Remembering Why: Can People Consistently Recall Reasons for their Behaviour?

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Summary: We explored how consistent individuals are over time in their recall of the reasons why they engaged in a past behaviour. The study was inspired by a research survey submitted in a copyright infringement case. Study participants listed the reasons why they acquired a particular CD, and repeated the survey several months later. We assessed the consistency of responses across time overall and at the individual level. Results indicate that both forgetting and memory distortion were common. Different types of inconsistencies were identified, and these responses were predicted by characteristics of the original memory and of individuals' preferences towards the CD. Implications for the legal field are discussed. Copyright © 2009 John Wiley & Sons, Ltd.

Human memory can play a number of roles in the legal system. For example, witnesses recall information about crimes or other legal matters that is used during investigations, and may also be asked to testify at trials about their memories for events. Witnesses and defendants may be interviewed several times over the course of an investigation and trial, and the legal process may span months or even years. Thus, the issue of memory consistency becomes important for determining the quality of this memory evidence (Brewer, Potter, Fisher, Bond, & Lusczcz, 1999; Peterson, Moores, & White, 2001). Additional memory evidence may also be presented to the court in the form of original research (e.g. survey data) conducted on an issue central to the case at hand. The first example concerns the consistency of a specific individual’s memories over time, while the second relates to general trends in memory performance.

Although consistency cannot simply be used as a substitute for accuracy (Blair, Lenton, & Hastie, 2002; Brewer et al., 1999; Coluccia, Bianco, & Branimonte, 2006; Fisher & Cutler, 1995; Peterson et al., 2001), research in legal settings has shown that lawyers, judges and jurors often interpret greater consistency as an indication of greater accuracy (Brewer et al., 1999; Fisher & Cutler, 1995). The importance placed on the consistency of memory reports has spurred literature on memory consistency for objective details of observed or experienced events (e.g. Neisser & Harsch, 1992), but less research has been conducted on the consistency of introspective memory processes. For example, we know little about the consistency of individuals who repeatedly recall their own thought processes regarding a certain event (e.g. if asked to recall why they performed a certain behaviour).

The current study explores the consistency of people’s recollections of the reasons for their behaviours using two different contexts inspired by real legal cases. The first context relates to group memory trends, and was inspired by a copyright infringement case against the rap musician Eminem. The second context involves memory consistency over time at the individual level, such as might relate to the insider trading charges brought against Martha Stewart.

The Eminem context

In 2002, rap musician Eminem was sued by French composer Jacques Loussier for copyright infringement. Eminem had sampled the beats from the composer’s work and used them in his song ‘Kill You’, which appeared on the album The Marshall Mathers LP. Loussier claimed that this song was very popular and largely contributed to the sale of Eminem’s CD; therefore, he should be entitled to significant compensation from Eminem. As part of his legal case, Eminem commissioned a consumer survey to assess this claim. Individuals were asked to take the survey if they had ever purchased the Marshall Mathers LP, which had been released 3 years prior. The survey focused on the reasons participants gave for the purchase of the CD. When asked the open-ended question of why they bought the CD, less than 1% stated they bought it for the specific song ‘Kill You’. Based on these findings, Eminem’s lawyers argued that this song did not contribute significantly to CD sales, and therefore the composer was entitled to only a small percentage of the proceeds.

Although this case made the news for its famous defendant, its use of social science data makes it especially interesting to researchers. A clear attempt was made to present legitimate, scientific data to support Eminem’s side of the case. But were the conclusions drawn from the survey actually valid? The respondents were asked to recall the reasons behind their purchasing behaviour from as far back as 3 years. How capable are people of remembering and reporting the reasons behind their behaviour after long delays? Current psychological literature cannot answer this question directly, as no studies to our knowledge have examined the consistency of recall for reasons behind behaviours.

In order to explore memory consistency in the Eminem context, we conducted a survey that asked respondents to report the reasons they acquired a CD. In the Eminem case, it was not the consistency of individual memory that was at
issue, but the collective response (i.e. 1% of people reported buying the CD for a particular reason). Imagine, for example, that five respondents claimed to buy the CD for the song 'Kill You' immediately after their purchase, but then forgot to list this reason when asked about their purchase years later. Now, imagine a different five respondents who did the opposite—did not list 'Kill You' originally, but did so when asked about the CD years later. Overall, the per cent of respondents listing 'Kill You' as a reason at both time points would be equal, since the errors in memory from when the respondents bought the CD and from when they were surveyed cancelled each other out. However, we do not know if such memory error is in fact a random, self-correcting process, or if a more systematic bias exists in recall for reasons over time. It may well be that respondents are less likely to report a certain reason after a long time delay due to forgetting, or that they are more likely to report some reasons due to memory distortion. If this were the case, then a result such as the 1% figure from the Eminem survey would not be reliable, as it would reflect a memory bias.

Prior research about natural changes in memory demonstrates that a certain response may indeed become more popular over time. For example, Neisser and Harsch (1992) asked participants to recall how they had first heard about the Challenger Shuttle explosion. At the follow-up test, 3 years after the tragedy, many participants erroneously reported they had heard the news from television, even though their initial reports had made no mention of this. Significantly fewer respondents forgot to report watching television at the follow-up test, if they had included this detail in their first response. This systematic bias of a 'TV priority' in memory was also replicated with recall for natural disasters (Neisser, Winograd, Bergman, Schreiber, Palmer, & Weldon, 1996) and the OJ Simpson trial verdict (Schmolck, Buffalo, & Squire, 2000). For these events, participants are likely to have watched TV coverage at a later time, and this may have created source confusion in their recall. However, important caveats limit the generalizability of these findings to our study. First, the events in question were substantially more important, emotional and memorable than the mundane act of acquiring a CD. Most importantly, these studies concern recall for events, not introspective recall for reasons behind behaviour. Nonetheless, previous research does suggest that some reasons may be endorsed at higher rates during follow-up recall. Participants' later experiences and opinions of their CDs might influence their recall of their past behaviour, creating similar source confusion.

To address issues of memory consistency in the Eminem context, we designed a study that included questions similar to those asked of respondents in the Eminem survey. Specifically, we asked participants to recall, at two different time points, the reasons they had acquired a particular CD. In the Eminem context, our main question was whether or not the percentage of respondents listing a given reason remains the same across time.

The Martha Stewart context
Although our study was inspired by the copyright infringement case involving Eminem, the importance of this research extends to other areas of memory and the law. Specifically, the design of our study also allowed us to examine memory consistency by respondent, instead of by reason. This second context relates to situations where individuals such as witnesses or defendants are called upon to explain the reasons for their behaviours. Here, the legal system is concerned about the consistency of that individual witness' account. For example, during her criminal trial for insider trading, Martha Stewart was asked to recall the reasons why she had chosen to sell her Imclone stock. Remembering the reason for her decision months after she agreed to the sale may have been difficult, especially if Stewart was engaging in securities and other business transactions on a frequent basis, making this a seemingly routine transaction. However, the reason for a particular decision takes on critical importance when one is faced with criminal charges.

It is unknown whether these circumstances will actually lead to substantial or systematic inconsistencies in memory reports, but it is reasonable to hypothesize that individuals may not be consistent in their responses over time. First, numerous studies have found memory to be malleable and prone to distortion. Research has shown that individuals may misremember details of events (Loftus & Palmer, 1974; Wells, 1978), or may even come to develop wholly false memories (e.g. Loftus & Pickrell, 1995). Memory consistency research that has examined instances of 'reminiscence'—reporting new information not previously recalled—indicates that these responses may also be common (e.g. Gilbert & Fisher, 2006).

Most adult eyewitness-type studies that measure free recall and response consistency use relatively short time frames, with delays of minutes, days or weeks (e.g. Brewer et al., 1999; Gilbert & Fisher, 2006; La Rooy, Pipe, & Murray, 2005; McCauley & Fisher, 1995; Scrivner & Safer, 1988; Stromwall & Granhag, 2005, Turtle & Yuille, 1994). The respondents in our study, however, were asked to list the reasons they acquired a CD at two time points, either 6 months or 1 year apart. 'Flashbulb' memory studies, such as the Challenger study described earlier (Neisser & Harsch, 1992), usually focus on recall for important historical events after long delays of months or years (Bohannon & Symons, 1992; Greenberg, 2004; Lee & Brown, 2003; McCloskey, Wible, & Cohen, 1988; Neisser & Harsch, 1992; Pezdek, 2003; Smith, Bibi, & Shepard, 2003; Talarico & Rubin, 2003; Tekcan, Ece, Gulgoz, & Er, 2003; for an overview of current flashbulb memory research, see Luminet & Curci, 2008). Although much of this work concerns memory for critical events, research has shown that even these memories are subject to the same mental processes (including inconsistencies) as other, more mundane, memories (Christianson, 1989; McCloskey et al., 1988; Weaver, 1993). It is important to note, though, that none of these studies examined consistency of memory for reasons behind behaviour. It is possible that introspective memory processes such as this one might be affected differently by the passage of time than recall for details about an event or an autobiographical experience.

In addition to identifying consistent and inconsistent responses, we were interested in understanding memory processes underlying inconsistent reports. Most flashbulb
research tends to focus on a dichotomous outcome: Reports are ‘consistent’ or ‘inconsistent’, with little or no further description (e.g. Bohannon & Symons, 1992; Coluccia et al., 2006; Neisser & Harsch, 1992; Smith et al., 2003; Talarico & Rubin, 2003; Tekcan et al., 2003; Weaver, 1993). The eyewitness literature has examined memory errors, but much of this research tends to focus on accuracy, rather than consistency of responses across time (for a recent review of eyewitness literature, see Wells, Memon, & Penrod, 2006). In order to examine the memory processes underlying participants’ responses, we first identified consistent and inconsistent responses, and then coded inconsistent responses as either errors of omission (i.e. forgetting previously-reported information) or errors of commission (i.e. reporting new information not previously mentioned). Finally, we examined the different ways respondents could display errors of commission in their answers.

For the purposes of this study, errors of commission were considered to be examples of memory distortion. Although it is possible that inconsistent respondents may be recalling true reasons that they simply forgot or neglected to mention initially, Coluccia et al. (2006) found that accuracy for memory details tended to decrease over time, while errors in recall increased. Other researchers have also found that new information recalled after long delays tends to be error prone (Salmon & Pipe, 1997, 2000). Moreover, since survey research has shown that context effects may influence responses to questions (see Schwarz, 2007 for an overview of these issues), and memory studies illustrate that inconsistencies are more likely when the recall format is different at each interview (Brewer et al., 1999; Gilbert & Fisher, 2006), we surveyed participants using the same question wording at both time points. Finally, we asked respondents to report both the main reason and any other reasons why they had acquired the CD, giving them ample opportunity to list all reasons, large and small, at both time points. Given these safeguards against accurate reminiscence, we will refer to our general memory categories from this point forward as consistency (the same responses at both time points), forgetting (errors of omission) and memory distortion (errors of commission).

In addition to reporting rates of consistency, forgetting and memory distortion, we investigated factors that may predict these memory outcomes for individuals. These factors included aspects of the initial memories, such as how many reasons were listed, and aspects of the respondents, such as how much they liked their CDs. We also examined the effects of time delay on consistency. Participants answered survey questions about the most recent CD they had acquired (Time 1), and then repeated the survey questions either 6 months or 1 year later (Time 2). A subset of participants was then contacted a third time, several months later (Time 3). Studies with extended time delays, such as Weaver (1993), have found a sharp drop in consistency occurring between Time 1 and Time 2 responses, but little additional change between Time 2 and Time 3 responses. Other studies using multiple time points have found a similar pattern (Coluccia et al., 2006; Peterson et al., 2001; Tekcan et al., 2003), and for this reason, we hypothesize that our results may follow suit.

METHOD

Participants

Participants were undergraduates at the University of California, Irvine. A total of 1112 participants were recruited for the initial survey, 1048 of which agreed to be contacted for follow-up surveys. Of these participants, 587 completed the Time 2 questionnaire (56% response rate). A subset of these respondents (n = 149) were contacted again for a Time 3 survey, and 82 responded (55% response rate). We compared frequency data on demographic and question responses, and found the Time 2 sample to be representative of the original sample. The mean age at first contact for both the initial sample and the final Time 2 sample was 20 years. The per cent of females in the initial sample was 73 vs. 75 in the final Time 2 sample. Finally, the year in school breakdown for the initial sample was 25% freshmen, 30% sophomores, 22% juniors and 20% seniors (3% identified as ‘other’); the Time 2 sample was 30% freshmen, 33% sophomores, 19% juniors and 15% seniors (3% again identified as ‘other’). In addition, the amount that participants liked their CD (on a 7-point scale from 1 = not at all to 7 = extremely) was similar in the initial (M = 5.90) and follow-up (M = 5.94) samples.

Procedure

Participants were recruited from classrooms and asked to fill out a survey entitled ‘Music Interests and Purchasing Behaviour’ (Time 1). Participants were asked to list the most recent album they had acquired for themselves (either by purchasing, copying or downloading), and answer questions about why they had wanted that particular compact disc (CD). They also described their music interests and purchasing and listening habits.

A follow-up survey was sent to participants either 6 months or 1 year later (Time 2). Participants were contacted through email with a link to an online version of the survey. This was an abbreviated version of the Time 1 survey, focusing mainly on the reasons participants recalled for acquiring the CD. In the body of the email, they were reminded of the specific CD they had listed at Time 1. A subset of participants was contacted via email one last time for a third survey (Time 3) approximately 6 months or 1 year after Time 2. The Time 2 and Time 3 surveys were identical, and participants were not instructed to try to match their responses to the original survey.

Materials

The Time 1 survey began by asking participants to name ‘the most recent compact disc (CD) that you acquired for yourself’. Participants were also asked to list the artist for this CD, and were encouraged to ‘refer to the CD, if necessary, in order to provide exact information’. Participants were then asked to list the reasons why they acquired the CD. This question was asked in two different ways:

1Seniors were placed into the 6 month condition so as to increase the chances of a follow-up response. All other participants were randomly assigned to either the 6 month or the 1 year condition.
(1) ‘What are the main reasons you acquired this CD?’ and (2) ‘Are there any other reasons you acquired this CD? If so, what are they?’ These questions were based on the Eminem survey wording, but were combined for coding and data analysis purposes. They were also included in the Time 2 and Time 3 follow-up surveys.

The Time 1 survey requested additional information, including when the participant acquired the CD (1 = within the last 2 days, 2 = 3 days to 1 week ago, 3 = 1–2 weeks ago, 4 = more than 2 weeks ago) and how much they liked this CD at the time of the survey (7-point scale, with 1 = not at all, 7 = extremely). Demographic information on age and gender was also collected (see Appendix for list of questions).

Coding

Free response questions were coded independently by two raters, and discrepancies were resolved through discussion by two additional raters. Raters first coded the answers participants gave for the reasons why they acquired the CD, assigning the responses to categories (described below). Coded responses were then compared to determine the consistency of responses across time points (Time 1–2, Time 1–3 and Time 2–3). Inter-rater reliability kappas were .68 for Time 1–2, .88 for Time 1–3 and .85 for Time 2–3.

The free response format allowed participants to say the same thing in many different ways. For example, the responses ‘Because I like the singer’ and ‘I like how Alejandro Fernandez sings’ both indicate that the participant bought the CD because of the artist, even though the wording is not exactly the same. For this reason, categories of responses were created. Based on a preliminary reading of responses, five basic response types were identified. Participants generally indicated that they acquired a CD for one or more of the following reasons: (1) they liked the artist (‘artist’), (2) they liked the type of music (‘music’), (3) they liked a particular song or songs (‘songs’), (4) someone recommended it to them (‘recommendation’) and (5) they needed it for a specific purpose (e.g. for a dance routine; ‘purpose’). Participants were considered ‘consistent’ if they listed the same response categories at the two time points being compared (e.g. both ‘artist’ and ‘music’ at Time 1 and again at Time 2). For example, one ‘consistent’ participant gave this response for Time 1: ‘I liked his 1st album, I liked the single’ and this reason for Time 2: ‘liked the single and his past work’.

There were a number of ways in which participants could be inconsistent in their responses, which we labelled as either ‘forgetting’ or ‘memory distortion’, based on the pattern of responses over time. Participants were considered to have displayed forgetting if they listed reasons at Time 1 that were not repeated at Time 2 (e.g. ‘artist’ and ‘songs’ at Time 1 vs. just ‘songs’ at Time 2). An example of this is ‘I liked the songs & she is a good singer’ at Time 1 and ‘I like most of the songs on it’ at Time 2. On the other hand, when participants gave reasons at Time 2 that did not appear at Time 1, this was considered to be memory distortion. This could occur in multiple ways. First, the Time 1 and Time 2 reasons could be completely different (e.g. ‘artist’ at Time 1 vs. ‘recommendation’ at Time 2), such as the participant who bought a CD because ‘I like the artist’ (Time 1) and because ‘it was well advertised’ (Time 2). In addition, participants could repeat all Time 1 reasons and add new reasons at Time 2 (e.g. ‘artist’ at Time 1 vs. ‘artist’ and ‘music’ at Time 2). An example is ‘I like the band’ at Time 1 and ‘It’s an amazing sounding record, I’m a recording engineer so I was actually fascinated with the tones and colors on the CD. I liked the artists, great buncha swedish dudes’ at Time 2. Finally, some Time 1 reasons could be repeated at Time 2, along with new reasons—in effect, the new reasons replace some (but not all) of the old reasons (e.g. ‘artist’ and ‘recommendation’ at Time 1 vs. ‘artist’ and ‘songs’ at Time 2), for example, ‘I like the group, I heard the CD was good’ at Time 1 vs. ‘I am a big fan of Outkast and have all their CDs—plus I liked the songs I had heard on the radio’ at Time 2. In addition, the category ‘songs’ was coded in such a way that the number of songs listed was taken into account. For example, if a participant stated that he acquired a CD for one song at Time 1 and for three songs at Time 2, this was considered to be evidence of extra reasons at Time 2.

RESULTS

Response interval

Participants were contacted at Time 2, either 6 months or 1 year after their Time 1 date, and a subgroup of Time 2 participants was contacted 6 months or 1 year after their Time 2 date. A large majority of Time 2 participants (77%) responded within 1 month on either side of their target date. A full 90% of participants for Time 3 responded within 1 month of their target date. The interval between Time 1 and 3 and ranged from 8 to 20 months, but the majority of participants answered their Time 3 survey 18–20 months after Time 1 (18 months: 26.8%; 19 months: 14.6%; 20 months: 48.8%). Time 3 results are presented as supplemental findings to the main Time 1–2 results, since only 82 participants completed the additional Time 3 survey.

Preliminary analyses revealed no significant differences between Time 2 responses from 6 months or 1 year, so the data were collapsed for further analyses. In addition, there were no significant differences based on how recently the participant had acquired his or her CD at Time 1, probably due to a lack of variability in responses (76% reported they acquired their CD more than 2 weeks ago). These data were also combined for further analyses.

Eminem context: Consistency of the per cent of participants reporting specific reasons

In order to compare the percentages of participants who endorsed each specific type of reason at both time points, a series of chi-square analyses were conducted (see Table 1 for percentages). Each individual’s response at Time 1 and Time 2 was coded into a series of dichotomous variables representing the five reasons mentioned: Artist (yes/no), music (yes/no), songs (yes/no), recommendation (yes/no), and purpose (yes/no). Analyses showed that significantly

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2Participants were contacted during the week in which their target date fell. Therefore, some participants technically responded during their 5th or 11th month, a few days before the target date.
more respondents mentioned each type of reason at Time 1 than Time 2. For example, ‘artist’ was mentioned as a reason by 44.5% of participants at Time 1, but only by 38.8% of participants at Time 2. \( \chi^2(1, N = 587) = 93.12, p < .001. \) This same pattern held for ‘music’ reasons (\( \chi^2(1, N = 587) = 28.02, p < .001 \)), ‘song’ reasons (\( \chi^2(1, N = 587) = 81.83, p < .001 \)), ‘recommendation’ reasons (\( \chi^2(1, N = 587) = 32.68, p < .001 \)), and ‘purpose’ reasons (\( \chi^2(1, N = 587) = 76.01, p < .001 \)).

The overall frequencies of each type of reason clearly show that some seem to be more important in the minds of CD consumers than others. Respondents listed ‘artist’ and ‘song’ most frequently and were least likely to report acquiring the CD on the basis of a recommendation or because they needed it for a specific purpose. Liking the music fell in the middle as a somewhat common response. The ranking of each type of reason relative to the others remained the same.

**Martha Stewart context: Consistency of individual participant responses**

We next examined differences in consistency across individual responses at each time point. Coding for Time 1 and Time 2 responses revealed that 20.7% of respondents gave answers that were completely consistent in their stated reasons for acquiring the CD. Nearly one-third of participants displayed simple forgetting, with 29.9% of respondents listing responses at Time 1 that did not appear at Time 2. Almost half of participants showed some evidence of memory distortion, with a total of 49.4% falling into this category (see Figure 1 for a breakdown of each type of memory distortion response).

In order to determine whether additional factors predicted participant memory over time, a MANCOVA was tested with the independent variable of whether or not a participant fell into the ‘consistency’, ‘forgetting’, or ‘memory distortion’ category. Gender and age were used as covariates in the analyses. The results showed that memory categories were significantly related to liking the CD and the number of reasons listed at Time 1, multi-variate \( F(4, 1152) = 12.14, p < .001. \) Neither gender nor age showed a significant relationship with memory category. Univariate tests showed that memory category was significantly associated with how much participants reported initially liking their CD, \( F(2, 577) = 5.94, p = .002. \) Post hoc tests indicated that participants in the forgetting category liked their CD significantly more \((M = 6.15)\) than those in the consistency \((M = 5.83)\) or memory distortion \((M = 5.85)\) categories, \( p < .05. \) Number of reasons listed at Time 1 also was significantly related to memory category, \( F(2, 577), 20.74, p < .001. \) Post hoc tests show that again participants in the forgetting category listed significantly more reasons at Time 1 \((M = 1.86)\) for why they acquired the CD than participants in the consistent \((M = 1.33)\) or memory distortion \((M = 1.48)\) categories, \( p < .001. \)

Analyses for Time 3 variables are presented separately, as Time 3 data were collected from a subset of participants. Only those participants who completed surveys at all three time points were included in this set of analyses. Response consistency was analysed by comparing the reasons participants gave for acquiring the CD at Time 1 and Time 3 (Time 1–3) as well as Time 2 and Time 3 (Time 2–3). See Table 2 for consistency over these three time points. For Time 1–2, 22% of participants gave consistent responses; 21% gave consistent responses for Time 1–3. In contrast, 40% of participants were consistent between the second and third time points (Time 2–3). A series of paired \( t \)-tests \((0 = \) not consistent, \( 1 = \) consistent) showed that participants were significantly more consistent at Time 2–3 than at Time 1–2 \((t(79) = 2.4, p = .02)\) and Time 1–3 \((t(79) = 3.19, p = .002)\).

**DISCUSSION**

The current study began by exploring consistency of overall group memory rates (the Eminem context). Results showed that the per cent of participants reporting each reason was

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Time 1 (N = 587)</th>
<th>Time 2 (N = 587)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artist</td>
<td>44.5%</td>
<td>38.8%</td>
</tr>
<tr>
<td>Music type</td>
<td>35.6%</td>
<td>31.3%</td>
</tr>
<tr>
<td>Song(s)</td>
<td>46.2%</td>
<td>38.3%</td>
</tr>
<tr>
<td>Recommended</td>
<td>9.7%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Purpose</td>
<td>19.1%</td>
<td>10.4%</td>
</tr>
</tbody>
</table>

Table 1. Per cent of participants reporting specific reasons for acquiring their CD at Time 1 and Time 2

Figure 1. Types of memory responses for reasons across Time 1 and 2
higher at Time 1 than Time 2, suggesting that some surveys conducted after a delay might face issues of under-reporting reasons for a behaviour. The decrease in general endorsement of reasons may reflect regression to the mean or memory resource strain associated with recalling multiple reasons for a mundane event over a long delay. Although we had hypothesized (based on previous research on the ‘TV priority’) that some reasons might gain popularity over time, the relative endorsement of each reason remained stable from Time 1 to Time 2. This suggests that for similar surveys, a rank order of reasons may be more reliable an indicator of importance than simple percentages. However, it is possible that a difference in rank order might appear in surveys conducted under different circumstances; for example, in the Eminem case one song may have gained prominence in ranking if it were played on the radio more often than another, causing a systematic bias.

In addition to the Eminem context, we investigated how individual consistency in recall for reasons varied between each time point (the Martha Stewart context). Only a minority of participants (about one-fifth) were able to consistently recall their reasons for acquiring the CD, suggesting that many participants might have an unreliable source of information. Thus, it should be evaluated with caution by those in the legal system.

Finally, we also investigated factors that affected responses. Our results demonstrate that participant memory seems to become more consistent after additional questioning, with a large amount of change occurring between Time 1 and Time 2, and more stable memory performance between Times 2 and 3, a finding supported by other memory consistency studies (Coluccia et al., 2006; Peterson et al., 2001; Tekcan et al., 2003; Weaver, 1993). This has important implications for the legal context. Often, witnesses are interviewed multiple times before trial by different legal professionals such as police detectives, investigators, and lawyers. Based on the current results, one might expect that answers given in the initial interview regarding reasons for behaviour may differ from those given at later interviews, but reports given in later interviews may be very consistent with each other. It appears critical, therefore, to have an accurate and complete record of the very first interview given by a witness, as these details might alter upon the second retelling, yet remain relatively stable thereafter.

One of the main goals of this research was to investigate different aspects of memory inconsistency. Our classifications of ‘forgetting’ and ‘memory distortion’ provide the first important distinction; one concerns the deletion of relevant information and the other refers to the addition of new or contradictory information over time. We also examined the category of ‘memory distortion’ more closely in order to determine the different ways in which participants could display this phenomenon. The most common form of memory distortion in our results was giving entirely contradictory responses, rather than simply adding new reasons. Overall, the memory process for recalling reasons for behaviour seems to reflect a great amount of distortion, followed by substantial forgetting and a minority of consistent reports.

In order to investigate factors that might predict forgetting and memory distortion, we included individual difference measures in our study. Our results show that recalling a greater number of reasons at Time 1 is associated with higher rates of forgetting at Time 2. It is likely that listing a larger number of reasons at Time 1 made it too difficult for the participant to keep all of these reasons in mind when asked again at Time 2. In effect, these participants simply had more reasons to forget. This finding does contradict a previous flashbulb memory finding that greater levels of detail were associated with higher levels of consistency in recall (Bohannon & Symons, 1992), which underscores the importance of examining memory for reasons as a separate type of memory. Researchers should be wary of simply generalizing findings from one type of memory to another.

We also examined personal preference as a predictor of memory type. Participants who liked their CD more were more likely to display some forgetting from Time 1 to Time 2. Perhaps those who liked their CDs did not feel the need to dwell on why they acquired them, while participants who liked their CD less felt the need to remind themselves why they acquired them as a form of justification. This finding highlights the importance that personal opinions can have for shaping supposedly ‘objective’ memory. Future research could include additional predictor variables, in order to explore the influence of personal preferences, beliefs and opinions on memory for reasons for behaviour. Personality characteristics such as preference for consistency could also prove to be significant predictors (Cialdini, Trost, & Newson, 1995).

Future research might also focus on the influence of repeated cues on one’s memory for reasons underlying a specific behaviour. For instance, it is possible that some of our participants had listened to the CD repeatedly or recently and were reminded of why they acquired it, which could account for solid memory traces and consistent responses. On the other hand, those who frequently listened to the CD might have had a new favourite song at Time 2, making them susceptible to distortion. Prior research has shown that memory is often influenced by present attitudes, preferences and emotions, as memory is a reconstructive process (Himmelweit, Biberian, & Stockdale, 1978; Levine, Prohaska, Burgess, Rice, & Laulhere, 2001). When someone tries recalling how she felt some time ago, she often looks to how she feels now for clues. In terms of our study, respondents might examine their current attitudes and likes about the CD when recalling their prior memories for reasons, as they acquired them as a form of justification. This finding highlights the importance that personal opinions can have for memory type. Researchers should be wary of simply generalizing findings from one type of memory to another.


APPENDIX

Time 1 Survey Questions

Please think about the most recent compact disc (CD) that you acquired for yourself. Please refer to the CD, if necessary, in order to provide exact information.

(1) What is the title of the CD?
(2) What is the name of the performer?

For the following questions, please refer to the CD you listed above. There are no right or wrong answers. Please answer each question to the best of your ability.

(3) What are the main reasons you acquired this CD?
(4) Are there any other reasons why you acquired this CD? If so, what are they?
(5) When did you acquire this CD? (Please check one)
   (a) Within the last 2 days
   (b) 3 days to 1 week ago
   (c) 1 to 2 weeks ago
   (d) More than 2 weeks ago

(6) On a scale of 1 to 7, how much do you like this CD? (Please circle one)
   1 2 3 4 5 6 7
   Not at all Neutral Extremely

(7) What is your age?
(8) Gender (Circle one): MALE FEMALE
(9) What year are you in school?

Time 2 and 3 Survey Questions

This survey contains some follow-up questions concerning the CD you identified in Part I of the study. We would like you to answer the following questions while keeping that particular CD in mind (you may refer to the actual CD if you need to).

The CD you listed was:
Title: ___________
Performer: ___________

For the following questions, please answer each question to the best of your ability. There are no right or wrong answers.

(1) What are the main reasons you acquired this CD?
(2) Are there any other reasons why you acquired this CD? If so, what are they?