



Forensic Interviewing of Vulnerable Interviewees in England and Wales: A Study Space Analysis

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Abstract

The aim of any forensic interview is to obtain accurate and reliable information using best practice questioning strategies. However, there has not been a systematic examination to determine whether best practice is suitable for all types of vulnerable interviewees. A study space analysis was conducted to determine if there are sufficient studies to support the consensus that open questions are best practice for vulnerable interviewees. A search of six databases was conducted. Overall, 76 studies were included in the final analysis with 28 independent variables and 14 dependent variables identified. These are largely related to question typology and the impact upon interviewee recall with a child population. The study space analysis revealed gaps concerning vulnerable child and adult populations and interviewees with mental health conditions. The findings suggest that there is insufficient evidence to suggest that open questions are suitable for all vulnerable interviewees. This has implications for current legislative guidance and policy in England and Wales, and further afield internationally.

Keywords Forensic interviews · Vulnerability · Question type · Study space analysis

Introduction

The forensic interviewing of any individual is a complex task, particularly when the interviewee is a vulnerable one (Farrugia & Gabbert 2019). It was initially thought that vulnerable victims and eyewitnesses did not possess the capabilities to be able to effectively give evidence despite the importance of their evidence in the success of criminal investigations. Historically, the criminal justice system (CJS) was not considered adequate in providing assistance to vulnerable victims and eyewitnesses so that their best evidence could be achieved. It was not until 1998 that the UK Government's Home Office tasked a working group to examine the barriers faced by vulnerable and intimidated victims and eyewitnesses in being able to give their best evidence. Their report, 'Speaking Up for Justice' (Home Office 1998), produced a number of recommendations to better support vulnerable and intimidated victims and eyewitnesses. For these recommendations to be enacted, they were legislated in

the Youth Justice and Criminal Evidence Act (Youth Justice and Criminal Evidence Act., 1999) as 'Special Measures' and included the giving of evidence in court from behind a screen (Section 23) or via video link (Section 24), pre-recorded cross-examination (Section 28), communication through a Registered Intermediary (Section 29), and evidence-in-chief to be provided via a pre-recorded forensic interview (Section 27). Following this, a team of experts was commissioned to draft a new set of interviewing guidelines for vulnerable victims and eyewitnesses known as 'Achieving Best Evidence in Criminal Proceedings: Guidance for Vulnerable or Intimidated Witnesses, including Children' (Ministry of Justice 2011, 2022).

The Achieving Best Evidence (ABE) framework provides extensive guidance on how best to interview vulnerable or intimidated victims and witnesses and focuses specifically on four main areas including (i) planning and preparation, (ii) conducting the interview, (iii) witness support and preparation for court, and (iv) witnesses in court. The forensic interview with the vulnerable victim and eyewitness should focus on building rapport, obtaining a free recall, using appropriate questioning strategies, and closing the interview appropriately.

Around a similar time, the interviewing of vulnerable suspects was also being given some attention. Prior to the

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1980s, police officers in England and Wales received very little to no training in interviewing. Thus, interviews were conducted based on many influential training manuals (such as the Reid Interrogation Technique; Inbau et al. 2013) that endorsed interrogative methods including the use of coercive and manipulative tactics in order to obtain a confession (Walkley 1987). Such interviewing techniques have been attributed as one of the leading causes of false confessions and miscarriages of justice (Gudjonsson 2018; Kassin 2005). It was not until the convictions were quashed of three vulnerable individuals who had provided false confessions to a murder that the contribution of this interrogatory interview process to false confessions was identified (see Maxwell Confait case; Price & Caplan 1977).

What followed was a public inquiry (see Fisher 1977) with the Royal Commission on Criminal Procedure (Home Office 1981) identifying that confessions were being prioritised by using oppressive questioning methods rather than a search for the truth (Irving 1980). As a result, new legislation was introduced; the Police and Criminal Evidence Act (Home Office 1984) and its associated Codes of Practice provided police officers with a legislative framework for the use of police powers, including the investigation and interviewing of suspects. However, following concerns over ineffective interviewing, the PEACE model (a mnemonic for each stage of the model; Planning and preparation, Engage and explain, Account, clarify and challenge, Closure, and Evaluation) was developed and rolled out to every police officer in England and Wales (Williamson 2006). Like victims and eyewitnesses, the focus is now on obtaining accurate and reliable information by using noncoercive interviewing techniques and appropriate questioning techniques (see Oxburgh et al. 2010 for a review).

More recently, an international set of standards for forensic interviews has been developed (Mendez 2021). The ‘Principles on Effective Interviewing for Investigation and Information Gathering’ consists of six core principles that promote rapport-based information-gathering processes. The first three principles focus specifically on the practice of interviewing vulnerable interviewees. However, despite the introduction of legislative guidance for best practice, the interviewing of vulnerable victims, eyewitnesses, and suspects remains a complex task.

The Concept of Vulnerability in the Criminal Justice System

Vulnerability within the CJS is not a new phenomenon; in fact, since the process of deinstitutionalisation, there is a disproportionate number of vulnerable individuals in the community that come into contact with the justice system (Sirdifield & Brooker 2012). Vulnerability can be hard to define—however, vulnerable victims and witnesses in

England and Wales are defined by Section 16 of the Youth Justice and Criminal Evidence Act. (1999) as those under the age of 18 years and adults who have a mental disorder (defined by the Mental Health Act, 2007, as any disorder or disability of the mind) or a significant impairment of intelligence and social functioning. Furthermore, those who have a physical disability or disorder or are suffering fear or distress are identified as vulnerable under this Act. Similarly, vulnerable suspects in England and Wales are defined in Home Office (1984), also as those under 18 years of age and adults with a mental health condition or mental disorder who may have difficulties in understanding or communicating effectively during their time in custody. Further, Note 1G indicates that a suspect does not have to have a diagnosed mental health condition or disorder but may still be classed as vulnerable should they present with difficulties in understanding and communication.

Aside from the legislative guidance in England and Wales, scholars working in this field have also defined the concept of vulnerability. Gudjonsson (2006) defines vulnerability within a legal context as, “psychological characteristics or mental state which renders an [individual] prone, in certain circumstances, to providing information which is inaccurate, unreliable or misleading” (p.68). Furthermore, he identifies four main types of vulnerability including mental disorder (any type of mental illness), abnormal mental state (including intoxication or withdrawal from alcohol and/or drugs), intellectual functioning (such as the level of IQ), and personality (including suggestibility, compliance, and acquiescence; see Gudjonsson 2018, for a full discussion of these concepts). Regardless of how the vulnerability is defined, the vulnerability of an individual, whether that be a victim, eyewitness, or suspect, can impact upon the investigation, particularly the forensic interview.

The Impact of Vulnerability on the Forensic Interview

Vulnerability is a key concern across policing (Department of Health 2014; Murray et al. 2018; Police Scotland 2017). This is of particular importance when one considers the impact of vulnerability in the forensic interview. The aim of the forensic interview is to obtain as much accurate and reliable information as possible (Gabbert et al. 2016; Oxburgh et al. 2010). A substantial amount of psychological research has reported that open questions (also known as ‘TED’, ‘Tell’, ‘Explain’, ‘Describe; Oxburgh et al. 2010) produce longer, more detailed, and more accurate information (Myklebust 2009; Phillips et al. 2011; Snook et al. 2012) when compared to inappropriate questions such as closed questions (those that typically elicit a ‘yes’ or ‘no’ response) or leading questions (those that either imply the

response or assumes facts that are likely to be disputed; College of Policing 2020).

However, research is starting to indicate that those with vulnerabilities, such as mental health conditions or disorders, or neurodevelopmental disorders may find these types of questions difficult, particularly when used to elicit a free recall. Seeking a free recall draws on the episodic memory of an individual but those with depression, anxiety, schizophrenia, intellectual disability, or an autism spectrum condition, for example, tend to exhibit impairments in these types of tasks (Airaksinen et al. 2005; Crane et al. 2012; Dongaonkar et al. 2019; Fajnerová et al. 2017; Maras & Bowler 2010; Maras et al. 2012; Pauls et al. 2015). That is, some recent work has found that adults with these vulnerabilities report few correct details when asked open questions that invite a free recall in comparison to those that do not have vulnerabilities (Bowles & Sharman 2014; Farrugia & Gabbert 2019, 2020; Hershkowitz 2018; Perlman et al. 1994; Ternes & Yuille 2008). In addition, open questions have been found to yield a higher rate than expected of 'don't know' responses (Danby et al. 2015; Farrugia & Gabbert 2019, 2020; Melinder & Gilstrap 2009), thus impacting upon the quality of information obtained.

Individuals with vulnerabilities can also demonstrate impairments in working memory; used to execute cognitive tasks, such as responding to questions during a forensic interview, the capacity of working memory can be reduced in those who have anxiety (Lindstrom & Bohlin 2012). This is also seen in individuals who have schizophrenia and can result in the processing of information being restricted, particularly if the task is cognitively demanding (Kleider-Offutt et al. 2016; van Merriënboer & Sweller 2010; Vytal et al. 2012, 2013). In addition to the specific difficulties outlined, vulnerable individuals have been shown to generally have increased levels of suggestibility, compliance, and acquiescence and can be at risk of providing inaccurate or misleading information (Gudjonsson 2018).

What this has started to lead to is a change in some interviewing practices. For example, the Cognitive Interview (Fisher & Geiselman 1992) has been revised to include the Sketch Reinstatement of Context (Sketch-RC) to replace elements of the Cognitive Interview not suitable for those who have an autism spectrum condition (Dando et al. 2011; Gentle et al. 2014; Mattison et al. 2015). Interviewees are instructed to draw a detailed sketch or plan of the event they witnessed whilst being encouraged to describe their sketch; this has been found to be particularly effective due to the support provided in the retrieval process. Furthermore, the Witness-Aimed First Account (WAFAs; Maras et al. 2020) was developed specifically for eyewitnesses who also have an autism spectrum condition. This interview technique provides directive prompts by encouraging the witness to focus on the 'most important event that happened' which

is recorded on a post-it note. Each topic is revisited in turn allowing the eyewitness to use their own search and retrieval techniques and thus reducing the impact of their impairments; initial findings have so far provided positive results (Maras et al. 2020).

Whilst there have been considerable strides made in changing the overall interviewing techniques for victims, eyewitnesses, and suspects, with a strong scientific base for the use of open questions in facilitating free recall in forensic interviews, there has not been a systematic examination to determine where the significant gaps in knowledge remain and whether this question type is suitable for all types of interviewees (such as those that are vulnerable). Furthermore, whilst it is undoubtedly positive that new interview techniques are taking into account the impact of vulnerabilities for specific groups, it appears largely based on vulnerable victims or eyewitnesses, rather than vulnerable suspects. If interviewing techniques are going to continue to develop to ensure the best communication is achieved, there needs to be an understanding of where future work should focus. The aim of the present analysis, therefore, is to determine whether there are sufficient studies using ecologically valid methods to support the general consensus that open questions are best practice for all types of interviewees, including those who are vulnerable, and to examine what type of research has been conducted with vulnerable interviewees concerning question type methodology.

A Study Space Analysis

Traditional literature reviews tend to focus on what has been found rather than on what has been studied and is particularly insensitive to variables that have been neglected or not studied together. The study space analysis allows for the evaluation of the breadth and depth of research coverage on a particular topic, whilst also identifying gaps in knowledge. It assists with the evaluation of the scientific adequacy of the literature for development and implementation into public policy, rather than just the suggestion that more work needs to be done (Malpass et al. 2008). By exploring the variables, methods, and procedures present in the existing literature, matrices are created with the frequencies of each variable plotted against others.

As such, scholars can be alerted to areas that have been over-worked and to areas that are under-researched and thus require attention. This is particularly important given that any policy changes should be based on a well-established and mature literature base before best practice recommendations are made. This type of analysis has been frequently used for a number of key topics in investigative psychology, for example, the Cognitive Interview (see Memon et al. 2010), ground rules in child interviews (Brubacher et al.

2015), and, more recently, multiple interviewing of child witnesses (Waterhouse et al. 2020).

The current paper presents a study space analysis of forensic interviewing with vulnerable interviewees given the emerging literature base that best practice questioning strategies may not be suitable for those that have vulnerabilities. If the current knowledge in a field has been developed in the absence of studies that include important variables, then best practice policy would be inadequate (Malpass et al. 2008) resulting in vulnerable interviewees being interviewed using methods not based on a scientifically sound and rigorous literature base. For best practice policy to be rigorous, there must be a substantial number of high-quality research studies conducted that report consistent findings.

The analysis will include studies that have examined questioning strategies with a vulnerable interviewee population either in the field or in the laboratory. The study space analysis will examine the types of variables that have been used in the studies included, the representativeness of the population (children or vulnerable adults) and the location, as well as the ecological validity of the methodologies used (e.g., real-life police interviews or experimental work). This will assist in policymaker understanding regarding whether open questions are best practice when interviewing vulnerable interviewees and expand knowledge relating to the type of research being conducted with vulnerable interviewees.

Method

A study space analysis (SSA) was conducted to explore the police interviewing of vulnerable interviewees. The search criteria, data collection and sources, and procedure are outlined below.

Data Collection

Data for the SSA was obtained via online searches of six databases, namely PsychINFO, PsycARTICLES, Pubmed, ProQuest, Science Direct, and Google Scholar, between October 2022 and January 2023. The search terms used to explore forensic interviews were ‘police interviews’, ‘interview style’, and ‘question types’. The search terms used for vulnerable interviewees were ‘psychological vulnerability’, ‘mentally disordered’, and ‘autism spectrum’ in combination with ‘witnesses’, ‘suspects’, and ‘juveniles’. Reference lists of relevant/key publications were also scrutinised for any additional studies. Overall, the initial search produced over 20,000 published pieces of work. After irrelevant studies were sifted out (e.g., those that did not focus on forensic interviewing), a total of 469 articles were left. These articles were subjected to inclusion criteria to filter out studies that bore no relevance to the topic of interest in line with

methodologies in previous SSA (e.g., see Memon et al. 2010 and Waterhouse et al. 2020).

Inclusion Criteria

Published studies from peer-reviewed journals were included if:

1. They included either real-life forensic interviews or ecologically valid interviews in terms of there being some free recall that was face-to-face that attempted to replicate a forensic interview via the use of a to-be-remembered event/experienced event or a suspect scenario.
2. They included experimental manipulation or analysis of questioning strategies as part of a forensic interview conducted with either a victim, eyewitness, or suspect recalling an event/their involvement.
3. They compared interviewee responses to questioning strategies.
4. A child or vulnerable adult sample was included based on the definitions included in current legislative guidance (e.g., Youth Justice and Criminal Evidence Act., 1999; Home Office 1984).
5. They were published in English.

Such criteria were chosen in order to try and capture as many relevant studies as possible that focused on the forensic interviewing of vulnerable interviewees via experimental and field studies. The criteria reduced the total SSA sample from 469 to 74 articles; 67 duplicates were removed, and 328 articles were removed owing to the fact that they did not fit the inclusion criteria, e.g., a review article rather than an experimental manipulation and a vulnerable sample not included. The remaining 74 articles were available electronically; two articles reported two studies; thus, 76 studies were included in the final analyses.

Procedure and Coding

Initially, the independent and dependent variables for each study were identified and plotted in a matrix; the independent variables were plotted down the left-hand side and the dependent variables were listed along the top, thus creating an IV*D_V matrix for all populations (child and adult). Frequency counts for each independent variable against its corresponding dependent variable were entered. Next, cross-sectional variables were identified—this allowed for the development of two further separate matrices based on child and adult populations that explored how the research had been conducted in terms of a victim, eyewitness, or suspect interviewee; real-life interview analysis or experimental interviews; and whether the interview related to a crime, an experienced event, or a to-be-remembered event, in addition

to the independent and dependent variables previously identified. Where studies included both a child and adult population, for example, frequencies were recorded in the relevant variables for both populations.

Please note, all materials and data for this analysis are available upon request from the author.

Results

Independent and Dependent Variables for Child and Adult Populations

A total of 28 independent variables were identified in the study space analysis (SSA) and related to a range of areas. For example, interview characteristics including the number of interviews conducted, the type of and phase of the interview, and question type were identified, as were variables regarding participant characteristics such as age and gender and crime characteristics including the frequency and type of crime and the type of perpetrator. In addition, the SSA identified a total of 14 dependent variables. These related to frequencies of question types although the most commonly occurring dependent variables included the recall from the interviewee—e.g., total amount and type of recall and accuracy levels. Most studies in the SSA included more than one independent and dependent variable.

Generally, the majority of categories included independent variables that were only examined once or twice against the dependent variables. For example, the impact of interviewee gender on the frequencies and types of questions asked during the interview (Anderson et al. 2014) or the impact of the type of crime and its frequency upon the amount of recall obtained (Leander 2010). That said, there were several variables that were explored more frequently. The impact of the type of interview was commonly explored against the types of questions asked during the interview (Blasbalg et al. 2019; Hill & Davies 2013; Otgaar et al. 2019) and the impact upon the amount of the interviewee's recall (Farrugia & Gabbert 2020; Maras et al. 2012; Peterson et al. 2013; Wyman et al. 2021, 2022), the accuracy of the response (Bowles & Sharman 2013; Brown et al. 2012; Farrugia & Gabbert 2020; Maras & Bowler 2010; Maras et al. 2020; Peterson et al. 2013), and the type of detail elicited (Bearman et al. 2019; Maras & Bowler 2010; Milne et al. 2013; Peterson et al. 2013). This was also the case regarding the impact of an interview delay on the types of questions used (Almeida et al. 2019; Brown et al. 2012), the impact of the interviewee's age on the frequencies of the questions asked (Ahern et al. 2015; Baugerud et al. 2020; Gagnon & Cyr 2017), the total amount of interviewee recall (Baugerud et al. 2014; Danby et al. 2017; Earhart et al. 2014; Ferra et al. 2022; Gagnon & Cyr 2017; Stolzenberg et al. 2021),

the accuracy (Baugerud et al. 2014; Behzadnia & Mehrani 2020; Danby et al. 2017; Darwinkel et al. 2014; Ferra et al. 2022), the level/type of detail provided (Danby et al. 2017; Feltis et al. 2010; Phillips et al. 2011; Stolzenberg et al. 2021), the type of interviewee disability on the frequency of question (Aker & Johnson 2020; Almeida et al. 2019; Farrugia & Gabbert 2019; Geijsen et al. 2018; Norris et al. 2020), and the type of recall provided (Almeida et al. 2019; Collins & Henry 2016; Farrugia & Gabbert 2020; Norris & Maras 2022). Perhaps the most commonly explored independent variable was the impact of the question type on dependent variables such as the total amount of recall obtained (Baugerud et al. 2014; Broaders & Goldin-Meadow 2010; Danby et al. 2017; Kask 2012; Kask et al. 2019; Szojka et al. 2020; Wolfman et al. 2016a, 2018; Yi & Lamb 2018), the accuracy of the recall (Almeida et al. 2019; Baugerud et al. 2014; Bowles & Sharman 2013; Danby et al. 2017; Farrugia & Gabbert 2020; Kask et al. 2019; Murnikov & Kask 2021; Yi & Lamb 2018), and the level/type of detail provided in the recall (Danby et al. 2017; Farrugia & Gabbert 2019, 2020; Lee 2012; Murnikov & Kask 2021; Wolfman et al. 2018; see Table 1).

Population Representativeness

The majority of studies utilised a child population within their sample group ($n = 66$). When exploring the type of interviewee, most studies explored interviews conducted with a child victim ($n = 39$; Ahern et al. 2015; Baugerud et al. 2020; Gagnon & Cyr 2017; Lyon et al. 2012; Stolzenberg et al. 2021; Wolfman et al. 2018) followed by a child eyewitness ($n = 31$; Almeida et al. 2019; Brown et al. 2012, 2013, 2017, 2019; Kask et al. 2019; Magnusson et al. 2020; Wyman et al. 2021)—please note, four studies included a victim and eyewitness sample so were included in both interviewee variables. No studies analysed as part of the SSA included a child suspect interviewee.

Being a child automatically categorises them as a vulnerable interviewee in the justice system based on age. However, studies that also included child interviewees with other vulnerabilities (such as a learning disability or an autism spectrum condition) were also included in the SSA. Whilst the majority of child victim samples had no additional vulnerability than age ($n = 35$), a few ($n = 4$) included those with a learning disability (Cederborg et al. 2011), an autism spectrum condition (Aker & Johnson 2020), and/or attention deficit hyperactivity disorder (Anderson et al. 2014). This was also the case for the child eyewitness samples; whilst the majority of studies included a child eyewitness sample with no vulnerability ($n = 24$; Behzadnia & Mehrani 2018, 2020; Kask et al. 2019), seven studies included those with a learning disability (Brown et al. 2012, 2017, 2019), an autism

Table 1 Independent and dependent variables matrix for overall populations

Dependent variables (DV)														
Interview character-istic	No. of questions	Types of questions	No. of allegations	Allegation type	Recall total	Correct recall	Incorrect recall	Recall type	Recall consistency	Don't know/don't remember	Reluctance/avoidance/clarifications	Confidence scores	Physio. measure	% Freq
Independent variables (IV)														
<i>Interview characteristic</i>														
Time period	0	2	0	0	1	0	0	0	0	0	0	0	0	0.3%
Country	0	1	0	0	0	0	0	0	0	0	0	0	0	0.1%
No. of interviewers	0	0	0	0	2	2	2	0	0	2	0	0	0	0.9%
Interviewer gender	0	2	1	0	2	0	0	1	0	0	1	0	0	0.8%
Interviewer competency	4	5	4	0	6	0	0	4	0	0	0	0	0	2.7%
No. of interviews	0	0	0	0	2	0	0	3	0	0	2	0	0	0.8%
Interview type	9	8	16	0	16	15	7	19	3	5	6	1	0	12.2%
Interview length	0	0	0	0	0	0	0	1	0	0	0	0	0	0.1%
Interview location	2	2	1	0	1	0	0	1	0	0	0	0	0	0.8%
Use of technology	0	0	0	0	0	2	0	2	0	0	2	0	0	0.7%
Stage/phase of interview	1	5	4	0	9	1	1	9	0	1	3	0	1	4.1%
Interview delay	0	13	1	0	4	5	1	2	2	0	0	0	0	3.3%
Event type	0	3	0	0	3	2	3	2	0	0	0	0	1	1.6%

Table 1 (continued)

Dependent variables (DV)														
Interview characteristic	No. of questions	Types of questions	No. of allegations	Allegation type	Recall total	Correct recall	Incorrect recall	Recall type	Recall consistency	Don't know/don't remember	Reluctance/avoidance/clarifications	Confidence scores	Physio. measure	% Freq
Event order	2	0	0	0	5	2	1	3	0	0	1	0	0	1.7%
Interview tactics	0	0	0	0	0	0	0	0	0	0	2	0	0	0.2%
Question type	33	16	1	1	57	28	14	51	4	11	20	3	0	30.3%
Disclosure type	3	2	1	1	14	1	0	11	1	5	4	0	0	5.4%
Presence of ground rules	0	0	0	0	1	0	0	0	0	1	0	0	0	0.2%
<i>Participant group</i>														
Age	8	6	1	1	25	14	5	17	4	4	6	1	0	11.9%
Gender	1	1	0	0	16	4	2	3	2	2	2	0	0	3.8%
Type of disability	19	6	0	0	6	9	10	19	0	2	2	0	1	9.9%
Level of functioning	1	0	0	0	3	3	3	3	0	0	0	0	0	1.6%
Race/language	2	2	0	0	2	0	0	0	0	0	0	0	0	0.7%
Religion	0	0	0	0	0	0	0	1	0	0	0	0	0	0.1%
<i>Crime characteristic</i>														
Freq. of crime	2	3	0	0	2	0	0	5	0	0	2	0	0	1.9%
Type of crime	2	1	0	0	2	0	0	6	0	0	2	0	0	1.7%
Type of perpetrator	2	1	0	0	2	0	0	6	0	0	2	0	0	1.7%

Table 1 (continued)

Dependent variables (DV)		Interview characteristic	No. of questions	Types of questions	No. of allegations	Allegation type	Recall total	Correct recall	Incorrect recall	Recall type	Recall consistency	Don't know/don't remember	Reluctance/avoidance/clarifications	Confidence scores	Physio. measure	% Freq
Expected	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0.5%
consequences	7.5%	13.8%	7.5%	0.4%	0.4%	21.1%	10.3%	5.7%	19.8%	1.9%	3.9%	6.7%	0.6%	0.4%	100.0%	

spectrum condition (Almeida et al. 2019), and/or Down's syndrome (Collins & Henry 2016).

A total of 14 studies analysed as part of the SSA used a vulnerable adult population (please note, four studies included an adult *and* child population so were included in both population variables). Overall, three studies included a vulnerable adult victim sample (Aker & Johnson 2020), eight studies included a vulnerable adult eyewitness sample (Bearman et al. 2019; Maras et al. 2020), and the remaining three studies included a vulnerable adult suspect sample (Farrugia & Gabbert 2019, 2020). When exploring the type of vulnerability the adult interviewees had, the victim and eyewitness studies did not include samples with mental health difficulties, but rather focused on those with a learning disability (Bowles & Sharman 2013) and/or an autism spectrum condition (Bearman et al. 2019; Maras & Bowler 2010; Maras et al. 2012, 2020). For the studies that included a vulnerable adult suspect sample, they tended to focus on those with mental health difficulties ($n=3$; Farrugia & Gabbert 2019, 2020), although one such study also included a sample of suspects with a learning disability/autism spectrum condition (Geijsen et al. 2018; see Fig. 1).

Location Representativeness

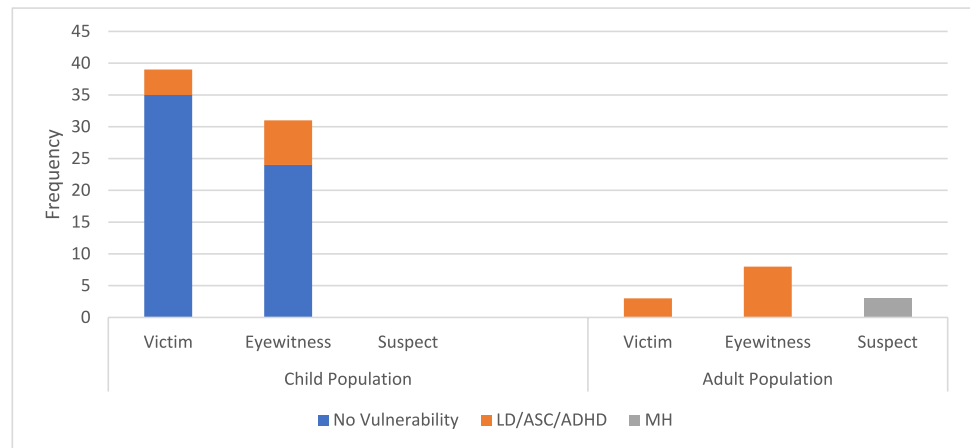
Studies included in the SSA were conducted in 17 different countries around the world. Those that utilised a child population tended to be conducted in the UK ($n=14$; Earhart et al. 2014; Hill & Davies 2013; Krahenbuhl et al. 2010; Phillips et al. 2011; Szojka et al. 2020) and focused on a victim and eyewitness sample.

Similarly, the studies that focused on a vulnerable adult sample were largely conducted in the UK ($n=8$; Farrugia & Gabbert 2019, 2020; Maras & Bowler 2010; Maras et al. 2012, 2020; Norris et al. 2020; Norris & Maras 2022). When the type of vulnerable adult sample was broken down into victims, eyewitnesses, and suspects, the majority in the UK focused on eyewitnesses ($n=6$) and suspects ($n=2$) only. Interestingly, no vulnerable adult victim studies were conducted in the UK.

Ecological Validity

The methodologies used in the research included in the SSA were examined. Both similarities and differences were found in studies that used child populations and those that used vulnerable adult populations. For example, the majority of studies tended to analyse real-life police interviews regarding the alleged crime with the child victim ($n=38$; Feltis et al. 2010; Hindi et al. 2022; Lyon et al. 2012; Szojka et al. 2020; Wolfman et al. 2016a, b, 2018) and vulnerable adult victim ($n=3$) populations (Aker & Johnson 2020; Cederborg et al. 2011). However, whilst both child and vulnerable adult

Fig. 1 Population representativeness regarding victims, eyewitnesses and suspects and type of vulnerability



eyewitness populations tended to focus on using experimental methodologies, those conducted with children largely utilised an experimental experienced event ($n=20$; Murnikov & Kask 2021; Wyman et al. 2022; Yi & Lamb 2018) rather than a to-be-remembered event ($n=9$; Magnusson et al. 2020; Milne et al. 2013), and those conducted with vulnerable adults tended to use a to-be-remembered event ($n=7$; Bowles & Sharman 2013; Maras & Bowler 2010; Maras et al. 2012, 2020; Norris et al. 2020) rather than an experimental experienced event ($n=1$; Bearman et al. 2019). Studies including vulnerable adult suspects used a combination of real-life interview analysis ($n=3$; Farrugia & Gabbert 2019; Geijssen et al. 2018) and experimental interviews ($n=1$; Farrugia & Gabbert 2020).

Discussion

Interviewing vulnerable individuals is a complex task and one that needs to consider the impact of an individuals' vulnerabilities on their ability to effectively communicate in the interview. The aims of the study space analysis (SSA) were to explore whether there were sufficient studies to support the general consensus that open questions are best practice when conducting forensic interviews with all types of interviewees including those that are vulnerable. In addition, the SSA sought to examine the type of research that had been conducted concerning question-type methodology with vulnerable interviewees.

There was a range of independent variables identified in the SSA, with some variables explored more frequently than others. The type of interview conducted such as a Standard Interview or Cognitive Interview was commonly examined against the types of questions used in the interview and the impact upon the total word count, the level of detail, and the accuracy in the interviewee's response. However, the majority of independent variables were only examined once or twice against the dependent variables, thus suggesting there

is little replication in the field. One important independent variable that has not been examined well is the impact of the type and/or frequency of crime on the amount and type of recall elicited. This is important considering some scholars advocating that certain types of offenders, e.g., sex offenders, should be interviewed in a specific way (see Oxburgh & Ost 2011).

The SSA revealed that there are some key populations missing in the literature. The majority of the research appears to focus on children interviewees overall when compared to adult interviewees. When this is further broken down into victim, eyewitness, and suspect interviewees, the majority of research tends to focus on child victims and child eyewitnesses, with the focus on child suspects found to be lacking. This is surprising given the abundance of forensic interview protocols and guidelines that are currently in existence for interviewing children. When examining research conducted with vulnerable adults, studies have focused on victims, eyewitnesses, and suspects, albeit only a few research studies have focused on each interviewee. Furthermore, given the aim of the SSA in exploring best practice questioning methodologies with vulnerable interviewees, an examination of the types of vulnerabilities present in the literature was conducted. Being a child automatically categorises them as vulnerable due to their age (e.g., Youth Justice and Criminal Evidence Act., 1999)—indeed, the majority of the research focused on child interviewees without any additional vulnerability. Very little research, however, focused on additional vulnerabilities, and of those that did so, the focus lie with learning disabilities or neurodevelopmental disorders such as an autism spectrum condition. This was similar with vulnerable adult interviewees; that is in a victim or eyewitness context, the focus was on learning disabilities or neurodevelopmental disorders, whereas in a suspect context, the literature tended to focus on those with mental health difficulties.

In the UK, there were approximately 85,939 adult offenders incarcerated as of June 2022, compared to 3581

juvenile offenders (Sturge 2022), with reports estimating that between 10 and 90% of all offenders have some sort of vulnerability depending on location (House of Commons 2017). Despite there being more adult offenders than children, the literature base focuses heavily on how to interview children. Furthermore, literature has indicated that those with vulnerabilities such as learning disabilities, neurodevelopmental disorders, and mental health conditions all present with a unique cognitive profile with impairments found in the areas of episodic and working memory. These areas are particularly important when one considers that free recall and the use of open questions rely heavily on these cognitive processes (Lindstrom & Bohlin 2012; Maras et al. 2012). However, the research exploring best practice interviewing and questioning in these areas is sparse despite the increased levels of vulnerable individuals coming into contact with the CJS. Each type of interviewee (victim, eyewitness, and suspect) will require a different method of interviewing especially if there are additional vulnerabilities present. Of the little research that has been conducted, it suggests that open questions are not suitable for some vulnerable groups (e.g., Farrugia & Gabbert 2019, 2020; Maras et al. 2020).

In terms of the location of the research covered in the SSA, the majority of research with child interviewees was conducted in the United Kingdom (UK), followed closely by the United States of America (USA). Of the little research conducted with vulnerable adult interviewees, this too was largely conducted in the UK although focused only on eyewitnesses and suspect contexts; that is, no research included in the SSA concerning vulnerable adult victims was conducted in the UK. The majority of the research concerning child and vulnerable adult interviewees being conducted in the UK is not surprising; indeed, England and Wales especially are seen as international experts in forensic interviewing with many other countries following their interview models or developing their own based on best practice in England and Wales (Walsh et al. 2016).

The ecological validity of the research included in the SSA was also examined. In studies conducted with both child and vulnerable adult victims, methodologies tended to focus on the analysis of real-life police interviews when exploring the impact of question typologies on interviewee recall. Experimental interviews were conducted with both child and vulnerable adult eyewitness populations with vulnerable adult suspects using a combination of real-life police interviews and experimental interviews. This is not overly surprising given the limitations on accessing police interview data and the ethical concerns on handling such sensitive data. In the research that used the experimental methodologies, there were differences between the child and vulnerable adult populations. The methodology in research concerning child interviewees tended to include the experimental experienced event rather than the to-be-remembered

event. In comparison, the research concerning vulnerable adult interviewees tended to focus on to-be-remembered events for eyewitnesses with one suspect experiment focusing on an experimental experienced event. Given that there are issues with both types of experimental methodologies, e.g., an increased risk of confounding variables in the experimental experienced event and a lack of ecological validity in the to-be-remembered event, scholars have acknowledged that a combination of both types of experimental methodologies may be necessary to fully develop understanding of how vulnerable interviewees respond to best practice questioning (Waterhouse et al. 2020).

The current study provides some insight on important topic areas where little or no research has been conducted, as well as identifying research gaps concerning key vulnerable groups. That said, the current SSA is not without limitations. The SSA did not include theses or dissertations and relied solely on online searches to obtain relevant articles. However, over 20,000 published pieces of work were initially examined and included the scrutiny of six databases. The SSA was also not able to examine the quality or validity of the findings of the research included. This is an interesting point to make given that whilst best practice advocates for the use of open questions (e.g., Myklebust 2009; Phillips et al. 2011; Snook et al. 2012), there is an emerging branch of research that suggests this is not the case for some vulnerable interviewees (e.g., Farrugia & Gabbert 2019, 2020; Maras et al. 2020). However, the aims of this SSA were to determine the spread of research regarding the use of open questions as best practice when conducting forensic interviews with vulnerable interviewees, rather than assess the quality or validity of the findings. The findings from this SSA suggest that whilst open questions may be best practice for the general population, there is insufficient research to suggest that this may also be the case for specific groups of vulnerable interviewees. Furthermore, there is an overall lack of research exploring the impact of question typology on vulnerable interviewees in terms of their recall amount and accuracy in forensic interviews.

Implications for Practice and Conclusions

There has been a plethora of research examining interviewing techniques and question typologies with the general consensus being that open questions are the best practice to elicit the most detailed and most accurate recall (Myklebust 2009; Phillips et al. 2011; Snook et al. 2012). However, there has not been a systematic examination to determine if this question type is suitable for those who are vulnerable and where the gaps in knowledge may lie. This is of particular importance given that an emerging branch of research suggests that vulnerable individuals struggle with open

questions when used to elicit a free recall (Bowles & Sharman 2014; Hershkowitz 2018; Perlman et al. 1994; Ternes & Yuille 2008), and that different groups of interviewees require different methods of interviewing.

This SSA has highlighted significant gaps in the research base; thus, it appears that current best practice in terms of questioning strategies has been developed based on an under-developed literature base that has not considered well the impact of questioning typologies on vulnerable interviewees' recall. The research that has been conducted is patchy and has focused inconsistently on particular groups and neglected others (such as child suspects, adult victims, and eyewitnesses with mental health conditions). Best practice interviewing and questioning strategies documented in legislative guidance and policy must be based upon a mature research base; currently, vulnerable individuals are not being interviewed based on a scientifically sound and rigorous research base. As such, further work focusing on the following areas/populations should be urgently conducted in order to develop understanding in further considering if current best practice is suitable for all vulnerable interviewees:

- Child suspects
- Child victims and eyewitnesses with a range of mental health difficulties
- Vulnerable adult victims and eyewitnesses with a range of mental health difficulties, as well as learning disabilities and other neurodevelopmental disorders
- Vulnerable adult suspects overall

Whilst it must be acknowledged that conducting research with these groups may be difficult to undertake, policy decisions on how best to interview vulnerable interviewees can be supported by a more robust and psychologically informed research base, thus ensuring that interviewing techniques are going to continue to develop to ensure best communication can be achieved.

Data Availability All materials and data for this analysis are available upon request from the author.

Declarations

Conflict of Interest The author declares no competing interests.

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