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When the snowball fails to roll and the use of 'horizontal' networking in qualitative social research

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1 **When the snowball fails to roll and the use of ‘horizontal’ networking in**
2 **qualitative social research.**

3

4 ABSTRACT

5 Snowball sampling is frequently advocated and employed by qualitative social
6 researchers. Under certain circumstances, however, it is prone to faltering and even
7 failure. Drawing on two research projects where the snowball failed to roll, the paper
8 identifies reasons for this stasis. It goes on to argue that there are alternative forms of
9 networking that can be developed by the qualitative social researcher in lieu of
10 snowballing. Specifically, when research momentum fails to build, rather than drilling
11 down vertically through social networks, we argue that the researcher can move
12 horizontally across social networks and cast the sampling and recruitment net wide and
13 shallow rather than deep. This change in emphasis can, we argue, make the difference
14 between a project failing and a project succeeding, and points to the importance of a
15 variegated understanding of the social networks on which our social research depends.

16 Keywords: interview; network; qualitative; recruitment; sampling; snowball; ties.

17 Word count: 7,305

18 **Introduction**

19 In many academic methods textbooks, ‘snowball’ sampling is billed as a profitable
20 means of recruiting research participants, though at the same time it tends to be profiled
21 in a rather limited and superficial manner. This said, recent specialist papers, including
22 a number in this journal, have provided more detailed (Browne, 2005; Noy, 2008) and
23 in some cases cautionary accounts (Atkinson and Flint, 2001; Waters, 2015) of
24 snowballing. For qualitative social researchers interested in sampling and recruitment,
25 we suggest the need for greater attention to the actual experiences of snowballing. In
26 particular, we argue that snowball sampling can, for various reasons, falter or even fail,
27 but that when this occurs there are alternative networking possibilities available.

28 Central to accounts of snowballing is a ‘referral’ model of ‘using one contact to
29 help you recruit another contact, who in turn can put you in touch with someone else’
30 (Valentine, 2005, p. 117). This involves a form of vertical/ deep social networking that
31 usually starts with a multiple (though relatively small) number of initial contacts and
32 then uses these to establish links with other research participants and thus build up
33 sampling momentum and sample size. In other words, through what might be termed
34 ‘social capital’ (Bourdieu, 1984), the snowball is able to roll. The sampling strategy is
35 variously described in academic texts as convenience (based on the contacts available),
36 non-random and non-probability (not necessarily reflective of a broader population,
37 making wider inferences difficult) and often purposive (targeting certain groups or
38 types). Further, the expectation is often that the researcher will continue interviewing
39 until a saturation point is reached i.e. until no more significant new information can be
40 gained by further sampling (known as saturation sampling).

41 The aim of this paper is to identify the circumstances under which snowballing
42 may falter or fail and to outline an alternative networking strategy for when this occurs.

43 Specifically, and drawing on our own research experiences when the snowball failed to
44 roll, we will argue that the strategy should be viewed as one of two main types of
45 qualitative network-based sampling and recruitment. Researchers can network vertically
46 via relatively strong initial ties and build momentum through these (usually via the trust,
47 rapport and reciprocity with which they are associated). However, it is also possible to
48 move horizontally; using both strong and weak ties to bridge into new social networks,
49 in effect casting the sampling and recruitment net wide rather than deep.

50 The two research projects we draw on where the snowball failed to roll focus on:
51 1) worker exploitation in the UK food industry, using a network of 11 ‘peer’ researchers
52 to interview exploited migrant workers; and 2) culture, identity, mobility and hyper-
53 masculinity amongst men and women who had recently left the UK armed forces. These
54 two projects both set out with the intention of building up momentum from a relatively
55 small number of initial contacts and strong ties, but in the end also became dependent
56 upon a host of additional research entry points, and what we term ‘horizontal’
57 networking through both strong and weak ties.

58

59 **Snowball Sampling: A Review of the Literature**

60 Snowball sampling exists in two main forms within the extant literature, reflecting two
61 distinct epistemological positions. First, from the 1950s and 1960s snowball sampling
62 was associated with the tracing of an initial contact’s social networks through to a
63 natural end point. For Goodman (1961, 2011) and Coleman (1958), the purpose of this
64 form of snowballing was specifically linked to the study of communal and social
65 structures and a desire to study these with minimum sample bias.

66 More recently, and building in part on this tradition, there has been considerable
67 work to consolidate the principles of snowballing as a means for making statistical

68 inferences. For Heckathorn and Cameron (2017), the preferred term is ‘link-tracing’, as
69 snowballing has become associated with ‘a sample that does not provide the basis for
70 validly inferring from the sample to the population from which it was drawn’ (p. 102).
71 Heckathorn is particularly known for extending link-tracing to make inferences for hard
72 to reach populations through ‘respondent driven sampling’ (RDS) (Heckathorn, 1997).
73 RDS is described as a form of ‘network sampling’ integrating link-tracing with
74 ‘multiplicity sampling’, another form of network sampling so-called because of its use
75 of multiple network links to increase the efficiency with which rare populations may be
76 estimated. The impact of this line of development has been impressive, as the citation
77 summary in Heckathorn and Cameron (2017) goes to show.

78 Second, and as noted above, snowball sampling is specifically used by
79 qualitative researchers (especially interviewers) as a form of non-random sampling.
80 Waters (2015, p. 371) characterises this form of snowballing as follows:

81 ‘The researcher would identify and interview a number of suitable individuals who
82 were either friends or colleagues, or had been identified by friends and colleagues.
83 Then, after hopefully building a reliable and trusting relationship through the
84 interview process, these initial interviewees would themselves be asked to
85 recommend friends and acquaintances that matched the research criteria. The
86 researcher would then chase these leads up (and) a chain can be continued until it
87 either comes to a natural end or reaches saturation point’.

88 Prominent research methods texts (see, for example: Bryman, 2015; Clifford, French
89 & Valentine, 2010; Flowerdew and Martin, 2005; Gray, 2004; Hay, 2016; Hoggart,
90 Lees & Davies, 2002; Kitchin and Tate, 1999; Robson and McCartan, 2015;
91 Sarantakos, 2013) largely focus on this second type of snowballing. In reviewing
92 these texts, we found, however, that coverage of snowball sampling was limited,

93 usually restricted to lines rather than pages. Bryman (2015) gives snowball sampling
94 most coverage (3 pages) of the nine texts we examined, though only Robson and
95 McCartan (2015) note that the strategy can be prone to failure (drawing on Waters,
96 2015).

97 Noy (2008, p. 328) is critical of the more general lack of reflection around
98 qualitative research sampling strategies. This is despite the fact that sampling reflection
99 is undoubtedly a key component in establishing research rigour (Baxter and Eyles,
100 1997). In relation to snowballing, ‘the most widely employed method of sampling in
101 qualitative research’ (Noy, 2008, p. 330), Browne (2005, p. 48) laments that: ‘Although
102 snowball sampling is used extensively...there are few reflexive accounts of how it has
103 been employed. Moreover, although snowball sampling is mentioned within methods/
104 methodological sections of papers, books, and book chapters, there has yet to be a
105 sustained discussion regarding the technique of snowball sampling’.

106 There have been numerous snowball studies, many targeting hard-to-reach
107 groups and/ or sensitive topics. For example, on drug use (Becker, 1963; Biernacki &
108 Waldorf, 1981; Griffiths, Gossop, Powis & Strang, 1993; Willems, Iguchi, Lidz & Bux,
109 1997), prostitution (McNamara, 1994), gangs (Petersen & Valdez, 2005) and serious
110 illness (Sudman & Freeman, 1988). It is important to note, though, that snowballing is a
111 technique that is also widely used in mundane and everyday research contexts.
112 Moreover, it is a technique used in ethnography as well as in in-depth interviewing,
113 where research opportunities often open up following contact with key informants.

114 Noy (2008) offers a compelling argument for turning closer attention to
115 snowballing as a key research moment in which: ‘unique social knowledge of an
116 interactional quality can be fruitfully generated’ (p. 328). According to this view,
117 knowledge of topics obtainable via snowball sampling is tied not only to the interviews

118 carried out with recruited respondents, but is also shaped also by ‘movement’ of the
119 research through participants’ social networks, as the snowball chain-referral process
120 develops. ‘Sampling knowledge’ from snowballing comes about through the particular
121 intersections between movement in social networks and interactions with individual
122 participants (Noy, 2008, pp. 331–332). However, although referrals are crucial towards
123 snowballing progressing and momentum-building, it is more questionable that they
124 always constitute ‘positive information’ (Noy, 2008, p. 332), or that they calibrate with
125 the requirements of the research. Instances of interviewees giving spurious contacts in a
126 bid to deflect the research, preserve or enhance their own status, or to shield others,
127 have been discussed in more depth elsewhere (for example Groger, Mayberry &
128 Straker, 1999).

129 Waters (2015) is one of the few scholars to reflect in-depth on the limitations of
130 snowball sampling. She identifies four sets of limiting factors faced in her attempt to
131 reach older adult drug users (Waters, 2015, pp. 374–377). A first issue relates to the
132 topic under study, with the proposition that some topics may be too sensitive to broach.
133 The older adults whom Waters was able to contact regarded their drugs-taking as highly
134 private and a personal matter and did not feel comfortable enough either to talk openly
135 about it or to consider divulging knowledge on others. Secondly, Waters argues that
136 snowballing will be more effective when potential participants perceive few risks of
137 participation, notably to themselves, but potentially to others as well. Risk perception in
138 snowballing can link to the topic being examined, and to assurances of participant
139 anonymity and confidentiality. On the one hand a participant may control referrals they
140 provide, yet on the other hand they may sense a lack of control over how such contacts
141 may be used subsequently. Waters argues that her interviews showed that the
142 respondents did not feel defined by their drug-using, nor did they see themselves as

143 open advocates of it. Noy (2008, p. 331) attempts to draw the distinction between topics
144 considered more socially acceptable, yet which are ‘hidden-by-choice’, and those which
145 are hidden more by processes of stigmatisation, marginalisation or exclusion.

146 Third, the positionality of the researcher may resonate in particular ways in
147 snowballing, in terms of the time and effort involved in trust-building and obtaining
148 referrals. Waters contends that her own differences in age and nationality from the older
149 drug users she was studying were barriers in this regard, and that snowballing is likely
150 to proceed better if the researcher is like, or part of, the population being studied. In
151 other words, just as affiliation patterns exist among research participants and others they
152 refer, so their existence among researchers and participants may favourably influence
153 prospects of developing sampling momentum.

154 Fourth, and finally, Waters concludes that snowballing is likely to work where
155 there is actually a network of social relations between individuals. This may seem a
156 self-evident requirement, yet it points to interesting questions concerning the
157 configuration of networks and the strength of connections, or ‘ties’, between individuals
158 which are necessary for snowballing to proceed effectively. Waters argues that ‘the
159 closer the ties between individuals the better’ (p. 378) and it is clear that research is
160 helped when the topic under investigation has a social/ communal basis.

161 Browne’s (2005) use of snowballing in a study of non-heterosexual women
162 provides additional points germane to the present study. Browne recounts how
163 snowballing supported her use of a varied set of other methods beyond one-to-one
164 interviewing, including couple interviews, focus groups, diaries and photo-based
165 autobiographies. In a similar vein, scope for extending snowballing beyond a ‘sole
166 researcher’ model is also discussed, such as in the case of Duncan and Edwards (1999),
167 who in their study hired additional investigators with links into the social networks they

168 were interested in. However, increasing numbers of researchers is not a simple matter of
169 expanding the scope or scale of snowballing, as it also influences the interpersonal
170 relations that are (per)formed during sampling and drawn on in generating accounts of
171 people's lives (Browne, 2005, pp. 47–49). Such considerations were important to us as
172 in one of our own studies; we likewise drew on the multiple-researcher model,
173 recruiting 'peer researchers' based on having similar characteristics to the study
174 population.

175

176 **Research Experiences of Snowball Sampling**

177 Waters (2015, p. 372-3) notes that 'it is not necessarily the case that rolling snowballs
178 will continually grow and pick up speed'. Our two research projects, which we will now
179 discuss, underline this point. Both projects centred on researching workplace
180 experiences and identities: the first among exploited migrants and the second among ex-
181 forces personnel. In both cases, snowball sampling was the initial strategy deployed,
182 drawing on the advice from key methodological texts. In the event, however, snowball
183 recruitment failed to deliver the target sample size for both research projects.

184 The first project in which snowballing failed to gain momentum was funded by a
185 leading social policy charity and addressed the topic of workers' experience of
186 exploitation in the food industry (Scott, Craig & Geddes, 2012). The requirements set
187 by the funders were for a UK-wide study, across several industrial sub-sectors, from
188 agriculture to food retailing, and focussing primarily on conditions and practices in low-
189 wage jobs filled increasingly by migrant workers. To meet these requirements, the
190 project included three British academics (two of the present authors plus a colleague)
191 and five different UK study locations. For each of these locations we employed one or
192 more 'peer researchers', each tasked with using their own respective networks to

193 identify individuals with experience of exploitation, conducting interviews
194 subsequently, and then delivering to us the translated interview transcripts. We recruited
195 13 such interviewers for this with an overall target sample size of 60 interviews.

196 We refer to these interviewers as ‘peer researchers’ following Edwards and
197 Alexander (2011, p. 269) as ‘People who live within, and have everyday experiences as
198 a member of, a particular geographical or social ‘community’, and who use their
199 knowledge in a mediating role, helping to gather and understand information from and
200 about their peers for research purposes’. We sought out those who were themselves
201 ‘migrant’ non-UK nationals, taking this as a good indication that they had ‘insider
202 status’ (Ryan, Kofman & Aaron, 2011) within the migrant groups across the study
203 locations. We also wanted people who were ostensibly at key ‘junction points’ in
204 migrant communities and networks and who were bilingual in their own language and
205 in English. To identify suitable candidate interviewers, we contacted an array of local
206 state and third-sector organisations and other initiatives focussed on migrants’ rights
207 and on supporting migrant workers. Most of the researchers recruited this way were
208 already working in some capacity for such organisations.

209 The 13 peer researchers were therefore regarded as key intermediaries,
210 positioned on the fringes of our own research networks but centrally located within
211 migrant social networks, networks we did not have access to. Moreover, by including so
212 many peer researchers, we were optimistic about the prospects of creating multiple
213 entry points for snowballing, which would also help to reduce bias arising from using a
214 single entry point. To enhance the odds of the approach working, we designed a two-
215 day training workshop that most of the interviewers attended, also giving them the
216 opportunity to share ideas about how and where to begin the search for potential
217 interviewees. To facilitate continued cross-fertilisation, we stayed in regular contact

218 with the researchers by phone, email, and through progress meetings arranged for each
219 study location. The peer researchers were also paid at a flat rate based on completed
220 interview transcripts and though the level of pay itself raised issues, notably after the
221 snowball was failing to roll, we have reflected on this elsewhere (Scott & Geddes,
222 2016).

223 Despite this preparation, and the initial enthusiasm shown by the peer
224 researchers, only three interviews were completed by the initial six-month deadline,
225 with no indication that snowballing was gathering any sort of momentum for any of the
226 peer researchers. At that stage, two of the researchers left the project, neither having
227 completed any interviews. Both of these researchers were males, and while one worked
228 for a local authority, neither appeared to have as strong roles in specialist migrant
229 groups or networks. Of the 11 remaining researchers, 10 were women. They went on to
230 complete between 3 and 17 interviews each, although none included ‘deep’ snowball
231 chains. In other words, while most interviews came about by the peer researchers
232 spreading the word about the research project, very few of them were the direct result of
233 referrals from one interviewee to others in the manner most associated with
234 snowballing.

235 Reasons for this lack of momentum are similar yet not identical to factors which
236 were seen to govern the only partial success of snowballing in other research contexts
237 (Waters, 2015). A first factor was the subject matter of exploitation and forced labour.
238 Not only is this topic a sensitive and often hidden one, but it is also difficult to define
239 and detect in practice. Put another way, we were asking our peer researchers to recruit
240 people who had been exploited; when this is not something individuals usually openly
241 advertise, or even divulge privately, nor is it something that it easy to articulate to

242 prospective research participants; who may in fact not even see themselves as victims
243 despite suffering exploitation.

244 A second reason for the limited success from snowballing concerns the ‘insider’
245 status of our peer researchers within the different local migrant groups under study. As
246 noted above, we went to some length during the recruitment of the researchers to
247 ascertain that they were well networked. Subsequently, however, it became apparent
248 that the characteristics against which we had reached such decisions, while they were
249 necessary conditions for capitalising on insider status, they were not of themselves
250 sufficient. To elucidate, our selection criteria included whether the researcher was from
251 the same country of origin as the migrant groups under study, whether they spoke the
252 same language, and the extent to which they appeared to us to be well known within the
253 migrant ‘community’. Less easy to judge at the outset, but which appeared to prove
254 influential in retrospect, was the difference in class position between researchers and the
255 target group (see also Ganga & Scott, 2006). Many of the researchers were young,
256 middle-class professionals and this appeared to create a gap in terms of the willingness
257 of the potential interviewees (who had largely been exploited whilst working in low-
258 wage occupations) to trust that the interviewers; who we thought of as insiders, but were
259 actually not always obviously ‘on the same side’ as prospective interviewees. It meant
260 that, whilst our peer researchers generally had ample social capital, this was not able to
261 provide access to the required individuals or their social networks.

262 Thirdly, and we believe probably most importantly, another reason for the lack
263 of development of snowballing in this study related to our inability to judge in advance
264 the degree to which work experience and occupational status were actually a basis for
265 formation of social networks that could subsequently be drawn upon to obtain
266 ‘referrals’ and develop sampling momentum. Put simply, our target population

267 (exploited workers) did not appear to maintain contact with others who had suffered
268 whilst at work. In some cases, there was even an unwillingness to disclose information
269 through a fear of various forms of reprisal being meted out by employers, despite our
270 assurances of anonymity and confidentiality. In other situations, the sense of
271 unwillingness was generated more by a feeling of shame and embarrassment, that
272 interviewees felt they had brought on themselves (and brought to their families) as a
273 result of ending up in poor employment situations. It also became apparent that the
274 interviewees had little time or energy to look for sources of support, and/or had little
275 faith in gaining justice. They were largely isolated, and usually silent, in their
276 experiences of exploitation; yet we had assumed that there would be some loose
277 networking and associated social capital between victims.

278 Finally, there may be a distinction between research being carried out by a
279 Principal Investigator(s) (PI) using his/ her social contacts versus the research being
280 managed by a PI but reliant on the social contacts, and insider status, of peer researchers
281 (for reflections on this, see: Edwards and Alexander, 2011; Ryan, Kofman & Aaron,
282 2011; Scott & Geddes, 2016). The distance between the PI and the community under
283 investigation may well affect research momentum, and it could be that part of the failure
284 of snowballing was due to this. Put another way, snowballing may work more
285 effectively through the strong ties and associated social capital of the PI than anyone
286 else, though more reflection on the effectiveness of different types of research
287 configuration is clearly needed.

288 The second qualitative research project involved one of the current authors, who
289 received university funding, examining military workplace identities, focussing
290 specifically on themes of culture, identity, hyper-masculinity and mobility. Military
291 populations have been cited as, and critiqued for, being a breeding-ground for hyper-

292 masculinity; while ‘mobility’ in the context of the military is imbued with particular
293 meaning: such as around tours of duty, deployment in zones of conflict, or being
294 stationed on particular bases. Taking these two dimensions together, there are important
295 questions over how (well) military personnel negotiate the differences between such
296 locations, in which hyper-masculine identities are formed and foregrounded, and other
297 environments where there are different norms and expectations around identity and
298 behaviour, such as in domestic environments experienced during periods of leave at
299 home. For this second project the specific interest was in negotiation of identities
300 following discharge from the military and permanent return to ‘Civvy Street’.

301 For this study the recruitment of 40 participants who had left the military within
302 the previous two years was seen as achievable target within an 18-month study period.
303 The intention was to snowball from the researcher’s own family network, as two
304 members of the family had recently left the forces. Both family members did become
305 initial ‘seeds’, were interviewed successfully, and provided several other contacts to
306 approach. Interviews with five others were carried out subsequently, within a few weeks
307 of one another. However, promises of information from among those five never
308 materialised, despite multiple requests, and as a result further snowball chain-building
309 stalled. New interviewees were only recruited upon a change in approach that did not
310 involve going back to the same family members for more names. Instead, the search
311 was spread more widely, by talking about the project in other circles and following up
312 leads from there.

313 It is easy to see how the interactions between female academics and recent ex-
314 military males (all original links and initial interviewees were male) may have
315 contributed to the re-production and enactment of different identities, which in turn may
316 have inhibited the latter from providing more information. The researcher was informed

317 by some of the initial male interviewees, for example, that other potential participants
318 would be ‘too rude’, ‘crude’, ‘improper’ or ‘aggressive’ to interview on the study topic.
319 Going further here, the interviews with the five second-stage respondents gave hints of
320 mutual interactions. Firstly, in contrast to the labour exploitation study, there were clear
321 indications of strong social networks between members of the study population –
322 unsurprisingly a sense of there being a military ‘brotherhood’ – and this allegiance to
323 military cultures and a desire not to ‘rock the boat’ may have outweighed feelings of
324 obligation towards assisting the research(er) by naming other contacts. In other words,
325 military and ex-military can be viewed as an ‘elitist group’ (Noy, 2008), with the
326 interviewees feeling social pressure not to open access to non-elites. Secondly, it is
327 interesting that all the participants did indicate that they were busy ‘moving on’,
328 establishing lives and new careers outside military. Hence not providing referrals may
329 also be seen as a way of resisting social pressure exerted by the network, an active
330 attempt to loosen network connections to former military acquaintances.

331

332 **From Vertical/Deep to Horizontal/Wide Networking**

333 In two different qualitative research projects snowball sampling faltered, and there was
334 little advice from the extant literature concerning what to do in such circumstances. In
335 the event, we resorted to thinking about recruitment and sampling from the perspective
336 of horizontal (largely weak-tie) networking. This meant a recognition that momentum
337 would be unlikely to build through the strong ties of the researchers and peer
338 researchers; and that we would instead need to cast a wider and shallower recruitment
339 and sampling net, that relied not only on existing strong ties but also on a looser
340 network of weak tie contacts.

341 To put this in a conceptual frame, Granovetter (1973, 1983) draws attention to
342 the importance of ‘weak ties’ both towards the production of ‘macro-level’ patterns and
343 phenomena, such as the (in)ability of communities to organise themselves against
344 events that negatively affect them, and in terms of structuring opportunities for
345 individuals, such as opportunities for social mobility. The paradoxical assertion that
346 weak ties perform functions which might otherwise be ascribed to close interpersonal
347 relationships (‘strong ties’) derives from regarding weak ties as important ‘local
348 bridges’, connecting differing high-density clusters of relations (see also Putnam, 2001;
349 Ryan, Sales, Tilki & Siara, 2008). In other words, through ‘local bridges’, weak ties can
350 act as horizontal pathways into desired new networks of potential research participants.
351 Thus, network-based sampling and recruitment need not always depend upon the
352 researcher mining his/ her established and proximate social networks.

353 As far as our research on migrant worker exploitation is concerned, the question
354 that remains is how the peer interviewers were eventually able to access so many
355 appropriate individuals after such an unpromising start? Previously we have argued that
356 this change of fortune followed our decision to increase the payment rates for the
357 interviewers, in response to unhappiness that emerged among some of the peer
358 researchers over the original level of pay against the amount of effort required (Scott &
359 Geddes, 2016). For example, one of the interviewers who was strongly of this view had
360 claimed that it was taking between 20 and 22 hours to translate and transcribe a single
361 transcript, excluding the significant time spent on recruitment, and also on the interview
362 itself. We note the insightful work of Head (2009) on the ethics of research payment
363 more generally, and in our case simply want to point out that interviews stalled first and
364 foremost because horizontal sampling is much more labour intensive than snowball
365 sampling, and the financial rewards on offer to researchers need to reflect this.

366 As already noted, the peer researchers we employed were ‘inside’ their
367 respective ethno-national communities, but most of them were not inside social
368 networks of low-wage migrant workers (Ganga & Scott, 2006). However, this class
369 dynamic was not apparent at first, and instead and understandably the original efforts to
370 disseminate news about the study and to identify potential interviews focussed on the
371 peer researchers’ own strong ties. These were both their existing personal contacts, and
372 contacts via the organisations and businesses they were linked to. Across the range of
373 11 interviewers, for example, connections were evident with, to name but some: Citizen
374 Advice Bureaux, Council run advice and other services, trade unions, international
375 women’s groups, Polish clubs, law centres, churches, drop-in advice centres, local
376 police forces, the Gangmasters Licencing Authority, Polish and Eastern European
377 shops, and local libraries (where migrant workers were known to use computers for free
378 Internet access).

379 We would contend that this original attempt to recruit interviewees was close to
380 the model of the snowball sampling method which is popularised in academic textbook
381 accounts. However, in order to grow interviewee numbers past the very modest
382 numbers this method produced, the peer interviewers had to think about how to cast
383 their recruitment nets wider and aim for sampling breadth rather than just depth. For
384 several of the interviewers, it became clear that this entailed a shift towards drawing
385 much more on extensive networks of weak ties either they had themselves, or via their
386 friends, and friends of friends, to identify contacts. One interviewer, for instance, drew
387 on the help of a friend who was able to drive to ‘fields with caravan places’ to talk to
388 some of the friends’ contacts there. Meanwhile, in another of the study locations, a few
389 contacts were made as a result of posting on websites and discussion forums for Polish
390 nationals living in the UK. Even then, however, onward referral chains were rare.

391 In short, most progress was made not by snowball sampling and the
392 development of momentum from initial *a priori* strong-tie contacts, but instead through
393 the willingness and tenacity of (most of) the interviewers to fall back on the extensive
394 networks they could develop and horizon-scan from these. This horizontal approach to
395 networking involved the use of both strong and weak ties ‘bridges’ into quite diverse
396 groups of workers, some of whom had direct experience of exploitation. This is not to
397 argue that the organisations the peer researchers were linked to were not important.
398 However, rather than providing the entry-points for snowball sampling and the
399 development of momentum, they provided the entry-points for a looser form of
400 horizontal networking that often involved a number of stages of contacts before an
401 interviewee was uncovered. Moreover, once an interviewee cooperated in the research
402 he/ she then rarely provided additional contacts and referral chains were short.

403 It should also be apparent that this shift in approach was both labour intensive
404 and time consuming, hence the peer researchers’ worries over payment noted above.
405 This goes beyond the question of the appropriate means and level of financial rewards
406 for the interviewers themselves, however. Additionally, we had no means to include a
407 further financial reward for those ‘friends of friends’ who assisted the peer researchers
408 in crucial ways. This is an important point because, when snowball sampling occurs,
409 there can be moral obligations and trust associated with strong-tie relationships that can
410 underpin a ‘duty’ to deliver contacts without any remuneration. In contrast, horizontal
411 networking is much less likely to have this characteristic. Thus, the delivering of
412 research contacts via weak ties may well have to be facilitated in some way (possibly
413 financially).

414 For the second project, and unlike the first, there was a strong alignment
415 between the topic and social capital; in the sense that being a member of the military

416 appeared more likely to unite than being a victim of exploitation. Here, the issue was
417 about research participants' reluctance, for various reasons, to provide further contact
418 details. The solution, though, was a similar one. In order to address the preponderance
419 of 'dead-ends' one needed to find more entry-points to the armed forces and network
420 through these to find recent leavers who were willing to cooperate (even if they were
421 rarely willing to refer on).

422 Rather than peer researchers needing to cast a wide and shallow sampling net, it
423 was the PI who directly adopted this strategy. For example, leads to new interviewees
424 emerged due to the PI: being involved in a parent-child group; overhearing a
425 conversation in a local gym; and, asking work colleagues for leads. Again, however,
426 similar to the other project, this switch to a more extensive and diverse (often
427 unconventional) range of different entry points did still not lead to the development of
428 subsequent referrals and sampling chains. Clearly, the group under study is very
429 different from that of exploited migrant workers, and whilst military identity may unite
430 more than victim status, the point remains the same: snowball sampling is not always
431 successful and it is important to be aware of other forms of network-based recruitment
432 available to the qualitative researcher.

433 Most obvious here, and drawing upon our experiences outlined above, we
434 distinguish between two ideal types of qualitative network-based recruitment (see Table
435 1). On the one hand, there is snowballing that is characterised by the development of
436 vertical sampling chains and the development of momentum through these (usually
437 initiated by *a priori* strong-tie contacts) such that social networks are relatively deeply
438 mined. On the other hand, there is horizontal sampling that is characterised by a wide
439 and shallow network of respondents, accessed by both strong and weak ties, and an
440 absence of momentum and chain-based recruitment. The nuances of qualitative

441 network-based sampling characterised in Table 1 were simply not evident to us in
442 advance of the two projects and we feel they represent an important blind-spot within
443 the extant literature.

444 [Insert Table 1 about here]

445

446 **Conclusions**

447 There is limited critical reflection given to qualitative research sampling (Noy, 2008)
448 and this is especially true with respect to snowballing (Browne, 2005). The majority of
449 textbook accounts of this network-based recruitment strategy can be measured in terms
450 of lines rather than pages. Moreover, only a few scholars have reflected on the issues,
451 barriers and problems one can encounter when using the snowball technique (Atkinson
452 & Flint, 2001; Biernacki & Waldorf, 1981; Waters, 2015). Similarly, our understanding
453 of social networks and their role in opening up new research possibilities and
454 methodological strategies is relatively poorly developed (though see: Ryan, Mulholland
455 & Agoston, 2014; Ryan & D'Angelo, 2017). As a result, there is currently no advice
456 given in the literature as to what to do when the momentum associated with snowball
457 sampling fails to build.

458 The paper is designed to address this research gap. It discusses why snowballing
459 may falter, or even fail, and identifies a solution when such circumstances arise.
460 Through two qualitative research projects we have learnt, first, that snowball sampling
461 can depend upon the subject under investigation having a social basis. What we mean
462 by this is that, even if one's initial contacts are socially embedded and have a high level
463 of social capital this does not mean that the communities they are part of will align with
464 the topic under investigation. So, the topic of workplace exploitation, for example, did
465 not in the event (and to our surprise) seem to draw people together into networks within

466 and through which snowballing could take place. Second, even when people may draw
467 together around a research issue – such as forces personnel, who tend to be in touch
468 with other military and ex-military staff – this does not mean that the snowball will gain
469 momentum. Possible barriers and checks here relate to researchers being deemed
470 outsiders (also an issue in the exploitation research), the research community being
471 tight-knit and loyal, the issues covered being deemed sensitive and possibly problematic
472 in nature (also an issue in the exploitation research), and, related to the above,
473 participation in the research being deemed a risk by potential informants (also an issue
474 in the exploitation research).

475 Whatever the explanation for the snowball failing to roll, it is clear that the
476 researcher must be prepared to adapt, and an awareness of other qualitative sampling
477 and recruitment possibilities is key. One solution has been advanced in this paper to
478 combat sampling stasis: horizontal networking. We have highlighted the role of
479 extensive social ties in grounding effective interviewee recruitment. In short, when the
480 snowball method falters, one can look further and cast the net much wider and
481 shallower drawing on both strong and weak ties in the process. It is this re-orientation
482 that prevented our two research projects from failing, but it was a strategy that we found
483 was barely mentioned in the literature.

484 In terms of future qualitative research and reflection, we would suggest more
485 investigation into the pros, cons and characteristics of snowball versus horizontal
486 networking (as presented in Table 1). In addition, there are questions over whether the
487 qualitative researcher should be prepared to deploy both techniques from the outset, or
488 whether one or other technique is preferable, and under what circumstances this
489 judgement holds? In our experience, both of the two research projects discussed above
490 would have been smoother and failure less of a threat had we appreciated that horizontal

491 networking was an option from the very beginning. Whilst this form of sampling and
492 recruitment may well have limitations, in that it may be more time consuming, labour
493 intensive, and costly, this certainly does not mean, in our opinion, that researchers
494 should see it as a technique of last resort. Indeed, there is a case to be made for vertical
495 (snowballing) and horizontal networking being complementary. Most obviously, where
496 snowballing can sometimes narrow the sample frame, horizontal networking can widen
497 recruitment. Correspondingly, concerns over bias can reduce (if these are deemed
498 relevant). Regardless, then, of whether or not the snowball rolls, academics should be
499 aware, from the start of any research, of the complexity of social networks and the
500 varied possibilities for sampling and recruitment that result from this.

501 **References**

- 502 Atkinson, R., & Flint, J. (2001). *Accessing hidden and hard-to-reach populations:*
503 *snowball research strategies*. (Social Research Update No. 33). Guildford:
504 Department of Sociology, University of Surrey.
- 505 Baxter, J., & Eyles, J. (1997). Evaluating qualitative research in social geography:
506 establishing 'rigour' in interview analysis. *Transactions of the Institute of British*
507 *Geographers*, 22, 505–525.
- 508 Becker, H.S. (1963). *Outsiders: Studies in the sociology of deviance*. New York:
509 Macmillan.
- 510 Biernacki, P., & Waldorf, D. (1981). Snowball sampling: problems and techniques of
511 chain referral sampling. *Sociological Methods & Research*, 10, 141–163.
- 512 Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste*. Cambridge
513 MA: Harvard University Press.

514 Browne, K. (2005). Snowball sampling: Using social networks to research non-
515 heterosexual women. *International Journal of Social Research Methodology*, 8, 47–
516 60.

517 Bryman, A. (2015). *Social research methods* (Fifth edition). Oxford: Oxford University
518 Press.

519 Clifford, N., French, S. & Valentine, G. (2010) (Eds.). *Key methods in geography*
520 (Second edition). London: Sage.

521 Coleman, J.S. (1958). Relational analysis: the study of social organizations with survey
522 methods. *Human Organization* 17, 28–36.

523 Duncan, S. & Edwards, R. (1999). Lone mothers, paid work and gendered moral
524 rationalities. Basingstoke: Macmillan.

525 Edwards R. & Alexander C. (2011). Researching with peer/ community researchers –
526 ambivalences and tensions. In M. Williams & W.P. Vogt (Eds.), *The Sage handbook*
527 *of innovation in social research methods* (pp. 269–292). London: Sage.

528 Flowerdew, R. & Martin, D. (2005). *Methods in human geography* (Second edition).
529 Harlow: Pearson.

530 Ganga, D. & Scott, S. (2006). Cultural ‘insiders’ and the issue of positionality in
531 qualitative migration research: moving ‘across’ and moving ‘along’ researcher-
532 participant divides. *Forum Qualitative Sozialforschung / Forum: Qualitative Social*
533 *Research*, 7, available at [http://www.qualitative-](http://www.qualitative-research.net/index.php/fqs/article/view/134/290)
534 [research.net/index.php/fqs/article/view/134/290](http://www.qualitative-research.net/index.php/fqs/article/view/134/290) [Last accessed: 26/02/17].

535 Goodman, L.A. (1961). Snowball sampling. *Annals of Mathematical Statistics*, 32, 148–
536 70.

537 Goodman, L.A. (2011). Comment: on respondent-driven sampling and snowball
538 sampling in hard-to-reach populations and snowball sampling not in hard-to-reach
539 populations. *Sociological Methodology*, 41, 347-353.

540 Granovetter, M.S. (1973). The strength of weak ties. *American Journal of Sociology*,
541 78, 1360–1380.

542 Granovetter M.S. (1983). The strength of weak ties: a network theory revisited.
543 *Sociological Theory*, 1, 201–233.

544 Gray, D.E. (2004). *Doing research in the real world*. London: Sage.

545 Griffiths, P., Gossop, M., Powis, B. & Strang, J. (1993). Reaching hidden populations
546 of drug users by privileged access interviewers: methodological and practical issues.
547 *Addiction*, 88, 1617–1626.

548 Groger, L., Mayberry P, & Straker, J. (1999). What we didn't learn because of who
549 would not talk to us. *Qualitative Health Research*, 9, 829-835.

550 Hay, I. (2016) (Ed.). *Qualitative research methods in human geography* (Fourth
551 edition). Oxford: Oxford University Press.

552 Head, E. (2009). The ethics and implications of paying participants in qualitative
553 research. *International Journal of Social Research Methodology*, 12, 335-344.

554 Heckathorn, D.D. (1997). Respondent-driven sampling: a new approach to the study of
555 hidden problems. *Social Problems*, 44, 174-199.

556 Heckathorn, D.D & Cameron, C.J. (2017). Network sampling: from snowball and
557 multiplicity to respondent-driven sampling. *Annual Review of Sociology*, 43, 101-119.

558 Hoggart, K., Lees, L. & Davies, A. (2002). *Researching human geography*. London:
559 Arnold.

560 Kitchin, R. & Tate, N.J. (1999). *Conducting research into human geography*. New
561 Jersey: Prentice Hall.

562 McNamara, R.P. (1994). *The Times Square hustler: Male prostitution in New York City*.
563 Westport: Praeger.

564 Noy, C. (2008). Sampling knowledge: the hermeneutics of snowball sampling in
565 qualitative research. *International Journal of Social Research Methodology*, 11, 327-
566 344.

567 Petersen, R.D. & Valdez, A. (2005). Using snowball-based methods in hidden
568 populations to generate a randomized community sample of gang-affiliated
569 adolescents. *Youth Violence and Juvenile Justice*, 3, 151-167.

570 Putnam, R.D. (2001). *Bowling alone: The collapse and revival of American community*.
571 New York: Simon & Schuster.

572 Robson, C. & McCartan, K. (2015). *Real world research* (Fourth Edition). Chichester:
573 Wiley.

574 Ryan, L., & D'Angelo, A. (2017). Changing times: migrants' social network analysis
575 and the challenges of longitudinal research. *Social Networks* [In press]. Available at:
576 <http://dx.doi.org/10.1016/j.soc.net.2017.03.003> (Accessed: 29 August 2017).

577 Ryan L., Kofman E. & Aaron P. (2011). Insiders and outsiders: working with peer
578 researchers in researching Muslim communities. *International Journal of Social*
579 *Research Methodology* 14, 49-60.

580 Ryan, L., Mulholland, J. & Agoston, A. (2014). Talking ties: reflecting on network
581 visualisation and qualitative interviewing. *Sociological Research Online*, 19, 1-12.

582 Ryan, L., Sales, R., Tilki, M. & Siara, B. (2008). Social networks, social support and
583 social capital: the experiences of recent Polish migrants in London. *Sociology*, 42,
584 672-690.

585 Sarantakos, S. (2013). *Social research* (Fourth Edition). Basingstoke: Palgrave
586 Macmillan.

587 Scott, S., Craig, C. & Geddes, A. (2012). *Experiences of forced labour in the UK food*
588 *industry*. York: Joseph Rowntree Foundation.

589 Scott, S. & Geddes, A. (2016). Ethics, methods and moving standards in research on
590 migrant workers and forced labour. In D. Siegel & R. de Wildt (Eds.) *Ethical*
591 *concerns in research on human trafficking* (pp. 117-135). Geneva: Springer
592 International Publishing.

593 Sudman, S. & Freeman, H. (1988). The use of network sampling for locating the
594 seriously ill. *Medical Care*, 26(10), 992-999.

595 Valentine, G. (2005). Tell me about...: using interviews as a research methodology. In
596 R. Flowerdew & D. Martin (Eds.) *Methods in human geography* (pp. 110-127).
597 Harlow: Pearson.

598 Waters, J. (2015). Snowball sampling: a cautionary tale involving a study of older drug
599 users. *International Journal of Social Research Methodology*, 18, 367-380.

600 Willems, J.C., Iguchi, M.Y., Lidz, V. & Bux, D.A. (1997). Change in drug-using
601 networks of injecting drug users during methadone treatment: a pilot study using
602 snowball recruitment and intensive interviews. *Substance Use & Misuse*, 32, 1539-
603 1554.

604

605

606 **Table 1:** Snowball and horizontal sampling: key characteristics, strengths and
 607 limitations

Snowball Sampling	Horizontal Sampling
<ul style="list-style-type: none"> • Vertical/ deep networking 	<ul style="list-style-type: none"> • Horizontal/ wide networking
<ul style="list-style-type: none"> • Starts with mainly strong ties and mines these for subsequent contacts 	<ul style="list-style-type: none"> • Uses strong and weak ties as ‘bridges’ into new social networks where contacts are found
<ul style="list-style-type: none"> • Sampling opportunities emerge based on referral 	<ul style="list-style-type: none"> • Sampling opportunities often emerge through cold-calling
<ul style="list-style-type: none"> • Momentum builds and referral chains become deep 	<ul style="list-style-type: none"> • Limited momentum and referral chains remain shallow
<ul style="list-style-type: none"> • Relatively few entry points into sample population 	<ul style="list-style-type: none"> • Relatively large number of entry points into sample population
<ul style="list-style-type: none"> • Intensive sample frame results (that may be more prone to bias) 	<ul style="list-style-type: none"> • Extensive sample frame results (that may be less prone to bias)
<ul style="list-style-type: none"> • Relatively efficient in terms of time and effort 	<ul style="list-style-type: none"> • Relatively inefficient in terms of time and effort
<ul style="list-style-type: none"> • Friendships, trust and rapport (social capital) often more important in driving delivery of contacts 	<ul style="list-style-type: none"> • Pecuniary motive more important in driving delivery of contacts
<ul style="list-style-type: none"> • Saturation point may be easier to reach given focused nature of sample 	<ul style="list-style-type: none"> • Saturation point may be more difficult to reach given relatively disparate sample

608