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## Home is where the heart lies? A study of false address giving to police

*'A lie can travel halfway around the world while the truth is putting on its shoes'* (Mark Twain).<sup>1</sup>

Lying has been described as an essential part of everyday human social interaction, with research finding deception to be 'a daily life event' perpetrated by all of us (DePaulo et al., 1996; Vrij, 2008). Although seemingly infinite, reasons for lying generally fall into either those driven by selfish personal ambition, or those of more altruistic orientation such as sparing the feelings of others. One has only to think of a recent social interaction in order to recall a deceit of some kind. For example, when you complimented the host on his or her cooking ability when really you wished you had taken the trouble to eat before you arrived (or brought indigestion tablets). An example of lying and deception however it might masquerade as kindness, politeness or 'the right thing to do'. Let's face it, the social world would certainly run less smoothly and would quite probably collapse without them (Vrij, 2008). Evolutionary psychologists suggest the human ability to deceive is 'hard-wired' (Bond and Robinson, 1988) representing an adaptive strategy for survival and reproductive advantage (Premack and Woodruff, 1978, Whiten and Byrne, 1997.). The reader should therefore take heart. We all tell lies. It is in our make-up.

The question of *why* people lie has received no little attention and exploration of the full gambit of reasons is better provided elsewhere (e.g. Ekman, 2001; DePaulo and Morris,

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<sup>1</sup> Found at <http://www.twainquotes.com/Lies.html> (accessed 12 May 2007) - This quote has been attributed to Mark Twain, but it has never been verified as originating with Twain. This quote may have originated with Charles Haddon Spurgeon (1834-92) who attributed it to an old proverb in a sermon delivered on [Sunday morning, April 1, 1855](#). Spurgeon was a celebrated English fundamentalist Baptist preacher. His words were: "A lie will go round the world while truth is pulling its boots on."

2005; Vrij, 2008). This is of little direct importance here. Presumably, those who give false addresses to police lie to avoid some sanction or punishment, although to benefit another could also be reason. For example, to protect a partner, family member, friend or associate in some way (e.g. Mum couldn't bear the shame of police officers visiting the family home). The focus of this paper is not why but *how* some people cognitively generate false addresses when stopped by police. Although their reasons for lying may vary the purpose of the lie remains the same (i.e. to deceive police).

With regards the importance of detecting false detail givers per se, the findings of two studies covering the use of false and other people's identities estimate that identity crime costs the UK economy between £1.3 and £1.7 billion per annum (Cabinet Office July 2002, Home Office Identity Fraud Steering Group, 2006). Offenders use false personal details to commit what the UK Home Office refers to as, *identity crime*. The generic term comprise crimes of identity theft, creating a false identity and committing identity fraud.<sup>2</sup> Identity crime, in this instance, refers to the use of false or another's details often to facilitate financial crime such as credit card or benefit fraud. As such, it does not as readily refer to its use as facilitator of other serious crime such as terrorism, whereby false identity is a means by which criminals go undetected (e.g. Salaheddine Benyaich and Dhiren Barot, BBC 2007)<sup>3</sup>. Unsurprisingly, due to a narrowness of interpretation, research on false identity crime as a 'smoke-screen' for more serious criminality is scant by comparison to financial related crime, despite growing research evidence which

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<sup>2</sup> See for example <http://www.identity-theft.org.uk/faqs.html> for a fuller explanation (accessed July 2007)

<sup>3</sup> Salaheddine Benyaich had obtained a false UK passport and was later convicted of a bombing in Morocco. Dhiren Barot had also obtained a false UK passport and was sentenced to life for conspiracy to murder – he admitted to planning a major UK terrorist attack.). BBC News, found at, [http://news.bbc.co.uk/1/hi/uk\\_politics/6470179.stm](http://news.bbc.co.uk/1/hi/uk_politics/6470179.stm) (accessed 16/07/07)

suggests those who give false details to police often do so to conceal serious concurrent offending (Roach 2007a; 2007b). By definition, it is not known what percentage of individuals stopped give false details to police, but a need to prioritise serious crime<sup>4</sup> and a lack of available resources (e.g. time and personnel) are popular reasons mooted as to why false detail givers are often only half-heartedly pursued. In some instances they are not followed up at all (Roach, 2007b). It suffices to say here that there is a strong possibility that if increased effort is placed on tracing false detail givers (i.e. as a matter of routine) then more active serious offenders will be apprehended as a consequence. By giving false details, individuals ‘self-select’ for police scrutiny which is likely to uncover more serious criminality (Chenery et al.1999; Roach, 2007a, 2007b). This paper builds on this approach by focusing specifically on false address giving to police and the cognitive processes involved in the generation of a false address. Moreover, how knowledge of such cognitive processes can be used to identify and trace those who give a false address to police.

There are of course significant differences between assuming a known identity and giving false details. The assumption of a known identity entails a degree of forward planning. For example, that sufficient corroborative information is known (or is suitably fabricated) which can give the authentication necessary, for say a bogus passport application.<sup>5</sup> Giving false details when stopped by police is arguably often a much less sophisticated, more spontaneous process, whereby ‘unprepared’ individuals have a minute period of time in which to fabricate plausible false information. In such situations ‘top-down’

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<sup>4</sup> As recommended in the Policing Green Paper 2008 found at [http://files.homeoffice.gov.uk/police/policing\\_green\\_paper.pdf](http://files.homeoffice.gov.uk/police/policing_green_paper.pdf)(accessed 12/11/2008)

<sup>5</sup> For example, details of date and place of birth and knowledge of application procedures.,

cognitive processing (e.g. Eysenck and Keane, 1995) comes into play, where pre-existing knowledge schemas are relied on.

There exists a distinct possibility that ‘seasoned’ criminals are more likely to have a false address prepared in advance to cover ‘occupational hazards’ such as being stopped by police. Although the writer considers this an important area for future research, it is not a primary concern of the present paper as a more general exploration of false detail generation is first necessary before attempting offender/non-offender comparison.. The objective here, therefore, is the identification of cognitive processes associated with the spontaneous generation of a false address. Namely, when false details are given with the aim of deception, to what extent does the deceiver unwittingly give clues as to their true place of residence? Consequently, if clues are indeed unintentionally given, what and how much effort is required to decipher them and what is the likelihood of tracing the putative offender?

An overwhelming majority of the psychological research pertaining to lies and deceit in a forensic setting focuses on the search for tell-tale signs which give the deceiver away, particularly the *non-verbal*. Non-verbal communication, such as body language, has long been a preoccupation with psychologists (e.g. avoiding eye-contact, playing with hair) alongside tests of body function such as the polygraph test, seen as involuntary indicators of the strain of deception (see Verschuere et al., 2004 or Vrij, 2008 for excellent reviews). Some have focused specifically on the ability of ‘professional lie-catchers’, including police officers and security service personnel to detect lies. Although a small

enhanced ability has been found in comparison with student samples (e.g. Ekman & O'Sullivan, 1991; Porter, Woodworth and Birt, 2000; Hartwig, et al., 2004), the evidence suggests overwhelmingly that the majority of people are not very good at detecting deception. Accuracy levels have consistently been found to be between 45 and 60 per cent (Taylor and Hick, 2007; Vrij, 2008). Popular explanations offered for this relatively low accuracy include the existence of a time-lag between popularly held stereotypical cues for detecting liars (Taylor and Hick, 2007), such as 'gaze avoidance' (Vrij, 1995; Vrij and Mann, 2001). Moreover, what are often commonly believed to be non-verbal cues to deception might instead be considered to be outdated in the arms-race between those trying to deceive and those trying not to be (Taylor and Hick, 2007). Recent evidence suggests that an individual's mood (i.e. emotional state) also affects the accuracy of their ability to detect deception (Forgas and East, 2008).

Research has also focused on the identification of verbal characteristics of lying such as 'slow speech and frequent pausing' (e.g. see Vrij, 2008) with much specifically directed at police-suspect interview situations (e.g. Gudjonsson, 2007). A review of the literature identifies several verbal criteria which appear fruitful in discriminating between deceit and truth, particularly when a liar has to instantly invent an answer. Deceptive statements might for example be *short* and *factual* (possibly unconvincing), *negative* (e.g. 'I am not a criminal') and *impersonal* (i.e. do not refer to themselves explicitly because they have not experienced what they claim to have) (Vrij, 2008).

Both verbal and non-verbal characteristics developed for unmasking liars lend themselves more readily to relatively time-rich police-suspect interview situations, than to identifying false detail givers on the street, often from only a few minutes interaction. They also offer little assistance to those later trying to trace false detail givers sometime after initial contact. The present paper, although irrefutably within the realm of lies and deceit in the forensic setting, is concerned with those who give a false address to police and not suspect-interviews as such. The aim here is not to discern how deception can be realised from non-verbal cues, or even from the manner in which things are verbalised. It is to explore whether *what* is said by the false detail giver can be used to identify the true place of residence being concealed.

What is needed is a way of a) discerning those who give false details to police from those who are truthful at the point of contact, and b) identifying the real residence of those later found to have given false personal details. So how can cognitive psychology help police better detect false detail givers?

A distinction is often made between processing which is stimulus driven (e.g. the processing by my eyes of letters on the computer screen) referred to as 'bottom-up' processing, and 'top-down' processing, which refers to processing affected by what the individual brings to a stimulus situation (e.g. my understanding of what those letters mean from the particular sequence they are in and a stored knowledge of the meanings of words). If one is to spontaneously fabricate a plausible false address then one needs an address schema (knowledge of how addresses are comprised, formatted etc). A complete

UK address should include a *post code* which comprises of a strict sequence of numbers and letters (e.g. EN8 9PT). This first denotes a wider postal district (e.g. EN8 identifies Waltham Cross, Hertfordshire) and second a street/road (e.g. 9QP identifies Green Lanes). To fabricate a full UK address necessitates, therefore, prior stored knowledge and demonstrates the necessity of top-down processing as guessing the format of a UK address and postcode perfectly, without prior experience, would be a formidable challenge.

Cognitive neurobiological research on human deception (e.g. Spence, 2004) indicates that ‘executive cognitive processes’ (such as memory and intuition) are heavily involved in the production of lies and deceit which makes them ‘effortful’ (Gambos, 2006). Studies have continually shown that humans tend to be ‘cognitive misers’ (Fiske and Taylor, 2008) often relying on heuristics rather than carrying out extensive cognitive computations (e.g. Khaneman and Tversky 1972, 1973; Rossmo, 2009).

Studies focussed on assessment criteria indicative of deception have reported that ‘honest’ participants give longer, more detailed and more ‘candid’ (i.e. honest admissions of potential mistakes) than their ‘dishonest’ counterparts (Colwell et al., 2007).

All things considered, it appears highly plausible that when generating a false address most individuals rely on stored knowledge (i.e. memory). As such, they provide clues as to the real address being concealed.

### **The present study**

To date, there has been no systematic study of the cognitive processes involved in false address generation. Although purely exploratory in nature, this paper seeks to identify the cognitive processing involved in generating a false address, exploring whether false givers generally default to top-down processing unwittingly given by the generation of a false address. We arrive at two hypotheses;

H1 - a significant percentage of people will find it difficult to fabricate an entire false address when put on the spot, and as a consequence;

H2 - a significant percentage will, to differing degrees, give false details via a top-down process, which will provide clues as to their place of residence.

If the hypotheses are supported then the identifying and tracing of putative offenders becomes a more realistic proposition for police and other agencies (e.g. Benefits Agency and Immigration Control).

## **Method**

### *Sample descriptors*

A total of 142 students at a university in the North of England, took part in the study. Most were studying psychology and criminology at undergraduate level but some were postgraduates. Females represented 75% (n=107) and males 25% (n=35) reflecting opportunity based sampling. The mean age was 22 years, with a range of 18-55 years and a standard deviation of 6.26 years.

### *Procedure*

All participants took part in the study simultaneously. The study was of one of quasi-experimental, repeated measures design. Participants were not informed of the purpose of

the task in advance, simply that their participation would entail answering a few questions as part of ongoing research. The study was fully compliant with BPS guidelines and procedures.

Participants were asked some demographic questions first (e.g. gender, age) before, second, given the brief scenario;

*Please imagine that you have been stopped by a police officer and asked to give your personal details. For some reason you do not wish to give your correct address. Please take no more than 10 seconds to think up a false address (this must include; house number, street, road etc. town, county and postcode). Please write this in the space below.*

Participants were next asked if they could identify the decision-making process which they believed had led them to construct their false address and to record this on the feedback sheet provided. Some examples were provided (e.g. former address, known other or random generation)

Last, participants were asked to write down their current home address (or the address which they considered home).<sup>6</sup> This afforded the writer scrutiny of an individual's false address, identified thought processes and real address. The purpose of which was to establish some level of authenticity of participant answers.

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<sup>6</sup> This was because as students many lived in halls of residence but would still consider their family house to be 'home'

## Results

H1 - a significant percentage of people will find it difficult to fabricate an entire false address when put on the spot (i.e. spontaneously).

### *Identifying thought processes*

Participants were asked to try and identify thought processes involved in the generation of their false address in order that common strategies might be identified. No gender or age bias was found. An overwhelming 82% (n=117) indicated they felt they could identify the thought processes which had led them to generate the specific false address, whereby, a content analysis was conducted to identify common thought processes identified. The categories presented were generated separately by the writer and then a second-rater and then discussed by both, A suitable level of inter-rater agreement was achieved, calculated by dividing the number of agreements by number of agreements plus number of disagreements, producing *an index of agreement* of 78% (e.g. see Robson, 1993). Subsequently, thought processes identified by participants were placed into four agreed categories; old addresses, address of known other, mixed thought processes and a random generation (N=142). A brief description of each is provided.

- Old address - 8% (N= 11) of participants gave a former address as their false address indicating that under time pressure they had relied upon top-down processing and not random address generation.
- Address of known other - 21% (N=29) of participants gave the address of a known other as the false address. Further analysis of 'known other' identified that

a close friend or family member's address had been given 75% of the time. The remaining 25% comprised ex-partners and old work addresses (curiously 'someone I hate' received several votes)<sup>7</sup>. These findings support the premise that a significant number of participants were using top-down processing when trying to generate a false address (i.e. address information from memory).

- The same postcode, a similar postcode, same address different house number and a previous postcode – Participants in this category did not produce a 'full' old or address of known other as those in the previous two categories. However, 16% (N=23) of participants identified either the same postcode, a similar postcode, same address different house number and a previous postcode one of the above as a reason why they came up with the false postcode that they did.
- Mixed/various thought processes - this category represented those who gave multi-layered explanations for arriving at the false address they did and constituted 35% (N=50) of thought processes identified. For example, some stated they chose the false door number because it was their favourite number and the street because it reminded them of a television character. Although, this may well have been the case, but it was just as likely that because they were asked to provide meaning for their action, they felt compelled to do so. As thought process identification was necessarily retrospective (i.e. after a false address had been generated) some may have succumbed to identifying meaning where it did not really exist; an effect of *hindsight bias* (e.g. see Khaneman, and Tversky, 1972, 1973; Rossmo, 2009). This category, therefore, often reflected a reliance on prior

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<sup>7</sup> Probably not a good tactic for anonymity if the feeling is reciprocated

- knowledge only interpretable by the participant. It was not as obvious as a prior address or the address of known others. This category is more fully explored for 'psychological meaning' later in this section along with 'random' processing.
- Random - At face-value, 20% (N=29) of participants considered that their false address generation was a product of random processing, and so offered fewest clues as to the real address being concealed. Comparison of false addresses declared random by the participant with the corresponding real address provided did show some level of similarity. For example, in some cases, the false and real post codes began with the same letters (e.g. HD or LS). Again, this is more fully discussed in a later section.

Although random and mixed thought process categories together represented some 55% of thought processes identified, any early pessimism was subdued when false postcodes were analysed in their own right. This leads to our second hypothesis.

H2 - a significant percentage will, to differing degrees, give false details via a top-down process, which will provide clues as to their place of residence.

#### *False post code analysis*

In total, 96% (n=136) of participants provided a false post code and 93% (n=132) gave a real one. As a result of the missing variables, there were only data for N=130 participants to analyse.

A first level of postcode analysis focused on whether participants had generated false postcodes located in the same postal area as their real postcode. It was agreed with a fellow rater that if a participant's false and real postcodes began with the same pre-fix of letters (e.g. HD, NW, LS) this was to be considered the same postal area. The results are shown in Table 1 below.

*Insert Table 1 about here*

As can be seen, 58% of false postcodes generated by participants were of the same town with 2% exactly the same as their real postcodes. This suggests, at face-value at least, participants tended to rely on local knowledge. This is probably best explained by surmising, as prior research has shown, that employing existing, more readily available knowledge, is less effortful cognitively than going out on a limb with totally random generation (e.g. Khaneman and Tversky, 1972, 1973; Fiske and Taylor, 2008; Rossmo, 2009).

A second level of postcode analysis sought to establish whether participants generated false postcodes that actually existed. Put simply, whether they were modifying known postcodes or were gambling on random generation. A postcode was considered as 'existing' when it appeared in the UK Post Office list for 2007. Table 2 displays the percentage of participants who gave false postcodes that existed (i.e. were listed in the Post Office postcode list) and those that gave false postcodes that did not exist on the list. As can be seen, 68% of false post codes generated were found not to exist (whereby only 10% of real postcodes given did not).

*Insert Table 2 about here*

A next level of analysis was focused on whether false existing postcodes (hereafter FEP i.e. listed on the Post Office list 2007) were the product of accurate random generation, pure luck, or based on existing post code knowledge (e.g. postcode from a previous address). A comparison of thought processes identified by the FEP group (N=46) with the 'non- FEP' remainder of the sample (i.e. thought processes identified by the sample less those able to generate an FEP). It was found that only 11% (N=5) of the FEP group stated they had randomly generated a false postcode, which was virtually half that of the remainder of the sample (21%, N=20) .Table 3 provides a comparison of the FEP participants and the thought processes they identified with the remainder of the cohort (participants).

*Insert Table 3 about here*

The categorisation process for false postcodes displayed in Table 3 mirrors that used previously for whole addresses. 'Same postcode' refers to those who gave the same false as real post codes, 'similar post code' is where the pre-fix of the false post code is the same as the real postcode (e.g. LS or HD), and 'Mixed' refers to a variety of thought processes identified (e.g. HD1 is the beginning of an old friends post code and 5LX is the end of an old post code). Random is self-explanatory.

As can be seen from Table 3, the FEP group used old addresses, those of known others, and similar postcodes more and mixed and random less than the remainder of the sample. The full implication of this finding shall be discussed later. It suffices here to say that those individuals who provided a false postcode which was found to be an existing one, tended to use postcodes already well known to them.

Lastly, calculations were carried out to discern the distance between an individual's false existing postcode (FEP) and their real postcode (REP). This was to explore geo-spatial knowledge being utilised in the generation of false addresses and post codes. This was only possible where both false and real existent postcodes were given (i.e. FEP-REP=distance between). In total, 44 participants gave false and real existing postcodes suitable for distance analysis. The median distance between false and real existing postcode was 3.6.km (range= 0-312.6km and standard deviation 77.12km). Where 27 participants gave an FEP from the same town (as their REP) the mean distance between them was half that at 1.8.km (range= 0-12.7km and standard deviation 2.9km).

Somewhat unsurprisingly, for the remaining 15 participants that gave an FEP for a different postal area, the mean distance between was found to be much greater at 55.6.km (range= 8.5-312.6km, standard deviation 106km). It was found, however, that these FEPs were based more on those of known others, than FEPs from the same town were (26% and 16% respectively). This highlighted, that when a distant FEP was given it was more likely to be based on specific pre-existing knowledge, such as the postcode of a known other (e.g. a close friend), rather than on knowledge of the area itself.

## **Discussion**

The present study indicates that when generating a false address people do tend to rely (albeit somewhat unwittingly) on pre-existing address knowledge usually pertaining to significant others and former residencies, rather than random generation. A vast majority of participants in the present study were able to generate what they thought to be a false address, but on reflection less than 20% stated that they thought this was totally random. 45% later stating that the false address generated reflected identifiable elements (i.e. based on real information pertinent to them). In other words, they provided clues as to the real address trying to be concealed. This supports our hypotheses about likely cognitive processing (i.e. a reliance on top-down) and has practical implications for identifying and tracing putative offenders.

The finding that people have difficulty in generating a false post code is perhaps of most practical significance. The findings from this study echo similar findings from cognitive psychology that people tend to defer to prior knowledge (e.g. heuristics) when faced with novel situations (e.g. Kahneman and Tversky, 1972, 1973; Rossmo, 2009). When asking suspects for personal details, officers would be advised to pay particular attention to the difficulty an individual might demonstrate in providing a postcode, as the cognitive processing involved in generating the necessary string of letters and numbers appears to fluster some people and they fail to produce a feasible false postcode. The finding that a significant percentage of participants rely on pre-existing post code knowledge to generate a false one, suggests strongly that post codes be made the principal focus of

those charged with detecting and tracing false detail givers. The finding that two-thirds of participants failed to generate a false postcode that actually existed (listed by the Post Office) emphasises this.

With regard to those who successfully gave a false existing postcode, most relied on the postcode of a known other or that of an old or similar address. Calculations of distance between false and real postcode suggest that people rely heavily on local knowledge, electing for postcodes within their own postal area. A caveat to this finding is that although in some instances distances between postcodes (e.g. LS2 and LS5) might appear to be relatively small, this may encompass numerous streets, roads, houses etc. making tracing a putative offender difficult.

#### *Further Research*

The present study of false address giving must be seen as merely a start, but an appropriate platform on which to build. The findings are limited by both participant numbers and composition. Research with a control group and a group of offenders may provide an interesting insight into whether offenders are more adept at providing credible false addresses than their non-offending counterparts. It must not be assumed that all offenders are 'good' liars, some will be and some won't, in the same way that some professions will attract more able deceivers than others (e.g. salespeople see DePaulo and Depaulo, 1989).

Participants in the present study were asked to write down a false address for practical reasons. Mainly so many more could participate than if the author interviewed one person

at a time. Whether the different modality (writing it down) had a significant effect is not known, but as participants were only given ten seconds to provide a false address the anticipation is that the same outcome would have been achieved if they had verbalised instead. Further research, however, should focus on whether the modality chosen plays a significant part in the generation of false details.

The writer is realistic about any broad conclusions drawn from the present study. As most participants were psychology and criminology students, they may have felt more of an obligation to identify and understand their own thought processes than students of other disciplines might, therefore reading more into their false address than was perhaps there.

Conversely, a charge can be made that participants in this study had no real incentive to deceive (e.g. no guilty or criminal mindset) as it was scenario based and not a real-life situation. Maybe, therefore, a true account of false address generation was not produced. Such consideration aside, most participants identified their false address to be 'reality based', the product of personal knowledge (e.g. top-down processing). As such, they failed to fabricate a completely random false address, affording some generalisability to real false detail situations.

With further regard to the ecological validity of the present study, although participants were given just ten seconds to construct a complete false address (arguably shorter than one might get if stopped by a police officer) one presumes the scenario was not as anxiety inducing as the real thing, and so, although short in time, clarity of thinking was probably

greater than in a real false detail giving situation and in this respect the hypothesis is supported. Future research might benefit from a real time observation of people stopped by police and asked for their home address. With the aim of both identifying those giving a false address at the time and retrospectively tracing those found to have done so.

In conclusion, the present study represents a first attempt to understand how false addresses are cognitively generated, and in turn, how the nature of that generation often leads the individual to give away clues to the address trying to be concealed. Humble beginnings maybe, but sufficient too inspire further research in this area. Research which holds not just theoretical and conceptual implications, but also serious practical ones for the identification and tracing of those that give false details to police and other agencies.

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**Table 1. A comparison of false and real post codes given according to postal area**

<i>False post code pre-fix</i>	<i>% of false postcodes</i>
Same town	58% (n=75)
Different town	40% (n=53)
Exactly the same postcode	2% (n=2)
Total	100% (n=142)

**Table 2. False existing, false non-existing and real participant postcodes**

	<i>Exists</i>	<i>Does not exist</i>	<i>Total</i>
False postcode	32% (n=46)	68% (n=96)	100% (n=142)
Real postcode	89% (n=127)	11% (n=15)	100% (n=142)

**Table 3. A comparison of the false address thought processes identified by those who generated a false existing post code and those who did not**

<i>Thought process identified</i>	<i>% of FEP participants</i>	<i>% of remainder of cohort</i>
Random	11% (n=5)	21% (n=20)
Old address	15% (n=7)	8% (n=8)
Known other	30% (n=14)	20% (n=19)
Mixed	22% (n=10)	36% (n=35)
Same postcode	7% (n=3)	3% (n=3)
Similar postcode	15% (n=7)	12% (n=11)
Total	100% (n=46)	100% (n=96)