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# Judges and lawyers' beliefs in repression and dissociative amnesia may imperil justice: further guidance required

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## ABSTRACT

This article examines continuing misunderstanding about memory function especially for trauma, across three UK samples ( $N = 717$ ). Delayed allegations of child sexual and physical abuse are prevalent in Western legal systems and often rely upon uncorroborated memory testimony to prove guilt. U.K. legal professionals and jurors typically assess the reliability of such memory recall via common sense, yet decades of scientific research show common sense beliefs often conflict with science. Recent international surveys show controversial notions of repression and accurate memory recovery remain strongly endorsed. In historical cases, these notions may lead to wrongful convictions. The current study surveyed the U.K. public, lawyers, and mental health professionals' beliefs about repression, dissociative amnesia and false memories. Study findings give unique data on judges' and barristers' beliefs. Overall, the study findings reinforce international scientists' concerns of a science – knowledge-gap. Repression was strongly endorsed by lay, legal and clinical participants (> 78%) as was dissociative amnesia (> 87%). Moreover, suboptimal professional legal education and juror guidance may increase misunderstanding. Correcting beliefs about memory function, and extending the contribution of memory science in the courtroom remains an important quest for cognitive scientists.

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Memory beliefs; repression; dissociative amnesia; recovered memory; false memory; delayed complaints


The great enemy of truth is very often not the lie – deliberate, contrived and dishonest – but the myth – persistent, persuasive and unrealistic. Too often we hold fast to the clichés of our forebears. J. F. Kennedy<sup>1</sup>

In twenty-first century Europe and North America, delayed adult complaints of childhood abuse are now commonplace. Decades-old crimes by high-profile individuals continue to dominate headlines. Arguably, a “belief landscape” aided by the #MeToo movement, and increased concern about unrecognised childhood abuse, raises novel and complex forensic challenges for lawyers and psychologists. The justice stakes are high; convictions (rightly) result in punitive prison sentences. However, delayed complaints are heavily reliant on uncorroborated memory testimony to prove a crime occurred. Research findings suggest in a proportion of delayed complaints, such testimony can be susceptible to memory distortion (Howe & Knott, 2015; Otgaar et al., 2017; Smeets et al., 2017). If judges, lawyers or lay jurors – in any legal system – believe in repression or dissociative amnesia, arguably, the risk of legal errors increases. Legal

professionals may fail to detect and filter out unreliable (distorted, but sincerely believed), memory evidence. Instead, they may wrongly conclude such evidence is reliable. In the criminal arena, these contentious memory beliefs may lead to flawed guilty verdicts and the incarceration of innocent persons.

Research indicates belief in unconscious repression and accurate therapeutic recovery of repressed memories remains widespread in society (Otgaar et al., 2021; Patihis et al., 2014a). Legal and cognitive scholars have highlighted the hazardous impact of these beliefs in health and justice contexts (e.g., Dodier & Tomas, 2019; Grove & Barden, 1999; McNally, 2003; Piper et al., 2008; Ring, 2012). However, aside from international data on lay and clinicians' beliefs, research on U.K. lay beliefs for these contentious notions is limited and not current. Moreover, U.K. lawyers and judges' beliefs about repression and dissociation have never been studied before. This presents an important knowledge-gap. Our prime research aims were to capture new information on what practising U.K. lawyers and judges believed and to discover whether the

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U.K. lay beliefs were consistent with recent international findings. As part of this study, we also gathered new data on mental health professionals' memory beliefs – included in this paper by way of comparison. However, the overall focus here is on legal professionals' beliefs.

We now consider the justice challenges posed by delayed adult complaints of child abuse (variously called non-recent or historic), and the potential negative impact of lawyers' memory beliefs. Second, we briefly consider social context and belief in traumatic repression. Lastly, we review relevant international and U.K. research.

### ***Delayed complaints: justice challenges and memory beliefs***

Delayed adult complaints of childhood abuse now feature in many justice systems. In the U.K., there is no statute of limitations. For example, delayed complaints made between 39 and 63 years later (featuring loss of potential defence witnesses and therapeutic records) did not render an English trial unfair (*R v R.D.* [2013] EWCA Crim 1592). (For a review of European Statutes of Limitations, see Deferme et al., 2024). In the U.K. there is no standard definition of what constitutes a delayed complaint, but delayed reports are not rare. Recent crime figures collected by the Office for National Statistics (ONS) for the year ending March 2022 showed 23% of all *recorded* sexual offences, took place over a year prior to the incident being recorded (reported to the police). Of these, 10.7% took place between 1–5 years prior to report; 3.8% between 5–10 years; 3.8% between 10–20 years, and 5.2% took place over 20 years prior to report (ONS, 2023). English scholars are concerned that achieving a fair trial in such cases is in jeopardy (Baker, 2020; Henry & Gray, 2020). Others suggest the presumption of innocence has shifted towards a presumption of guilt (Corteen & Steele, 2018) and a duty to believe the victim (Furedi, 2016). Another opined that historical complaints “are perhaps the category of case in which the jury is most likely to get it wrong” (Zander, 2016, p. 215).

In addition, in England and Wales, contested convictions are difficult to overturn (for a summary of current concerns see, Greenwood, 2024). Fresh evidence is necessary to appeal a conviction – a rarity in historic cases. See Supplemental Materials (p. 1) on the increasingly restrictive approach of the English Court of Criminal Appeal. Moreover, data on the prevalence of wrongful convictions in delayed complaint cases is scant and difficult to interpret (see Greenwood, 2024). Legal academic discussion on the potential for unconscious memory distortion in these cases is limited (e.g., Greenwood, 2024; Gudjonsson et al., 2021; Henry & Gray, 2020).

In England and Wales, in delayed complaint cases, the Crown Prosecution Service typically instructs an independent barrister to prosecute at trial. This barrister reviews the case documents and advises on evidential quality and sufficiency. Prosecutors must also disclose to

defence lawyers investigative material that undermines the prosecution case or assists the defence. The defence barrister may also apply to the judge to exclude witness testimony (e.g., manifestly unreliable or contaminated evidence) or request further disclosure relevant to the defence. The above actions and decisions are generally determined using common sense.

In the U.K. lay jurors also determine guilt via common sense. Expert evidence on autobiographical memory function or false memory research is rarely given. Yet psychologists are aware memory function is complex, not common sense and can be error prone (Schacter et al., 2011). Long-term memory recall may be more vulnerable to memory distortion effects due to multiple latent variables as noted above, (Brewin & Andrews, 2017; Gudjonsson et al., 2021; Howe & Knott, 2015).

Arguably, delayed complaints feature memory recall that is more vulnerable to distortion. This is due to a confluence of factors that may affect the accuser's memory accuracy (e.g., decay, dissociative tendencies, erroneous beliefs, internal motivation, misinformation from trusted third parties, psychopathology, sleep disruption, suggestibility and therapeutic memory work). Judges, lawyers and lay jurors who hold erroneous beliefs about traumatic memory function may not recognise risk factors for memory distortion. Ultimately, if justice actors fail to critically examine unreliable memory evidence they may make flawed decisions and imperil justice. If misconceptions about (unconscious) repression have gained traction amongst U.K. legal professionals then understanding the source of these beliefs is important. Viewing the social context in which belief in repression previously flourished and its adverse impact in the late twentieth century, is also helpful (Lindsay & Read, 1995; Loftus, 1993).

### ***Social context and the impact of belief in repression***

Belief in unconscious repression and recovered memory therapy gained widespread acceptance across Europe and the U.S. in the 1980s – 1990s. This was a time of increased sensitivity about society's unfair treatment of women (e.g., Brownmiller, 1975; Chesler, 2005; Greer, 1971; Lindsay & Read, 1995). Repression is the idea that memories of traumatic experiences (especially childhood sexual abuse) can lie dormant in the unconscious mind. Described as “... the most haunting and romantic of concepts in the psychology of memory” (Loftus & Ketcham, 1996, p. 49), belief in repression and accurate therapeutic recovery is scientifically, controversial.

The key idea of recovered memory therapy was that unrecalled (repressed) memories of childhood sexual abuse were the cause of adult mental distress (e.g., Fredrickson, 1992). Therapists believed that recovering such repressed memories would relieve current suffering. Yet, the impact of these beliefs and related practices was potentially harmful e.g., causing pseudo-memories of childhood

abuse and increased mental distress (Lambert & Lilienfeld, 2007; Lindsay & Read, 1994; 1995; Loftus, 1993; Loftus & Ketcham, 1996; McHugh, 2008; Ofshe & Watters, 1996; Pendergrast, 1995). Recovered memory therapy was described as “the most destructive episode in the entire history of professional psychotherapy” (Crews, 1995, p. 6).

In Western society, increased concern about unrecognised child sexual abuse and increased belief in repression may again provide fertile ground for harmful therapy and memory distortion for childhood abuse, to thrive. Moreover, scientific debate concerning the validity, meaning, and prevalence of belief in repression, persists (Battista et al., 2023; Brewin & Andrews, 2014, 2019, 2020; Otgaar et al., 2017, 2019, 2020a, 2020b; 2021; Patihis et al., 2014b).

### Recent memory belief data and current issues

In 2019, Otgaar et al. (2019) collapsed data across twenty-one international studies conducted between 1994–2018. They found on average 58% ( $n = 4,745$ ) of all participants showed a degree of agreement in repression. Moreover, 75% ( $n = 377$ ) of non-clinical professionals held a strong belief in repressed memories (including judges,  $n = 42$ ; Benton et al., 2006). Patihis et al. (2014a) found 81% ( $n = 390$ ) of U.S. participants agreed to some extent that traumatic memories are often repressed. Otgaar et al. (2019) concluded “belief in repressed memories is deeply rooted in Western societies” (p.1078) and strongly endorsed by laypersons and clinical professionals. Some scholars questioned whether participants may be endorsing *voluntary suppression* instead of unconscious repression (Brewin et al., 2019). To address this concern, further surveys expressly asked participants about their belief in *unconscious* repression. Researchers found 89.5% of lay participants ( $n = 909$ ), agreed traumatic memories can be repressed to some extent and 80.9% ( $n = 735$ ) agreed repression was *unconscious* (Otgaar et al., 2020a). See also (Dodier et al., 2022a; Otgaar et al., 2020b, 2021).

Yet, despite its widespread acceptance, Otgaar et al. (2019) note the term “*repression*” has never featured in any edition of the American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders (*DSM*; American Psychiatric Association [APA]). In contrast, a similar psychoanalytical concept called, “*dissociative amnesia*” gained official recognition in the *DSM* (4th ed; APA, 1994) and remains in the current edition, (*DSM – 5 – TR*; APA, 2022, p. 337). However, cognitive scientists consider its definition to be “scientifically fraught” (Otgaar et al., 2019, p. 1079). Still, research indicates public belief in dissociative amnesia and recovered memories is prevalent in Europe and America today (Dodier et al., 2019; Dodier et al., 2022a; Dodier & Patihis, 2021; Dodier & Tomas, 2019; Mangiulli et al., 2021; Patihis & Pendergrast, 2019a, 2019b; Shaw & Vredeveltdt, 2019).

Otgaar et al. (2019) describe dissociative amnesia, as the “conceptual twin” of repression (p. 1078). Other scholars agree the two terms are interchangeable and the

ascendance of dissociative amnesia is concerning (Lynn et al., 2023; McNally, 2023). Clinical evidence of dissociative amnesia is scant or ambiguous (Mangiulli et al., 2022) and scientific acceptance of the concept is weak (Pope et al., 2023). Moreover, no specific neurological markers or mechanisms have been found for either unconscious repression or dissociative amnesia (Otgaar et al., 2023b). Even sceptics known to be “frequent critics of false memory research” (Lynn et al., 2023) agree such evidence, “is not yet forthcoming” (Brewin & Andrews, 2017).

In contrast to the repressed memory view, research in psychology and neuroscience shows traumatic childhood experiences (absent organic injury and infantile amnesia) are mainly well remembered (Goodman et al., 2003; Goodman et al., 2019; McGaugh, 2003, 2018; McNally, 2003, 2005; Shobe & Kihlstrom, 1997) and victims of child sexual abuse seek to voluntarily avoid thinking about their experiences (Melchert & Parker, 1997). Relatedly, researchers investigating war veterans suffering from posttraumatic stress disorder 10–15 years afterwards ( $n = 121$ ), found dissociative amnesia was “rare” and experiences well recollected (Geraerts et al., 2007). Some scholars are concerned clinician and/or patient belief in dissociative amnesia may become the new vector for abnormal memory distortion by facilitating the emergence of therapeutically recovered (false) memories (Otgaar et al., 2019; Otgaar et al., 2021). Understanding U.K. individuals’ current beliefs about repression and dissociative amnesia is therefore an important research imperative.

In 2013, Patihis et al. (2014a) found 77.7% ( $n = 112$ ) of U.K. public participants surveyed agreed to some extent with repression. English scholars, Akhtar et al. (2018) surveyed the U.K. public ( $n = 81$ ) and police ( $n = 531$ ) individual beliefs for multiple aspects of memory function; they also found “common sense” beliefs diverged from science. Helm (2021) examined U.K. public beliefs for false memory development in eyewitness testimony ( $n = 411$ ); study findings supported the need for enhanced juror directions in that context. Relatedly, Scottish judges’ ( $n = 99$ ) were surveyed about eye-witness memory (Houston et al., 2013). Judges’ beliefs accorded with expert opinion 67% of the time. Other international surveys have found justice professionals’ knowledge of memory function in the context of eye-witness testimonial accuracy, is suboptimal (Benton et al., 2006, U.S.; Magnusson et al., 2010, Norway; Wise & Safer, 2004, U.S.; Wise et al., 2009, U.S.). A key research concern is whether unreliable “recovered” memory testimony (whether ascribed to repression or dissociative amnesia) may be passing through the justice system unchallenged by lawyers, and undetected by lay jurors, due to enduring memory myths and misleading public and professional education.

### The present study

The present study collected U.K. data on individuals’ beliefs about how autobiographical memory works, especially

repression and dissociative amnesia. As summarised above, researchers have found misconceptions about memory – especially for unconscious traumatic repression – are widely endorsed within the U.S. and Europe, by laypersons and therapeutic professionals. However, in contrast, it is not known whether similar beliefs are prevalent within the U.K.. Extant, limited U.K. data may not represent current views. In sum, a critical research-gap exists.

A core rationale for this study is the growing prevalence of non-recent sexual allegations and the U.K. justice primacy afforded to common sense. Lawyers and judges' reliance on common sense beliefs may mean relevant and potentially helpful expert scientific opinion is not sought or wrongly excluded. Thus, having a scientifically accurate understanding of memory function is essential.

A note for international readers. The roles of U.K. legal professionals differ from inquisitorial and U.S. justice models. In the U.K., "Lawyer" is a generic title for either a qualified barrister or solicitor. Barristers are specialist trial advocates. In criminal cases, barristers may act on behalf of the Crown Prosecution Service or the defendant. Barristers make legal submissions, question witnesses and give closing speeches to lay jurors. In contrast, solicitor (criminal law) practitioners, have first contact with a defendant, prepare the case, then instruct barristers who take over trial conduct. For further detail on U.K. legal professionals see Supplemental Materials (pp.5-6).

Memory scholars are concerned (Dodier & Tomas, 2019; Otgaar et al., 2023a). Legal professionals' beliefs about repression and dissociative amnesia are largely unknown (see Benton et al., 2006). Our core study aims were to better understand what U.K. judges, barristers, solicitors and the lay public (potential jurors), believe about memory for traumatic experiences and whether these conflict with mainstream scientific beliefs. Finally, we also sought to better understand the sources of individual beliefs to aid future scientific guidance.

To address this research-gap we devised a short memory questionnaire to investigate what U.K. legal professionals, the lay public, and mental health professionals, believe about memory, unconscious repression, therapeutic retrieval of repressed memories, hypnotic retrieval, false memories, and dissociative amnesia. In addition, we also asked participants about the source of their beliefs. We aimed to compare our data findings with the prior research (Kemp et al., 2013; Patihis et al., 2014a; Yapko, 1994). Between 2007 and 2009, surveys of U.K. chartered clinical psychologists and hypnotherapists revealed high endorsement of unconscious repression and other contentious beliefs (Ost et al., 2013; Ost et al., 2017).

Finally, we gathered new information from legal professionals on whether they had experience with non-recent or delayed complaints, cases involving complaints of child abuse (where the delay between the alleged incident and official complaint exceeded ten years). As psychologists are aware, such witness testimony is arguably more susceptible to memory distortion than other cases.

## Method

### Participants

A total of 717 UK citizens filled out the survey. Subgroups were: lay public ( $n = 419$ ), legal professionals, ( $n = 150$ ) and mental health professionals ( $n = 148$ ). In the total sample ( $N = 717$ ) participants' ages ranged from 18–87 ( $M_{\text{age}} = 44.8$ ;  $SD = 14.3$ ). The total sample comprised 55.5% (398) females, and 44.5% (319) males. Subgroup frequencies, mean scores and percentages for biological sex and age are shown in Table 1.

**Table 1.** Participants' sex and age by group.

Group	N	Biological Sex		Age	
		Female n (%)	Male n (%)	M	SD
Lay public	419	213 (50.8)	206 (49.2)	40.1	14.2
Legal professionals	150	74 (49.3)	76 (50.7)	48.5	11.6
Mental health professionals	148	111 (75.0)	37 (25)	54.4	10.7

Note: Legal professionals comprised three subgroups: judges, barristers and solicitors. Mental health professionals comprised fifteen subgroups of practitioners; see Table S.2 in the Supplemental Materials for further health practitioner details.

As shown in Table 1, the lay public and legal survey participants had roughly equal distributions of males and females whereas the mental health survey participants were 75% female and 25% male. As shown in Table 1, mental health professionals were also on average older. Ethnic backgrounds per subgroup are found in the Supplemental Material Table S1; ethnicity for the total sample was 90.1% White; 4% Asian/Asian British; 3.1% Mixed/Multiple groups; 1.5% Black/African/Caribbean/Black British; 1.1% other ethnic group.

The current survey and procedures were approved by the Science and Health Faculty Ethics Committee of the University of Portsmouth. Funding for participant payment of £1,000 was provided by the Economic and Social Research Council and South Coast Doctoral Training Partnership.

### Lay public

Any British citizen >18 years old was eligible to enter the survey. A G\*Power analysis suggested a sample size of; at least 382 (to detect an effect size of Cohen's  $d = 0.30$ ,  $\beta = 0.90$ ,  $p = .05$ ). In total, 451 individuals attempted the survey however, 31 cases were removed where survey completion time was < 90 s. Lay participants were recruited via the marketing company Prolific (<https://www.prolific.co/>) and received £1.64 for taking part. Lay participants by nation: 352 in England, (84.0%); 39 in Scotland, (9.3%); 20 in Wales, (4.8%); and 8 in Northern Ireland, (1.9%). Participants' socio-economic status was captured by a scale with values between 1 and 10 depicted by a ladder, where the bottom rung (the lowest status) = 1 and the highest rung (highest social status) = 10. Participants mostly chose between: value 5, 20.8% ( $n = 87$ ); value 6, 23.2% ( $n = 97$ ); and value 7, 18.4% ( $n = 77$ ). Lay

participants' educational attainment ranged from having no academic qualifications 0.5% ( $n = 2$ ) to a doctorate or above, 3.8% ( $n = 16$ ). The most common qualification was a Bachelor's degree, 37.9% ( $n = 159$ ), followed by "A" Levels or equivalent qualifications, 24.1% ( $n = 101$ ). Further detail of socio-economic status and educational attainment is found in the Supplemental Materials (p.5).

### Legal professionals

Any UK practising lawyer was eligible to join the survey; participants were self-selecting save for Scottish judges – who were selected by the Lord Advocate. After gaining gatekeeper approval the survey was promoted via e-noticeboards, internal newsletters or emails. In total, 150 cases were retained; twenty-nine were removed from the dataset due to quitting the survey before the memory belief questionnaire (MBQ). Demographics of the legal subgroup are shown in Table 2 below.

survey comprised 2 sections. Section 1 contained demographic questions about sex, age, ethnicity, socioeconomic status and educational levels. Section 2 comprised the MBQ with nine statements about memory accuracy and reliability and a final enquiry about the sources of knowledge for participants' answers. The internal consistency across all nine statements was Cronbach's  $\alpha = .67$ . Item statements, and rating scales for the MBQ including cross-study comparisons with Yapko (1994), Patihis et al. (2014a) and Kemp et al. (2013) are shown in Tables 3 and 4 in the Results section.

An exploratory factor analysis of the MBQ was conducted using the lay public dataset. The findings revealed a two-factor solution and did not require the removal of any item. The SPSS output is found in the Supplemental Materials.

For item 10, participants were invited to tick the knowledge source that applied; multiple choices were permitted. A further text box option permitted participants to add any further source of knowledge. After completing the MBQ all

**Table 2.** Demographics of legal subgroups.

Legal Subgroup	Subgroup Total $n$	Biological Sex		Age	Practice Domain		Ethnicity
		Female $n$ (%)	Male $n$ (%)	$M$ ( $SD$ )	Crime $n$ (%)	Civil $n$ (%)	White $n$ (%)
Judges	18	9 (50.0)	9 (50.0)	56.3 (7.7)	14 (77.8)	11 (61.1)	17 (94.4)
Barristers	123	60 (48.8)	63 (51.2)	47.2 (11.0)	66 (53.7)	40 (32.5)	110 (89.4)
Solicitors	9	5 (55.6)	4 (44.4)	52.33 (18.8)	3 (33.3)	2 (22.2)	8 (88.9)

Note. All legal professional participants ( $N = 150$ ). Percentages for biological sex, age, practice domain and ethnicity relate to the percentages within each subgroup. Many legal participants practice in more than one legal domain, hence percentages for practice domain exceed 100%.

Further demographic detail for the legal subgroups is shown in the Supplemental Materials. For detailed recruitment information on legal subgroups see Table S3 (p.11).

Legal professional participants' practice locations were, 25 in Northern Ireland, (16.7%); 25 in Scotland (16.7%); 5 in Wales (3.3%) and 102 in England (68%). Six participants practised in two or more nations. Legal participants' main practice areas overall were: 83 in criminal law (55%), 42 in family law (28%), 53 in civil practitioners (35.3%).

### Mental health professionals

Any practising mental health professional with a recognised qualification was eligible to take part. Participants were recruited via in-house professional e-notice boards and emails. In total, 188 individuals started the survey with 148 participants completing the survey. Cases were excluded ( $n = 40$ ) when survey completion was  $< 70\%$ . Further information about ethnicity, and practice location is found in the Supplemental material. For further detail about therapeutic orientation and recruitment see Tables S2 and S4 (pp. 9 & 12 respectively).

### Materials

This study used the Qualtrics software platform [www.qualtrics.com](http://www.qualtrics.com) to create and host the survey. The lay public

groups were given the choice to write a further response: "Optional response: If the above questions did not allow you to specify your beliefs exactly, please feel free to comment below". After completing the MBQ lay study participants were thanked, debriefed, and guided back to the Prolific platform to receive automatic payment. For legal and mental health professional study participants after completing the MBQ, there was a further optional Section 3.

### New variables and recoding of the MBQ items

Items 1, 2, 4, 5, 6, 7, and 9 were *negatively keyed* that is disagreement with the item statement more aligned with mainstream scientific thinking which is sceptical of the trauma-dissociation memory model whereas, items 3 and 8 were *positively keyed*, where agreement with the statement aligned with mainstream scientific thinking. For later statistical analysis via  $t$ -tests and analysis of variance, items 1, 2, 4, 5, 6, 7, and 9 were recoded and reverse scored so that all items were positively keyed, and all high scores aligned with mainstream scientific thinking.

A composite variable was created for all three subgroups called the Total Scepticism Score (TSS) comprising total MBQ (recoded) group scores for items 1–9. For MBQ item 8, answer choices were rescored as follows: don't know = 0, and somewhat agree = 3 and agree = 4. The highest MBQ TSS attainable was 48. Participants with a

high TSS were more aligned with mainstream scientific thinking.

To enable statistical analysis for the effect of age, educational attainment, years of legal and clinical practice experience, new variables were created for all subgroups.

### Section 3 for legal professionals

Section 3 comprised five questions regarding delayed adult complaints of child abuse (in legal terms, these are called “non-recent” complaints). Legal participants were asked, “*In the past 5 years, have you dealt with non-recent adult complaints of child sexual or physical abuse? (Where the official complaint occurs more than 10 years after the last incident of abuse)*”. Participants responded to a tick box option, “Yes” or “No”. Participants answering “No” were automatically taken to the end of the survey and thanked for their participation. Participants answering “Yes” were asked further questions – shown in the Results section.

### Section 3 for mental health professionals

Section 3 for this study group asked participants about their beliefs about the scientific status and validity of dissociative amnesia and dissociative identity disorder (DID). Further questions explored the clinical prevalence of DID and beliefs about the causes of medically unexplained symptoms such as non-epileptic seizures. It is intended the study data for this professional group will be the focus of a future paper.

### Procedure

Participants completed the online survey in their own time, at a location of their choosing. All participants received a Participant Information Sheet and were told the main study aim was to investigate what individuals know and believe about memory; no reference was made to repression, trauma, or dissociative amnesia. After giving informed consent participants gained access to the survey. Participants then answered demographic questions, followed by the memory belief questionnaire. For legal professionals, they were then asked

about their experience in non-recent abuse cases. After completing the survey, all participants were thanked and debriefed.

### Statistical analysis

All statistical analysis was conducted using IBM SPSS Statistic v27.

## Results

### Percentage agreement analysis

Table 3 compares participants’ agreement by subgroup for two items taken from Yapko (1994) with Yapko’s results on the right. For item 1, the lay public group had the highest degree of agreement – exceeding Yapko’s (1994) survey of psychotherapists. For item 2, the lay public and mental health professionals’ degree of agreement were similar, with just over a quarter believing that early memories, even from the first year of life are capable of accurate retrieval. Legal professional participants were the most sceptical for items 1 and 2, although over ten percent of these participants agreed – arguably a non-trivial percentage.

Table 4 shows group agreement for items 3 through 7; comparative data for the UK public is also shown. Missing data by group and item: Lay public: item 5, 0.5% (2). Legal professionals: item 7, 0.7% (1); health professionals: item 5, 0.7% (1); item 6, 0.7% (1); item 7, 5.4% (8). All three study groups showed high levels of agreement for item 3, suggesting an improved understanding of the reconstructive nature of memory. However, in contrast, over fifty percent of lay and mental health professional participants believed every experience is permanently stored (item 4). Item 5 comprised the scientifically disputed notion of traumatic repression and received the second-highest participant endorsement of a controversial memory belief (in this MBQ) from all three groups. Just under eighty percent of legal professionals (78.7%), and over eighty percent of mental health professionals (83.7%) agreed to some degree that traumatic memories are often repressed. Lay participants showed the highest belief in repression (90.4%) exceeding prior findings (Patihis et al., 2014a).

**Table 3.** Percentage of agreement for MBQ Items 1 & 2.

Item number and memory statement	% Agreed to some degree <sup>1</sup>			
	UK public <i>n</i> = 419	Legal professionals <i>n</i> = 150	Mental health Professionals <i>n</i> = 148	Psychotherapists <sup>2</sup> (1994) <i>n</i> = 864
(1) The mind is like a computer, accurately recording events as they actually occurred	<b>45.2</b>	11.3	14.9	33.1
(2) I believe that early memories, even from the first year of life, are accurately stored and retrievable	28.6	10.0	27.7	<b>40.5</b>

Note: Participants responded to each statement on a fully anchored 4-point Likert scale with the following anchors: *disagree strongly, disagree slightly, agree slightly, agree strongly*. There were no missing cases. <sup>1</sup>Agreed to some degree = the total percentage of responses to: *agree strongly and agree slightly*. Agreement with these statements does not align with mainstream scientific thinking. <sup>2</sup>Yapko (1994) survey of US psychotherapists’ beliefs. The highest percentage of agreement for each statement is bolded.

**Table 4.** Percentage of agreement for MBQ items 3–7 by group.

Item number and memory statement	% Agreed to some degree <sup>1</sup>			
	UK public <i>n</i> = 419	UK public <sup>2</sup> (2014) <i>n</i> = 112	Legal Professionals <i>n</i> = 150	Mental health professionals <i>n</i> = 148
(3) Memory is constantly being reconstructed and changed every time we remember something	<b>89.7<sup>3</sup></b>	88.5	<b>94.7</b>	<b>93.9</b>
(4) The memory of everything we've experienced is stored permanently in our brains, even if we can't access all of it	57.1	59.3	28.6	51.3
(5) Traumatic memories are often repressed (which means the person cannot remember the traumatic event due to a defence against painful content)	<b>90.4</b>	77.7	<b>78.7</b>	<b>83.7</b>
(6) Repressed memories can be retrieved in therapy accurately	<b>75.4</b>	67.9	38.6	60.6
(7) Hypnosis can accurately retrieve memories that previously were not known to the person	60.9	65.5	31.5	51.4

Note: <sup>1</sup>Agreed to some degree represents participants who responded with some level of agreement to each statement. Agreement with statement 3 accords with mainstream scientific thinking. Agreement with statements 4–7 does not accord with mainstream scientific thinking. Items 3–7 had a fully anchored 6-point Likert scale: *strongly disagree, disagree, slightly disagree, slightly agree, agree, strongly agree*. Participants who chose *slightly agree, agree, or strongly agree* were counted as agreeing with the statement. <sup>2</sup>Patihis et al. (2014a), Study 2, *n* = 112 (lay public). <sup>3</sup>Scores that exceed Patihis et al. (2014a) are bolded.

**Table 5.** Percentage of agreement for MBQ items 8 and 9 by group.

Item number and memory statement	% Agreed to some degree <sup>1</sup>			
	UK public <i>n</i> = 419	Legal professionals <i>n</i> = 150	Mental health professionals <i>n</i> = 148	Clinical psychologists (2013) <sup>2</sup> <i>n</i> = 375
(8) It is possible to develop false memories for abuse/trauma that did not happen	63.6	75.8	67.1	84.9
(9) Dissociative amnesia prevents a person from recalling traumatic experiences	91.1	88.7	87.7	—

Note: <sup>1</sup>Agreed to some degree represents participants who responded with some level of agreement to each statement. Item 8 had a fully anchored 5-point Likert scale: *disagree, somewhat disagree, don't know, somewhat agree, agree*. Participants who chose *somewhat agree or agree* were counted as agreeing with the statement. Item 9 had a fully anchored 6-point Likert scale: *strongly disagree, disagree, slightly disagree, slightly agree, agree, strongly agree*. Participants who chose *slightly agree, agree, or strongly agree* were counted as agreeing with the statement.

<sup>2</sup>Kemp et al. (2013) Percentage of agreement from a survey of clinical psychology trainees

Table 5 below shows participants' agreement for items 8 and 9 by group; comparative data for item 8, appears on the right. Missing data by group and item: Lay public: item 8 = 0.2% (1); item 9 = 0.2% (1). Legal professionals: item 8 = 0.7% (1); item 9 = 5.3% (8). Mental health professionals: item 8, 1.4% (2); item 9, 1.4% (2). Three-quarters of legal professional participants believed that false memories of non-experienced abuse were possible whilst the lay public and mental health professionals showed lower levels of agreement. The highest yielding item for the entire MBQ was item 9, belief in dissociative amnesia; all three groups showed similar total agreement scores, and exceeded 87%.

To better understand participants' level of understanding for false memory development, all levels of agreement and disagreement were explored. Table 6 shows the percentages of all agreement, disagreement and "don't know" responses, for item 8 by group. A substantial level of "Don't know" responses is shown by all three study groups; just under a fifth of legal professionals chose this response.

The percentage levels of agreement for items 5 and 9 were further explored. For item 5, (belief in traumatic repression) 61.4% of the lay public "agreed or strongly agreed" with the statement compared with 55.1% of health professionals and 52.7% of legal professionals. For item 9, (belief in dissociative amnesia), 41.6% of the lay public "agreed or strongly agreed" in dissociative amnesia; 50.7% of legal professionals and 56.9% of health professionals "agreed or strongly agreed" in dissociative amnesia. Health professionals were more than

twice as likely to choose "Strongly agreed" compared with the other two subgroups. For a complete review of all responses for items 3, 4, 5, 6, 7, & 9 see Table S5 in the Supplemental Material, p.17.

Finally, we explored judges' and barristers' beliefs for items 5 (traumatic repression) and item 9 (dissociative amnesia). Judges (*n* = 18) showed high overall agreement (77.8%) for item 5. One-third of judges, 33.3% (6) chose, "Agree" and 27.8% (5) "Strongly agree". Barristers' (*n* = 123) overall agreement for item 5 was 80.5%, with 38.2% (47) choosing "Agree" and 13.0% (16) "Strongly agree". Both judicial and barristers' beliefs for dissociative amnesia were stronger than for repression. Overall agreement for item 9 by judges (*n* = 17, one missing case), was 94.1% and for barristers (*n* = 116, seven missing cases), 89.6% (104). See Supplemental Materials Table S7 for further details of lawyers' responses to items 5, 6, and 9.

**Table 6.** Participant responses to item 8 by group.

Likert response scale	Memory statement: "It is possible to develop false memories for abuse/trauma that did not happen"		
	UK public % ( <i>n</i> )	Legal professionals % ( <i>n</i> )	Mental health professionals % ( <i>n</i> )
Disagree	1.9 (8)	2.7 (4)	6.2 (9)
Somewhat disagree	4.8 (20)	2.0 (3)	8.9 (13)
Don't know	29.7 (124)	19.5 (29)	17.8 (26)
Somewhat Agree	36.6 (153)	26.8 (40)	26.7 (39)
Agree	27.0 (113)	49.0 (73)	40.4 (59)



### Total scepticism scores for the MBQ and statistical tests

Mean Total Scepticism Scores by group were: Lay public:  $n = 416$ ;  $M = 27.19$ ;  $SD = 4.87$ ; range, 29 [15–44]; Legal professionals:  $n = 142$ ;  $M = 32.42$ ;  $SD = 5.32$ ; range 26 [19–45]; Mental health professionals:  $n = 139$ ;  $M = 29.66$ ;  $SD = 6.64$ ; range, 32 [15–47]. For exploration of mean belief scores for MBQ items 3, 5, 6, 7, and 9 by group, see Table S6 p.18. in the Supplemental Material. For legal professionals' mean belief scores by subgroup see Table S8 p.20.

Statistical analysis via T-tests compared mean total scepticism MBQ scores with gender. Our rationale for examining gender differences was that a high proportion of clients in therapy are female. Clients who misunderstand traumatic memory function and believe in repression, may be more vulnerable to memory distortion effects and adverse health outcomes. For completeness, we also compared gender beliefs amongst legal professionals. Other T-tests compared age, professional experience and educational attainment between study groups See Supplemental Materials Tables S9 and 10.

#### Lay public data analysis

T-tests revealed a small but statistically significant gender difference in Total Scepticism Scores between males ( $M = 27.95$ ,  $SD = 4.98$ ) and females ( $M = 26.45$ ,  $SD = 4.66$ ;  $t(414) = 3.17$ ,  $p < .002$ , two-tailed.; *Cohen's d* = .31). Males' higher scores were more aligned with current scientific knowledge. Patihis et al. (2014a) also found women were less sceptical than men. (These gender differences might be explored in further research.) A one-way ANOVA demonstrated no significant difference between the three age groups  $F(2, 413) = 2.6$ ,  $p = 0.07$ , on Total Scepticism Scores. A one-way ANOVA also explored the impact of participants' educational attainment on their Total Scepticism Scores. A significant difference was detected; participants with higher educational attainment had higher mean scores. For full ANOVA analyses see Supplemental Materials pp.22–23.

#### Legal participant data analysis

An independent-samples t-test compared the effect of gender on legal participants' Total Scepticism Scores. Again, a significant difference was found for gender, ( $t(140) = 2.37$ ,  $p = .01$ , two-tailed). Males scored more highly with a mean score of ( $M = 33.44$ ,  $SD = 5.51$ ) compared with females ( $M = 31.36$ ,  $SD = 4.94$ ) The magnitude of the differences in the means (mean difference = 2.08, 95% *CI*: .34–3.8) was small, (*Cohen's d* = .39).

A further T-test examined differences in memory beliefs between lawyers who handled non-recent complaint cases and those who did not. No significant difference between groups was found. One-way between groups ANOVAs were also conducted exploring the effect of practice experience and age on MBQ Total Scepticism Scores. The effect of participants' age on items 5, traumatic repression

and 9, dissociative amnesia, were also explored. No statistical differences were detected for any of the above. For full details of statistical analyses see Supplemental Materials pp.22–23.

#### Mental health professional participants' data analysis

Two one-way between groups ANOVAs examined the effect of age and years of clinical experience upon total MBQ beliefs – the Total Scepticism Score. No significant difference was found between age groups:  $F(2, 136) = .31$ ,  $p = .73$ . There was no significant difference between groups for clinical experience and TSS,  $F(2, 134) = .21$ ,  $p = .11$ .

#### Sources of knowledge for memory beliefs

Participants' sources for their memory beliefs are shown in Table S11 of the Supplemental Material. Lay participants identified "Innate beliefs" most frequently:  $n = 263$ , (62.8%), followed by "Private reading",  $n = 206$ , (49.2%) and "TV Documentaries and/or films",  $n = 196$  (46.8%). Judges,  $n = 15$ , (83.3%) and health professionals,  $n = 138$ , (93.2%), identified "professional education" most frequently. Barristers,  $n = 95$ , (77.2%) and solicitors 6, (66.7%) identified "private reading" most frequently, followed by "professional education" 70 (56.9%) and 5 (55.6%) respectively. Lay public participants,  $n = 26$ , (6.20%), identified further sources in an optional text box: personal experience and beliefs ( $n = 10$ ), talking or experiencing therapy,  $n = 6$ , (EMDR was named in one case); conversations with friends ( $n = 2$ ); Radio 4 and media ( $n = 2$ ) and caring for a parent with dementia ( $n = 1$ ). Barristers,  $n = 25$ , (20.32%) identified further knowledge sources as: personal and professional experience, "common-sense" and conversations with experts. Judges,  $n = 6$ , (33.3%) added professional and personal experience and the influence of expert evidence. Mental health professionals,  $n = 109$ , (73%) commonly identified further sources as: clinical, personal and life experiences.

#### Study participants' extra comments for memory beliefs

At the end of the survey, 4.7% (20) lay public participants, 38.6% (58) legal professional participants and 26.3% (39) mental health professionals added further comments. Supplemental Materials Tables S12 (pp. 28–29) & S13 (pp. 30–36) show all comments by the lay public and legal professionals respectively.

The absence of a "don't know" answer choice (save for item 8) attracted adverse comments from all subgroups. Legal participants ( $n = 18$ ) gave the most negative comments on this issue some stating they guessed answers. All subgroups commented on the effect of trauma and repression on memory.

### Legal professional participants and non-recent abuse cases

All legal professional participants were asked if they had handled cases featuring non-recent *adult* complaints of child sexual or physical abuse where more than 10 years had elapsed between the alleged incident and official complaint – *within the past 5 years*. Ninety-seven legal professional participants (64.7%) had handled such cases. The average number handled ( $n = 87$ ) was:  $M = 20.24$ ,  $SD = 31.88$ ; range [1–200]. For details of non-recent cases handled by all subgroups see Supplemental Materials pp.24–25.

Table 7 shows the frequencies of specific terms seen by judges and barristers that are potential indicators of memory instability. References to memories being “Blocked out” or “repressed” and references to “flashbacks” were commonly seen by judges and barristers.

**Table 7.** Potential indicators of memory instability seen by judges and barristers.

Legal participants were asked:	Judges $n = 15$	Barristers $n = 78$
<i>“Have you seen references to memories being:”</i>	% $n$	% $n$
“blocked out”	93.3 (14)	66.6 (52)
“dissociated”	33.3 (5)	39.7 (31)
“repressed”	86.6 (13)	57.7 (45)
“affected by dissociative amnesia”	33.3 (5)	17.9 (14)
“none of the above” <sup>2</sup>	6.6 (1)	8.9 (7)
Participants were also asked: “Witnesses in such cases sometimes claim their memories return via flashbacks. Have you seen this feature?”	86.7 (13)	84.5 (60)

Note: <sup>1</sup>Solicitor participants’ responses ( $n = 3$ ) are located in the Supplemental Material. <sup>2</sup> Legal participants who ticked “none of the above” were those who had dealt with non-recent cases, but not seen any of these terms.

In Section 3, the final question asked legal participants: “Sometimes individuals can develop detailed memories for child sexual or other abuse that never actually happened. How many times do you think this may have occurred in cases you have dealt with?” This question examined legal professionals’ experience of false memory cases in practice. Fourteen judges responded: Seven judges said this may have happened in 1–5 cases; one judge said this may have happened in 50 cases and six had seen none. The mean number of false memory cases seen by barristers ( $n = 65$ ) was:  $M = 3.46$ ,  $SD, 12.6$ ; *median* = 1.0, range 100 [1;100].

### Discussion

The current study investigated what three UK samples believed about memory for traumatic autobiographical experiences. In particular, we measured lay, legal and mental health professionals’ beliefs for the controversial notions of unconscious repression and dissociative amnesia. Our main findings were as follows. First, belief in the repression of traumatic memories was strongly endorsed by more than 78%, in all three groups. Second, belief in the notion of dissociative amnesia, an

involuntary mechanism that purportedly prevents a person from recalling traumatic experiences, was endorsed by more than 87% in all three groups. Third, 19% of legal professionals chose the “don’t know” response for item 8: “It is possible to develop false memories for abuse/trauma that did not happen” and 4% disagreed to some extent. Relatedly, 29% of the lay public chose “don’t know” for item 8. Fourth, the most commonly selected source of knowledge for the lay public’s beliefs was “innate beliefs”, for barristers it was “private reading”, and for judges, it was “professional education”. Finally, the most widely seen features among judges and barristers who had handled non-recent cases (where the delay exceeded 10 years), were witnesses who claimed memories were “blocked out” (judges, 93%; barristers 66%), memories returning via “flashbacks” (judges, 86%; barristers 84%), and memories being “repressed” (judges, 86%; barristers, 57%).

### Belief in repression

One of our most important survey statements was: “Traumatic memories are often repressed”, because of the potentially adverse implications in clinical and legal settings (McNally, 2023; Otgaar et al., 2019; Patihis et al., 2014a). Our findings are concerning. A tentative hypothesis was that legal professionals would show markedly more sceptical views than the lay public due to their potentially elevated critical thinking skills however, this proved incorrect. High levels of agreement for unconscious repression were exhibited by all three groups in our data (90% of the lay public, 78% of legal professionals and 83% of mental health professionals); these findings surpassed Otgaar et al.’s (2019) survey of twenty-one international studies. Otgaar et al. (2019) found that 58% ( $n = 4,745$ ) of all international study participants – including lay, clinical and justice professionals – indicated a degree of agreement with the concept of repressed memories. Moreover, our findings align with more recent surveys. Otgaar et al. (2020a) specifically asked participants in the United States ( $n = 909$ ) whether “traumatic memories are often repressed” to which 89% agreed to some extent and of this group, more than 73% confirmed such memories were either inaccessible or unconscious. Dodier and Patihis (2021) found that 71% ( $n = 2,458$ ) of study participants (the French general public) believed in repressed memory (construed as an unconscious phenomenon). Moreover, our study item wording referred to traumatic memories being repressed “often”; therefore arguably, many of our participants – including legal professionals – not only agreed with the existence of repression but considered it to be a frequent or at least, not an uncommon occurrence.

Relatedly, for item 6, accurate therapeutic retrieval of repressed memories, 75% of the lay public sample and 60% of mental health professionals agreed to some extent with the statement that “repressed memories can

be retrieved in therapy accurately". Moreover, 60% of the lay public and 51% of mental health professionals believed hypnosis can accurately retrieve previously unknown memories. In contrast, 38% of legal professionals agreed with this item – a non-trivial minority. These contentious beliefs conflicted with all study participants' more scientifically accurate responses to the question concerning the reconstructive nature of memory (item 2). However, a worrying 45% of the lay public still believe events are accurately contemporaneously recorded (item 1).

### **Belief in dissociative amnesia**

Another important survey question was: "Dissociative amnesia prevents a person from recalling traumatic experiences". Scholarly exploration of current societal beliefs and experiences for dissociative amnesia is progressing. Mangiulli et al. (2021) recently investigated beliefs in and self-reports of dissociative amnesia. They found 65%,  $n = 662/1017$  of the lay public (a non-UK international sample) agreed amnesia can occur after experiencing traumatic events such as sexual abuse. Our study revealed even higher total agreement from all three samples for dissociative amnesia (lay public 91%; legal professionals 88%; mental health professionals, 87%).

A surprising finding was that legal professionals' overall percentage agreement for dissociative amnesia was higher than their beliefs for repression (and only a little lower than lay public beliefs). These high levels of endorsement for both notions (repression and dissociative amnesia), especially by judges and barristers, are concerning and indicate general acceptance. This may indicate many participants viewed repression and dissociative amnesia as similar concepts, which aligns with scholars' interpretation (Lynn et al., 2023; Mangiulli et al., 2021; Otgaar et al., 2019; Otgaar et al., 2021).

### **Belief in false memories**

Another core survey statement was: "It is possible to develop false memories for abuse/trauma that did not happen", which was from Kemp et al.'s (2013) survey of trainee clinical psychologists. Kemp's participants' overall agreement was 84%. All our study participants showed considerably lower levels of agreement (see Tables 5 and 6) compared with Kemp's data. Legal professionals showed the highest overall degree of agreement, although only 49% "agreed" unreservedly that false memories are possible and 19% chose a "don't know" response. Lay participants showed a lesser level of agreement with 27% of lay participants who "agreed" unreservedly and "don't know" responses at 29%. Lastly, our mental health participants' overall degree of agreement was markedly lower than Kemp's trainee clinical psychologists. However, even for those participants who agreed to some degree, it is impossible to know whether their contextual understanding of false memories is accurate. For instance,

whether these participants (wrongly) believe false memories only arise in highly suggestive therapeutic settings.

This cautiously worded item gauged beliefs for the possibility of false memories occurring. The comparatively low rate of agreement and high level of "don't know" responses indicate participants' scientific knowledge of false memories is either weak, sceptical, or non-existent. In contrast in 2012, Patihis et al. (2014a) found very high levels of agreement amongst psychotherapists (96%,  $n = 53$ ) for a similarly worded survey item: "It is possible to suggest false memories to someone who then incorporates them as true memories" – indicating an increased understanding of false memory creation with only a few alternative "outlier" practitioners. Worryingly, the decreased level of overall agreement among our mental health professional participants suggests the cautious optimism expressed by Patihis et al. (2014a) about improved understanding, may be premature.

### **Overall pattern of conflicting memory beliefs**

Overall, our study findings showed a distinct pattern namely, that although societal understanding of the malleability and reconstructive nature of memory has improved (survey item 3), other contradictory, material misunderstandings about memory storage and retrieval persist. For instance, our finding for item 2, that 28.6% of lay public participants, 27.7% of mental health professionals and even 10% of legal professionals, agreed to some extent that memories can be stored and retrieved (accurately) from the first year of life is remarkable, even worrying. Relatedly, that 45% of lay participants still believe the mind is like a computer (item 1) is also concerning. However, the overwhelming study result of concern is the high endorsement of repression and dissociative amnesia, especially by barristers and judges. Taken together, our findings indicate "common sense" about memory function does not elide with scientific sense. We suggest this has grave implications for fair justice outcomes. Understanding the source of such memory beliefs is an important scholarly quest that may improve legal psychologists' guidance and expert advice to lawyers and fact finders in the legal arena.

### **Why do memory myths for trauma persist?**

The twenty-first century has witnessed a public reckoning for past sexual wrongs committed by men towards toward women and children in the U.S. and Europe. The birth of the #MeToo movement gave victims a global voice (Brittain, 2024). The English adversarial justice model has been adjusted to ensure fair treatment of victims of sexual abuse. However, some suggest a "moral crusade" exists that prioritises the belief of the victim as a "moral imperative" and stokes a climate of fear towards sexual predators (Furedi, 2016, p. 45). Increased sensitivity towards the reality of child sexual abuse now permeates

Western societies (Brigham, 2016). Further, in the U.K. the post-Jimmy Saville era and findings of The Independent Inquiry into Child Sexual Abuse have revealed extensive abuses of power against children (IICSA, 2022). In these circumstances, an “it must not happen again” mindset, might understandably prevail. Relatedly, legal professionals with limited scientific knowledge might be more likely to uncritically believe controversial memory myths sympathetic towards child victims. Another source sustaining belief in repression may be “trauma-informed” education.

Recently, some scholars have noted “trauma-informed” education is advancing controversial notions of traumatic memory impairment for sexual abuse such as memory fragmentation (McNally, 2022. See also, McNally et al., 2022; Rubin et al., 2016; Rubin & Berntsen, 2007) along with a presumption that all sexual abuse is traumatic (Davis & Loftus, 2019). In addition, self-help books available in bookstores, online social media and mainstream films, also convey the concept of repression and memory recovery (Pendergrast, 2021; Pope et al., 2023). Moreover, influential trauma-dissociation theorists van der Kolk (1994, 2014) and Herman (2015) continue to advance their theories that traumatic memories can be dissociated and stored (even as implicit body memories) and remain inaccessible to conscious awareness in popular book formats. (For scepticism on these points see McNally, 2003, p. 179, 2023; Lynn et al., 2023). Importantly, American trauma-dissociation scholars have recently sought to promote their theories amongst justice professionals (Brand et al., 2017a, 2017b; but see Patihis et al., 2019).

Meanwhile, in the U.K. the concept of dissociation now features in mainstream mental health guidance. Leading U.K. mental health charity (Mind) guidance states:

dissociation is a natural response to trauma ... Your actions, memories, feelings, thoughts, sensations and perceptions may feel separate. For example, you might store your memories of an experience in a way that you can't access day-to-day. This is usually called amnesia. (Mind, 2023, p. 9)

Other (non-clinical) U.K. trauma educationalists are advocating for trauma-triggered dissociation and dissociative identity disorder (DID) which they claim is underdiagnosed (Spring, 2023; Thierry, 2021). Formerly known as multiple personality disorder, this diagnosis is controversial, arguably causing much harm in the U.S. during the 1990s (Dodier et al., 2022b; Spanos, 1996). The above sources may be influencing U.K. lay and legal beliefs.

Yet another influential source is undoubtedly TV documentaries and/or films. Nearly fifty percent of lay public participants ( $n = 196$ ; 46%) identified this as a source of their beliefs. As Otgaar et al. (2020b) highlight, films and TV have long been identified as a compelling source of misinformation fuelling public misunderstanding about repression. Participants' further voluntary comments provide further insight.

Some lay participants wrote that personal experience and feelings influenced their answers. Others showed

mixed insight: “I think that there are many memories that, whilst not immediately retrievable, can be retrieved with help. I think that memories, especially early childhood memories, can be affected by reflecting upon them with an adult mind/understanding” – (a twenty-nine year old). Another lay participant wrote: “I think when you have a baby, this blocks some past memories as the brain is being filled with so much new”. Others showed the mixed influence of “innate beliefs” and private reading: “Just a general feeling about what sounds correct based on bits and pieces that I've read or picked up on over the years”.

Legal participants' comments also showed mixed understanding with some scientific insight. For example, one participant noted: “Memories are in my experience unreliable and often an inaccurate narrative of what actually happened ...” Another commented “... the brain may process traumatic events differently from non-traumatic ones ... recalling a traumatic event ... the person may recall sensations or how they felt at the time of the event ...” However, they correctly concluded accurate memory retrieval was problematic and prone to contamination by suggestion “as the witness tries to fill in the gaps or make sense of a memory”. Other legal participants cited personal or professional experiences as their knowledge source. One participant unambiguously endorsed a controversial notion, “I believe every experience is stored in the subconscious not the brain; they are two very different things”.

Understanding the source of legal professionals' beliefs warrants further research, especially the adequacy of interdisciplinary professional education on memory science. Legal participants' responses to their source of knowledge indicate professional educational and private reading may be sustaining misconceptions about memory.

### **Legal education, current guidance on memory science**

U.K. undergraduate law degrees and postgraduate legal professional education typically have limited interdisciplinary scientific content. Practitioners' knowledge of memory function and current issues in the field is therefore largely guided by common sense or private reading (as borne out by our participants' answers on their source of knowledge). A practitioner textbook contributed to this information gap (Radcliffe et al., 2016); it discussed misconceptions about memory, and also the repressed and recovered memory debate (e.g., Barden, 2016; Ost & French, 2016). Since then, guidance for prosecutors in England and Wales entitled, “Psychological Evidence Toolkit” (Crown Prosecution Service, 2019) arguably advances contentious psychological notions about perceptual memory and dissociation from trauma.

For example, in the subsection entitled, “Recall, memory and diagnosis” it states, “For some reason which

is not entirely clear, sexual abuse during childhood leads to the highest degree of total amnesia, although this is also age related". Explaining dissociation it continues, "An individual may dissociate when faced with overwhelming emotion, and will then be unable to integrate the totality of their experience into conscious memory". Concerning the risk of false or pseudo-memory development in the context of historic cases, the guidance concludes it is "just that, a possibility" (Crown Prosecution Service, 2019).

Arguably, this guidance conveys an unbalanced impression of the current state of memory science for traumatic memory function. It also minimises the risk of false memory development and makes scant reference to the ongoing scientific discourse in this field. Arguably, it may even be fuelling legal professional scepticism towards the reality of false memories. In general, legal education on memory distortion is scant.

More recently, memory scholars have published additional memory guidance for U.K. legal practitioners (Baddeley et al., 2023). Previous guidelines issued by the British Psychological Society (BPS, 2010) sparked controversy and were withdrawn (Catley & Claydon, 2023). Whilst Baddeley et al. (2023) provide important new scientific information for lawyers, in places it is arguably contentious and unbalanced. Relevant to the instant article, we highlight chapter three entitled, "Witness Testimony" and the subsection "Memory for emotional and traumatic events".

In this subsection, the (controversial) notion of fragmented traumatic memory recall is seemingly advanced (ch.3.4, a19) without reference to the current scientific debate on this issue (McNally, 2022; McNally et al., 2022).

Moreover, a later subsection in Baddeley et al. (2023), "Adult memory for childhood events" (ch.3.5, a20) fails to reference the persisting scientific-clinician controversy associated with "recovered memories" and "unconscious repression" or identify mainstream scientific thinking for traumatic recall. Worryingly, if legal professional readers hold individual beliefs that endorse "unconscious repression" or "dissociative amnesia" for traumatic experiences, the single reference to "unconscious repression" may fail to correct such misunderstanding.

Importantly chapter 3.5 advises lawyers to seek an expert "review" if "recovered memories" form a significant component of a witness's narrative. Yet, as the guidance notes, such testimony is not always easy to detect and features indicative of "recovered memories" are not common knowledge.

Overall, we conclude this chapter is insufficient to correct legal professionals' memory misunderstandings for memory function as evidenced by our study data.

### Study limitations

Various potential study limitations are now addressed. Firstly, all participants were self-selecting, (save for five Scottish judges). Whilst random selection is the gold-

standard, self-selection is now commonplace in psychological research. However, in this study, this method encouraged anonymous participation by a sensitive legal population who otherwise might not have participated. We also considered whether professional survey takers (our Prolific participants) may be less reliable. However, recent research indicates Prolific customers provide good quality data compared with other platforms (Douglas et al., 2023).

A further potential study limitation is the adequacy of survey item wording, especially the omission of "unconscious" in item 5. However, we replicated previous research items to optimise data comparison and thereby improve study quality. Moreover, recent research indicates people do regard repression as an unconscious mechanism; our findings align with this data (for a summary see, Otgaar et al., 2021).

Another potential study limitation was omitting "don't know" answer options (save for MBQ item 8). However, as noted above, we replicated prior survey responses to enable statistical comparison and enhance study validity. Moreover, "don't know" answer choices sometimes undermine study validity by encouraging time-pressed or lazy participants to opt for the least intellectually taxing answer. Lastly, "don't know" responses pose interpretative challenges. For instance, they may signify wholesale unawareness, or alternatively signal uncertainty due to awareness of conflicting scientific viewpoints or simply insufficient knowledge to make a choice. Some survey participants expressed dismay at this omission, however, given the low level of missing answers, and the fact that participants had the option to skip questions, we consider study validity is not affected.

We also considered the generalisability of our findings to the U.K. legal profession at large. We surveyed solicitors, barristers and judges from three U.K. nations. Law degree content varies between nations however similar core forensic and reasoning skills are taught. Legal participants mainly comprised barristers, 83% ( $n=123$ ) and judges 12% ( $n=18$ ) with 71% of all legal participants from England and Wales. Judicial participants ( $n=18$ ) represented all three U.K. nations with differing internal judicial training regimes. However, all U.K. judges are typically appointed from senior former practising barristers. We surmise whilst their memory beliefs will most likely be similar to practising barristers, bespoke trauma-informed training (that may differ as between Northern Ireland, Scotland, & England and Wales) may have influenced judicial beliefs. We concluded our judicial survey participants cannot be generalised to the judiciary at large. Overall, we concluded the composite legal group ( $n=150$ ) was sufficient for making cogent research observations, generalisable to English and Welsh legal professionals. However, for sure, further surveys of legal professionals' beliefs are warranted.

Turning to our lay public participants' responses. Our data aligns with international findings showing a rising

trend of belief in repression and dissociative amnesia and is therefore generalisable to the entire UK public.

Finally, a potential study limitation concerns whether Likert-scale responses convey the nuances of participants' understanding. Our study mitigated this by permitting participants to elaborate upon their answers in a written text box.

### **Implications of research**

Our overall study findings have implications for the U.K. justice system in cases where witness testimony is wholly or mainly reliant upon long-term memory recall. Our findings support scholars' concerns that belief in repression is now deeply embedded across all sections of society (Otgaar et al., 2019).

In the English criminal justice system, in non-recent child sexual abuse cases there is no time-bar for bringing accusations. Some cases feature delays of thirty years or more between the alleged incident and formal complaint to police. If lawyers (prosecutors or defence advocates) fail to detect markers signalling abnormal or extraordinary, distorted memory recall early on in the justice pathway, memory experts will not be instructed, and potentially unreliable testimony will pass undetected to the jury. Moreover, if jurors trying these cases hold inaccurate beliefs and the prosecuting advocate permits unreliable memory evidence to be adduced without expert comment, jurors will most likely presume such testimony is capable of being reliable. Even if expert memory evidence is admitted on behalf of the defence, the prosecuting advocate is permitted to cross-examine and cast doubt on it. Jurors may perceive the defence expert to be a "hired gun". Lastly, current judicial guidance to jurors on the potential for memory distortion in delayed recall is nominal and arguably inadequate (Gudjonsson et al., 2021). In sum, whether the U.K. adversarial process and lay juror decision-making is equipped to determine memorial reliability in non-recent cases is debateable, though beyond the scope of this paper.

We consider a more profound problem that may exist within the English legal system, namely that justice educators and the judiciary are sceptical of false memory research and psychological science in general. For instance, judicial comment that memory science concerning adult recall of childhood "does not address the 'very practical issues' which concern the court" (R v JCWS & MW [2006] EWCA Crim, 1404, para, 26 per Rafferty LJ,) and the restrictive approach to the admission of expert evidence on false memory (R v H [2014] EWCA Crim 1555) indicates a science-law knowledge gap. Another possible cause of lawyers' misunderstanding is the Crown Prosecution Service Guidance noted above (2019) and the influence of trauma-informed but less scientifically informed guidance. Public scepticism towards psychology is well known (Lilienfeld, 2012) and misconceptions about psychology are also hard to shift (Bensley & Lilienfeld,

2015; Lilienfeld et al., 2009; Lynn et al., 2020; Lynn et al., 2023). In-house legal training content is unknown, and recent guidance for lawyers is insufficient and arguably, potentially misleading (e.g., Baddeley et al., 2023).

A future goal must be to improve lay and legal understanding of the causes and indicators of memory distortion. In addition, whilst "false memory" is an accurate descriptor in scientific contexts, it may require adjustment in legal settings. False memory researchers deliberately create and explore mechanisms that cause false memories. The central question for lawyers and jurors in non-recent cases (assuming the evidence is truthful) is whether the memory is sufficiently *reliable* to convict. This last answer requires awareness of indicators of abnormal or extraordinary memory development. A scientific framework identifying potential indicators of memory distortion – devised and agreed between leading scholars in the international scientific community – would assist justice systems everywhere.

### **Concluding remarks**

Understanding and providing legal redress for adult victims of childhood abuse is a critical justice aim. Such victims have long suffered in silence or failed to be believed. Key to achieving this aim is ensuring laypersons, mental health and legal professionals have a sound scientific grasp of how memory does and does not function for long-term memory recall and traumatic experiences. If lay decision-makers, mental health and legal professionals misunderstand, misinterpret or hold personal beliefs about memory storage, stability and retrieval, that conflict with mainstream scientific thinking, serious harm to public health and flawed justice outcomes may result (Grove & Barden, 1999; Howe & Knott, 2015; Lambert & Lilienfeld, 2007; Lilienfeld & Landfield, 2008; Lindsay & Read, 1995; Otgaar et al., 2022). Protecting society by identifying and correcting flawed beliefs that may cause harm, continues to be an important research endeavour for memory scholars (Howe & Knott, 2015; Patihis et al., 2014b; Yapko, 1994). The overarching question is how best to achieve this.

Our study data combined with similar international evidence suggests misunderstanding about memory amongst lay, legal and clinical populations is a widespread international phenomenon. Susceptibility for false memory development is non-trivial in healthy study populations (Muschalla & Schönborn, 2021; Otgaar et al., 2017; Scoboria et al., 2017; Scoboria & Mazzoni, 2017; Smeets et al., 2017) and potentially higher amongst vulnerable individuals. Guidance for memory experts is now evolving (e.g., Otgaar et al., 2023a) to improve the quality and accuracy of expert testimony; and this is an important step forward.

The justice system in England and Wales has an incomplete understanding of scientific advances and controversies in memory recall for adverse experiences. It is arguably

impervious to memory scientists' concerns. Improving understanding of extraordinary or abnormal memory development in health and legal settings is important in both the U.K. and internationally. The next step may be to develop an international protocol for memory experts that is designed and agreed upon by world-leading memory scholars. Such a protocol might include an index of memory reliability and unreliability that can be used to advise lawyers, judges, and juries. Such guidance, though not binding on any justice system, would reflect the depth of international scientific knowledge. It would also potentially assist numerous justice systems currently grappling with ensuring fair outcomes in non-recent sexual cases.

The elephant in the justice room is that without a litmus test to flag potential false memories, unsafe/wrongful convictions – especially in non-recent cases – will happen. Currently, these miscarriages of justice are difficult to identify and correct on appeal due to the impossibility of proving testimonial falsity and the challenges (in England and Wales) of adducing expert evidence to expose unreliable memory evidence. Psychologists must persist in their endeavour to inform and educate society about memory myths and misconceptions and above all, engage with justice professionals.

## Note

1. Commencement address at Yale University, June 11th, 1962.

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## Data availability statement

The data that support the findings of this study are openly available in redacted form in the Zenodo repository at 10.5281/zenodo.10712912. Data that may potentially identify participants has been removed.

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