contact the researcher directly through a chat-feature. Consequently, several rejected participants contacted the researcher to assert the importance and reliance they had placed on the compensation being offered and described how this rejection had "impacted their ability to buy food for the week". All participants who contacted the researcher with complaints regarding their rejection had their survey rejection reversed and received the compensation payment. However, to ensure the integrity of the research, their responses were removed from any subsequent data analyses. When conducting research with vulnerable individuals, such as those experiencing food insecurity, we must be mindful of the morality of withholding compensation payment, regardless of whether the participant potentially violated (authentically or not) other inclusion criteria.

In person focus groups

We were interested in gaining insights on how promotional retail communication used in real-world retail interventions to promote healthier and more environmentally sustainable food purchasing were perceived by people living with obesity and food insecurity. One notable insight from our PPI groups was related to the acceptability of the term “obesity” as an identifying characteristic for recruitment. Our PPI groups suggested that this term could be stigmatising and therefore we purposefully chose to use their suggested alternative terminology of “individuals who were actively trying to lose weight” within participation recruitment materials. Within the participant information letter and consent forms we further clarified the expectation that any participant taking part in the study should be living with obesity and food insecurity (e.g., “I confirm that I am living with obesity and actively trying to lose weight”). Following recommendations from the PPI group we clearly stated on the recruitment poster that participants would receive a £25 voucher as compensation for their time.

After ethical approval was sought and obtained from Leeds Beckett University Local Research Ethics Committee, with the help of gatekeepers, who acted as an intermediary between the research team and the participants, we recruited individuals in a small town in Northern England which has neighbourhoods that are classified, by the Priority Places for Food Index (<https://priorityplaces.cdrc.ac.uk/> <accessed 07.06.24>), as being within the top 10% of areas across the UK that are at risk of having food insecurity. Gatekeepers were provided with copies of recruitment posters, participant information letters, and consent forms to distribute to potential participants. Anthropometric measures (e.g., height and weight) were not used to recruit participants to our focus groups as previous research suggests that asking for this information can discourage participation (Wang et al. 2024). Indeed, it is also possible that potential participants may not know their current height or weight. In total we conducted four in-person focus groups, with between 7 to 12 participants in each, all participants provided consent confirming that they met the inclusion criteria for the study. However, within the focus groups, there were participants who, visually did not appear to be currently living with obesity.

Since not all participants in the focus groups visually appeared as though they were living with obesity, we must reflect on the ambiguity of asking participants to 'self-identify' as living with obesity. For example, from discussions within the focus groups, it became apparent that two participants had recently lost weight (they reported they had each lost 5 stone (31kg)). Whilst these participants may not currently be defined as living with obesity using anthropometric measures, they do have prior experience and so may believe they can contribute to discussions. Other participants, whilst not living with obesity, were living with other health conditions, for example, high cholesterol, Type 2 diabetes, high blood pressure and therefore may have felt they wanted an opportunity to share their experiences. One individual mentioned that they were there to support a friend who ultimately did not attend, whilst two other participants explained they were attending in the place of their spouses (who were living with obesity), who were unable to attend. Again, they may have felt they had experiences relevant to the aims of the project to share. Due to these reasons and given all participants self-reported living with obesity and experiencing food insecurity all data arising from the focus group was included in the analysis. All participants who attended received compensation for their time, but it raises the moral dilemma of challenging individuals who may appear not to be representative of the intended study group.

DIO Food Project

Online interviews

The DIO Food project aims to provide timely evidence-based research and commentary, focusing on vulnerable groups including early years and those on a low income. An advisory group including individuals from the third sector, National Health Service (NHS) and academia,

205 with expertise in family and food insecurity, established at the start of the project, were involved
206 in the development of the research materials, interview topic guides and recruitment
207 procedures. The group recommended that any recruitment information should clearly state
208 that participants would receive a £25 retail voucher for their time and expertise.

209 After receiving ethical approval from the Robert Gordon University, School of Nursing, Midwifery
210 and Paramedic Practice School Ethics Review Panel (SERP reference number 23-09),
211 information about the DIO Food project was shared on social media. We immediately received
212 eight emails from individuals expressing an interest in taking part and interviews, over Microsoft
213 Teams, were arranged with these participants. Two interviews were conducted and in both
214 interviews, participants stated they were unable to turn on their camera and that their internet
215 connection was poor. During the interviews, one participant described having 'no health
216 insurance' and the 'high cost associated with healthcare'. However, such experiences are not
217 typical for those residing in the UK who can access NHS treatment free at the point of care.
218 Neither participant discussed routine appointments or support from health visitors or
219 midwives that would be expected for parents of babies born in the UK. One participant
220 described having specific tests in hospital which, to our knowledge, are not carried out in the
221 UK. Following these initial interviews, a cluster of 22 emails arrived enquiring about taking part
222 in the DIO Food project. It was here that we identified similarities in the email addresses (all
223 Gmail accounts comprised of a full name followed by a series of numbers), in the wording of
224 the emails (often very formal with similar wording), in immediate response to any
225 correspondence with the research team and in the preference of all participants to meet online.
226 All of this led us to question and then doubt the authenticity of these potential participants.
227 Subsequent interviews were cancelled and recruitment was paused. After consideration, the
228 data collected from these initial interviews was deleted.

229 Looking to existing literature and talking with colleagues, we discovered there are no official
230 guidelines for researchers that outline procedures to follow in response to this situation.
231 However, following recommendations from other researchers who have published studies
232 reporting similar experiences (Ridge et al., 2024; Santinele Martino et al., 2024; Woolfall 2023),
233 we revised our study protocol. Revisions included the amendment of our inclusion criteria to
234 state that participants wishing to meet over Teams would need to attend an online screening
235 meeting and be willing to activate their camera for part of the meeting. We also amended our
236 recruitment strategy to only collect data through existing connections, organisations and
237 trusted networks. We removed information regarding the provision of a £25 retail voucher from
238 recruitment leaflets but information regarding recompense was retained in the participant
239 information sheet and was conveyed when recruiting in-person. Information on recompense
240 also featured in a video that was later shared online but was not immediately obvious.
241 Following these amendments, recruitment resumed and despite being a slower process than
242 perhaps initially anticipated, we are confident that the data collected is genuine.

243

244

245 Navigating inauthentic participation in research

246 Raising Awareness

247 Over two decades ago, Flicker argued more attention needed to be paid to the possibilities of
248 dishonesty in research (Flicker, 2004). Considering the growing body of published literature on
249 this topic since then coupled with conversations with researchers from a variety of disciplines
250 and spheres and our own experiences, we believe there is now an urgent need for collective
251 action. Currently, although appearing to be an increasingly common phenomenon, as was the
252 case in both the FIO and DIO Food projects, the identification of inauthentic participants is still
253 mostly unexpected, catching researchers at all levels off-guard and something which is not
254 planned for at the research design stage. Research synthesising the accruing data on this topic
255 is required to provide a sense of the scale and nature of this issue; to raise awareness within
256 the research community and tackle this issue we need to draw on collective knowledge
257 (Santinele Martino et al., 2024). Currently, experiences of inauthentic participation seem to
258 exist as sidebar conversations rather than discussions in the main and possibly, due to this
259 fragmented approach, there are a lack of concrete solutions (Santinele Martino et al., 2024).
260 As mentioned previously, there are no set guidelines around steps to take should you
261 encounter or suspect inauthentic participation, however, there are a series of 'red flags' that
262 might indicate potential inauthentic participation and a series of recommendations on how to
263 manage them.

264 Identifying potential inauthentic participants

265 Ways to identify inauthentic participation focused around common 'red flags' (Pellicano et al.,
266 2024; Ridge et al., 2023; Roehl & Harding, 2022; Salinas et al., 2023; Sharma et al., 2024;
267 Salanis, 2023; Teitcher et al., 2015; Woolfall, 2023) and are summarised in Table 1.

268 Table 1 Summary of common ‘Red Flags’

269

Phase of research	Red flags
Recruitment	Clusters of emails from individuals expressing an interest in taking part
	Emails containing similar content and language
	Email addresses that contain full names followed by a series of numbers
	Quick responses to emails
	Straightforward interview scheduling and the ability to take part almost immediately
	Instances where there is significant interest in financial compensation
Data collection	Requests for interviews to be scheduled at the same time of day
	Refusing to turn on their camera when meeting online
	Inconsistencies between screening information and participant stories, accounts or responses

Participants or Pretenders? Addressing Inauthentic Participation in research

Similar sounding participants in online interviews or same background noise

Participants who seem distracted

Multiple responses from the same IP address

Time stamp data indicating a shorter than expected completion time

Similar username in different participants

Impossible answers to survey questions

Data Analysis

Inconsistencies and contradictions within the transcribed data or survey responses

270 There is also an argument that vague or brief answers to interview questions in the qualitative
271 data collection phase may also be a red flag, however, a number of potential issues could
272 result in a participant responding in this manner, i.e., emotion, distrust of the researcher,
273 worries about breaching anonymity and inclusion of this as a red flag must be treated with
274 caution (Roehl & Harding, 2022).

275 Preventing and handling instances of inauthentic participation

276 Researchers have proposed a series of proactive and reactive recommendations related to
277 preventing and dealing with instances of inauthentic participation (see Flicker, 2004; Jean Louis

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278 et al., 2024; Ridge et al., 2023; Salinas, 2023; Santinele Martino et al, 2024; Sharma et al., 2024;
279 Woolfall, 2023), summarised in Table 2.

280 Table 2 Summary of recommendations for preventing and handling inauthentic participation

Phase of research	Recommendation
Recruitment	For quantitative studies use automated software features (CAPTCHA, IP address tracking) alongside manual checks
	If possible cease recruitment from stream through which inauthentic participants obtained study information
	Collect and verify participant contact information
	Recruit through existing organisations and trusted networks who can contact eligible participants directly
	Conduct a brief screening call and if online, ask participants to turn on camera, even briefly, to check identity, establish eligibility, prevent duplicate participation and discourage potentially inauthentic participants
	Where appropriate consider asking participants to verify their identity
	Remove details of recompense from recruitment materials
	Recompense participants with something valuable to that specific group or provide vouchers that can only be used in a specific location/ country
Data Collection	During interviews, challenge inconsistencies or stories that seem similar to other participants

Participants or Pretenders? Addressing Inauthentic Participation in research

If appropriate, ask questions an inauthentic participant may find more challenging to answer

Analysis Check transcripts for inconsistencies or contradictions, if uncertain about data, compare to that collected from participants deemed to be authentic

Decide whether to keep all, keep some or exclude all data from the data analysis

All phases Document and record all 'gut feelings' (i.e., intuition) and observations

Report and discuss instances with research team or trusted colleagues to enable changes to be made to procedures to deal with any inauthentic participation and promote research integrity

281

282 It has been suggested that during recruitment, participants should be asked to verify their
283 identity (i.e., provide membership or registration details with specific bodies or organisations or
284 using an institutional email address) (Ridge et al., 2023). Whilst this may be appropriate for
285 certain studies, concerns around anonymity may actually deter genuine participants, therefore,
286 reluctance or refusal to provide this information is not necessarily indicative of an inauthentic
287 participant (Roehl & Harding, 2022). Additionally, we need to consider the impact of asking
288 individuals to prove they meet eligibility criteria, especially populations who may be subject to
289 regular scrutiny from society, for example, those with invisible disabilities or illness (Santinele
290 Martino et al., 2024).

291 While compensation provided to participants should not be coercive, genuine participants
292 should be reimbursed fairly (Roehl & Harding 2023). The National Institute of Health and Care

Research in the UK recognises that participants should be recompensed for their contribution; their time, skills and expertise, and should not be left out of pocket should they chose to engage in research (NIHR, 2024). Teitcher et al (2015), suggested researchers could stipulate in the study information that recompense will not be paid if inauthentic participation is detected. However, this is twofold as outward expressions of mistrust from researchers and anticipated scrutiny might prevent genuine participants from agreeing to take part. Woolfall (2023), noted lower levels of fraudulent participants when they removed any mention of monetary compensation from study adverts, instead placing details of recompense in the participant information sheet only provided to participants once eligibility screening had been conducted. Therefore, this could be a useful strategy when recruiting participants outside of existing organisations or trusted network (i.e., through social media). However, it may also mean some potentially eligible participants do not engage.

During the analysis phase, should the data collected be deemed as inauthentic, Flicker (2004) suggests researchers have three options: 1) be a cynic, believe all the data is fabricated and discard the data completely; 2) be a sceptic, assume parts of the story are true, include some of the data in the analysis but make careful comparisons to see how this data compares to that of participants perceived to be genuine or 3) be a seeker, assume that since the participant self-selected, their story deserves to be heard and include data in the analysis. None of these options are viewed as being right or wrong, responsibility lies with researchers to be transparent and report decisions made.

Drawing on the existing literature, as part of the DIO Food project, we developed a flow diagram, to help guide our decision making process, summarised in Figure 1.

INSERT FIGURE 2 HERE

Figure 2: Summary of decision process for DIO Food project online qualitative interviews

It should be noted that due to participant interactions, decisions around the handling of data arising from focus group research may be less straightforward. Future guidelines should therefore stipulate procedures that incorporate steps to be enacted to deal with and preserve focus group data generated when authentic participants take part in a discussion that includes data from an inauthentic participant.

While our decision making around ways to navigate this phenomenon were undertaken ad hoc (as is often the case), ideally, inauthentic participation should be considered from the project planning stages.

Planning future research studies

Jones et al (2021) suggest that researchers should discuss the possibility for inauthentic participants during the planning stages of research studies and that discussions should continue if any potential instances arise throughout recruitment, data collection and analysis. However, Roehl and Harding (2022) suggest researchers should recognise inauthentic participation as a potential issue and have a more formal plan in place should this arise. Existing frameworks or models that could be utilised include the Reflect, Expect, Analyse Label (REAL) framework proposed by Lawlor et al. (2021) or the adaption of the Swiss Cheese model by Luis et al. (2024). Researchers have proposed that study protocols submitted for ethical approval should include information on how they plan to detect, mitigate against or navigate any instances of inauthentic participation to ensure proposals are ethically sound (Jean Louis et al., 2024; Sharma et al., 2024). Going further, Ridge and colleagues recommend the development of a specific ‘imposter participants protocol’, to be scrutinised by ethics committees (Ridge et al., 2023). Encouragingly, there is evidence to suggest that the experiences of researchers encountering this phenomenon are driving changes within institutional practices, for example, by informing revised ethics template documents to ensure the consideration of potential for inauthentic participation (Jean Louis et al., 2024). However,

343 change brought about by the experience of individual researchers likely moves too slow to help
344 mitigate this immediate, growing issue within research.

345 Discussion

346 While potentially frustrating for researchers, it is important that any instances of inauthentic
347 participation are handled sensitively and appropriately. The nature of our research within the
348 FIO and DIO projects and the fact we wanted to recruit those living on a low income, meant we
349 may have been at increased risk of attracting ineligible individuals facing severe economic
350 hardship as a means of generating income. Therefore, we decided that those who participated
351 (and later deemed inauthentic), should still be recompensed. In the case of the DIO Food
352 Project, had an inauthentic participation plan or protocol been developed during the planning
353 stages, arguably, these inauthentic participants could have been identified immediately and
354 subsequently not invited to participate. While planning could be extremely beneficial, the issue
355 of inauthentic participation is often not considered by researchers and therefore, we believe
356 greater awareness of this issue and its potential impact is needed.

357 Institution Level Training

358 To prevent the occurrence of inauthentic participation being something that catches
359 researchers off-guard, institutions and ethics committees should provide training in relation to
360 research practice, alerting researchers and equipping them to navigate this phenomenon
361 (Sharma et al., 2024). Training, delivered as part of University ethics or research methods
362 modules, should cover the potential for and identification of inauthentic participation at all
363 phases of the research journey (from recruitment to data collection, data analysis to
364 documenting and reporting processes). Training should incorporate advice on how to navigate
365 interactions where the researcher suspects potential inauthentic participation, by providing the
366 tools to enable researchers to be assertive and challenge inconsistencies or instances where
367 they feel the participant is inauthentic or misrepresenting themselves. Additionally, training

should consider the emotional impact of this phenomenon. As experienced by researchers in both the FIO and DIO Food projects, encountering inauthentic participants can be a highly emotive experience. A seemingly large interest in the study can be exciting; to then have doubts around the authenticity of the participants or the data collected can be extremely disheartening (Santinele Martino et al., 2024). The experience can lead to mistrust of all subsequent participants, create a barrier to developing rapport with participants and may result in authentic participants being overlooked (Santinele Martino et al., 2024). Journaling experiences and discussing these with the wider research team or trusted colleagues within regular scheduled meetings may be one method of managing the emotions experienced (Ridge et al., 2023). Another method may be to ensure regular debriefing sessions with supervisors or colleagues to discuss instances of inauthentic participation to help reduce researcher self-blame (Ridge et al., 2023). Developing concrete plans to prevent and handle any suspected instances or devising an 'inauthentic participation protocol', to be submitted alongside an ethics application should be at the very least recommended, if not a requirement, for ethical approval to be granted (Jean Louis et al., 2024; Ridge et al., 2023; Sharma et al., 2024). Additionally, it is recommended that ethics committees include a member with expertise of inauthentic participants or information technology (IT) to propose up to date methods of prevention and detection to enable solutions in what may be a constantly evolving situation (Salinas, 2023; Tietcher et al., 2015). Institutions must also ensure any software platforms they subscribe to, for conducting online survey research, are fit for purpose and allow researchers to use built-in functions that protect against inauthentic participation as not all survey platforms provide security features that prevent unwanted responses (e.g. IP address tracking or CAPTHCHA).

Requirement for Funding Bodies and Publishers

We believe this issue is of great importance to research funding bodies. Projects that lack plans to prevent or mitigate inauthentic participation, risk wasting valuable research time and money (Sharma et al., 2024; Santinele Martino, 2024). Financial compensation paid out to any

inauthentic participants depletes study funds and potentially leaves limited resources for genuine participant recruitment (Pellicano et al., 2024). To put this into context, Santinele Martino et al (2024) reflected that had they undertaken 20 interviews with inauthentic participants, this would have cost them \$500 CAD. Similarly, had we continued to interview those who initially contacted us regarding the DIO Food project, 25 inauthentic participants would have cost £625. In line with Santinele Martino and colleagues, we agree this is money potentially removed from a marginalised population (we cannot deny that the inauthentic participants may be a vulnerable group themselves). Additionally, this inauthentic participation would have produced results that are meaningless to the target population; those experiencing maternal and infant food insecurity within the UK. Moreover, this unjustified use of grant funding affects both the scientific and social benefit of the research (Teitcher et al., 2015). Funders may be in a position to help raise awareness of inauthentic participation and ensure when producing funding call requirements that researchers are instructed to create appropriate plans or protocols in order to help mitigate this issue.

Furthermore, we argue publishers could play a vital role in ensuring inauthentic participation does not jeopardise data collection, study findings or any future recommendations. All published studies report data collection methods, however, many do not describe ways in which the study was protected from or the data evaluated for, potential instances of inauthentic participation. Where this information is not provided, we may need to exercise caution when drawing conclusions from the research findings (Salanis, 2023). Therefore, publishers should support and encourage transparency to allow for rigorous assessment of published studies (Salanis, 2023). Requesting authors provide this information would encourage this practice to be adopted as standard.

417 Conclusion

418 The phenomenon of inauthentic participation in research is a common theme across research
419 disciplines. While individual conversations are taking place and individual examples of
420 experiences are reported, there needs to be a synthesis of the research data and a more
421 coherent, formalised, recognition of this issue. A clear set of guidelines for researchers is
422 required to inform the development of inauthentic participation protocols during the research
423 planning stage and submitted with ethics applications for scrutiny. Researchers need to be
424 informed of the phenomenon and its potential impact on research data integrity. Increasing
425 awareness could be achieved through training provided by institutions as part of ethics or
426 research methods modules and the production of guidance, easily accessible to students and
427 researchers of all career stages on institutional websites. Training should incorporate ways to
428 navigate challenging conversations with potential inauthentic participants and make
429 researchers aware of potential associated emotional impacts. To ensure data integrity and the
430 appropriate use of research funds, publishers and funding bodies should work with researchers
431 to support the consideration of this issue and encourage reporting on the navigation of this
432 phenomenon to maximise both the scientific and the social benefits of research.

433

434

435 Funding details: This research was funded through the Transforming the UK Food System for
436 Healthy People and a Healthy Environment SPF Programme, delivered by UKRI, in partnership
437 with the Global Food Security Programme, BBSRC, ESRC, MRC, NERC, Defra, DHSC, OHID,
438 Innovate UK and FSA. FIO Food is grant award BB/W018021/1.

439

440 Declaration of Competing Interest statement:

441 EH, RAS, HCG, AMJ, CG, DC and FD report no conflicts of interest.

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513 Figure legend (for figure on page 5)

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515 Figure 1: Outline of FIO and DIO Food Work Packages

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517 Figure legend (for figure on page 17)

518 Figure 2: Summary of decision process for DIO Food project online qualitative interviews