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Immediate and delayed suggestibility among suspected child victims of sexual abuse.

Monia Vagni¹, Tiziana Maiorano¹, Daniela Pajardi¹, Gisli Gudjonsson^{23*}

¹Centre for Education and Research in Forensic Psychology, Department of Human Sciences, University of Urbino, Italy

² King's College London, Institute of Psychiatry, Psychology and Neuroscience, London, UK

³ Reykjavik University

Abstract

Children suspected of being victims of sexual abuse are often interviewed by police, but little is known about the effects of sexual abuse on their suggestibility. The aim of this paper was to investigate differences in ‘immediate’ and ‘delayed’ suggestibility between children being investigated as suspected victims of sexual abuse and other children and to compare the suggestibility scores of children allegedly abused by a family member versus a person from outside the family. The participants were 180 children aged between 7 and 16 years, who had been subdivided into ‘victim’ and control’ groups; each group being comprised of 90 children and

matched for IQ. All children completed the Gudjonsson Suggestibility Scale (GSS 2) and a non-verbal IQ test. The children in the victim group scores significantly higher on Shift and Yield 2 than the control group, after controlling for memory capacity. Children abused by a family member coped significantly worse with interrogative pressure (high Shift) than those abused by a non-family member. Immediate suggestibility showed much stronger effects than delayed suggestibility. The findings suggest that sexually abused children are very vulnerable during questioning where there is interrogative pressure and those abused by a family member are even more vulnerable.

Key words: Sexual abuse, children, suggestibility, misinformation, interrogative pressure, intra-family abuse.

1. Introduction

The importance of measuring the suggestibility of children when assessing their ability to cope with police questioning and testifying in court is well documented (Ceci & Bruck, 1993, 1995; Bruck & Melnyk, 2004; Henry & Gudjonsson, 2003, 2007; Miles, Powell, Gignac, & Thomson, 2007). Children suspected of abuse and neglect have been found to have poor memory and be more suggestible than other children (Eisen, Goodman, Quin, David, & Crayton, 2007), but the focus has been on the effects of leading questions and misinformation rather than the child's ability to cope with interrogative pressure. The present study adds to the literature by testing both susceptibility to leading questions and interrogative pressure of children suspected as being victims of sexual abuse and comparing the scores with those of other children with comparable IQ. The study also investigates whether the status of the perpetrator (i.e. a family member versus non-family member) is associated with the subsequent level of suggestibility.

Gudjonsson and Clark (1986) define 'interrogative suggestibility' as "the extent to which, within a closed social interaction, people come to accept messages communicated during formal questioning, as the result of which their subsequent behavioural response is affected" (p. 84). Their approach aims at integrating two distinct aspects of suggestibility: the impact of leading questions on the witness (labelled 'Yield') and the distorting effect of 'negative feedback' (labelled 'Shift'). On the basis of this model, Gudjonsson (1984, 1987) developed the Gudjonsson Suggestibility Scale (GSS 1 and GSS 2) to measure individual differences in 'immediate' suggestibility (i.e. immediate acceptance of leading questions). The GSS 1 and GSS 2 have been used extensively both for research and actual evaluation of vulnerable witnesses, victims and suspects (Gudjonsson, 2003, 2013). 'Delayed' suggestibility is typically associated with 'misinformation' studies where the impact of the suggestion ('post-event suggestion') is measured in a subsequent test to that of the

initial suggestion (Chrobak & Zaragoza, 2013; Eisen, Qin, Goodman, & Davis, 2002; Schooler & Loftus, 1993). Psychosocial factors, such as anxiety and being able to cope with interpersonal pressure, are more associated with immediate than delayed suggestibility (Ridley & Gudjonsson, 2013). Lee (2004) found no correlation between immediate suggestibility, using the GSS 2, and a misinformation paradigm with children and adolescents (age range 7 to 17 years). Delayed suggestibility is probably more relevant to 'memory distrust', which can have profound and lasting effect on human behaviour (Gudjonsson, Sigurdsson, Sigurdardottir, Steinthorsson, & Sigurdardottir, 2013).

Sexual abuse of children and adolescents is associated with poor self-esteem (Asgeirsdottir, Gudjonsson, Sigfusdottir, & Sigurdsson, 2010), suicidal ideation and attempts (Asgeirsdottir, Sigfusdottir, Gudjonsson, & Sigurdsson, 2013), and increased psychopathology (Eisen et al., 2007). Life adversity, including a history of child abuse, is associated with a young person's vulnerability to give a false confession to police during interviewing (Gudjonsson, Sigurdsson, Sigfusdottir, & Young, 2012), which suggests that history of significant life adversity may be associated with traits of compliance and suggestibility. In one study among patients receiving treatment for substance misuse, trait compliance was found to be the single best predictor of childhood history of sexual abuse (Gudjonsson, Sigurdsson, & Tryggvadottir, 2011). As far as suggestibility is concerned, the work of Kim Drake and her colleagues show that life adversity is associated with increased suggestibility on the GSS (Drake, 2010a, 2010b, Drake, Bull, & Boon, 2008). The association is strongest with Shift and Yield 2 (Drake, 2010a, 2010b), suggesting that life adversity particularly impairs the capacity of the person to cope with interpersonal pressure, perhaps through a negative mindset, desire to relieve distress, and increased compliant tendencies (Drake, 2010a).

Sexual abuse within the family is more traumatic than abuse by a person from outside the family with the worst outcome being in relation to abuse by fathers (Browne & Finkelhor, 1986), because of the detrimental effects on attachment, self-confidence and trust (Giamundo, 2013). Research is

lacking about the possible differential effects of the relationship between the abuser and the abused child on suggestibility. This is the first study to investigate this.

In view of the increased trauma experienced by children abused by family members, it is likely that they are subsequently less able to cope with interrogative pressure than children abused by persons outside their family. This means that they are more likely to give in to pressure during interrogation (i.e. change their answers and give in more to leading questions when challenged by the interrogator). The Shift and Yield 2 scores on the Gudjonsson Suggestibility Scale both measure how much participants give in to interrogative pressure during a mock interrogation. They are therefore appropriate measures to use in the current study.

There were two hypotheses:

Hypothesis 1 (H1): Children who are suspected victims of sexual abuse (Victim Group) have higher suggestibility levels on Shift and Yield 2 than children who are not sexual abuse victims (Control Group).

Hypothesis 2 (H2): Children suspected of family sexual abuse (Intra-Family Group) will score more highly on Shift and Yield 2 than children who are suspected of abuse by members outside the family (Extra-Family Group).

A discriminant validity hypothesis is that the effect of sexual abuse and by family members on Shift and Yield 2 is more marked in relation to immediate than delayed suggestibility due to the relatively greater influence of psychosocial factors on the former type of suggestibility (Ridley & Gudjonsson, 2013). In addition, no significant correlation was expected between immediate and delayed suggestibility.

2. Method

2.1 Participants

The participants were 180 children aged between 7 and 16 years, with an average I.Q (i.e. 90-110). They were subdivided into two groups: the 'Victim Group' and the 'Control Group', each group was comprised of 90 children. The participants in the 'Victim Group' were involved in judicial hearings as witnesses in connection with being suspected victims of sexual abuse, whilst the children in the 'Control Group' were not suspected of being victims of sexual abuse. The average age of the children in the 'Victim Group' was 10.99 years ($SD = 3.2$) and was made up of 65 females and 25 males. The average age of the 'Control Group' was 11.04 ($SD = 3.2$) and made up of 65 females and 25 males. The average I.Q. of the 'Victim Group' was 100.50 whilst the average I.Q. of the 'Control Group' was 100.86 (see Table 1). Those children with IQ scores below 90 or above 110 were excluded from the study in order to avoid possible contamination effect due to either low or high IQ.

Under the Italian legal system, all children suspected of being a victim of sexual abuse have to undergo a psychological assessment before giving testimony in a judicial hearing to evaluate their suitability as a witness. Testing of IQ and suggestibility forms a part of that assessment. The children in the 'Control Group' were selected randomly from several Italian schools and had never experienced judicial hearings or police questioning. Teachers provided information regarding the children in order to exclude those who had already experienced a legal hearing. The children in both groups came from different geographical areas and social classes.

3. Instruments

3.1. *Gudjonsson Suggestibility Scale 2(GSS 2)*

The GSS 2 is a well validated instrument that measures the susceptibility of people to give in to leading questions and interrogative pressure (Gudjonsson, 1987, 1997, 2003, 2013) and can be satisfactorily used with children from the age of 7 onwards (Danielsdottir, Sigurgeirsdottir, Einarisdottir, & Haraldsson et al., 1993). It is comprised of a short story of a boy having an accident on his bicycle, followed by 20 questions, 15 of which are misleading. It provides a score of

immediate and delayed recall, each is comprised of a maximum of 40 items, Yield 1 (i.e. the number of leading questions to which the participant yields; the maximum score being 15), Yield 2 (i.e. the number of leading questions to which the participant yields after being provided with negative feedback; the maximum score being 15), Shift (the number of questions the participant changes the answer after negative feedback, the maximum score being 20), and Total Suggestibility (i.e. the sum of Yield 1 and Shift, the maximum score being 35).

The GSS 2 measures immediate suggestibility (Ridley & Gudjonsson, 2013), but delayed suggestibility can be incorporated into the test by asking participants to give free recall at a later date (e.g. after a week). Delayed suggestibility was added to the standard procedure for the purpose of the study. Delayed recall is normally obtained after 50 minute delay, but in the present study it was obtained on a separate session one week later, which has been done in previous research (Singh & Gudjonsson, 1985). This also allowed a measurement of delayed suggestibility (i.e. the number of misleading suggestions provided during Yield 1, which had become incorporated into the participant's recall of the story).

In the present study the scale was first translated into Italian and then translated back again from Italian into English by an English mother-tongue university lecturer in order to be sure that the main points of the story had not been affected by the translation. (The Italian translation of the GSS 2 is available from the authors upon request).

3.2. *Raven's Matrices*

The Coloured Progressive Matrices (CPM) (Raven, Court & Raven, 1998) and Standard Progressive Matrices (SPM) have been developed in order to explore mental abilities regardless of cultural factors and measures non-verbal intellectual abilities. In the current study, in accordance with the standard instructions, the CPM was used for children up to the age of 12 years and the SPM for children age 12 years and over. The sum of the correct answers was transformed into a

percentile value and provides a measure of IQ on the basis of the parameters of the Norms of the Italian population.

3.3. Procedure. The GSS 2 was administered following the same procedure in the two groups. Two experimenters were involved. In the first stage, one facilitated the interaction with the child by talking about general topics to promote familiarization and acquaintance, whilst the other experimenter intervened in the second stage and administered the GSS 2 in the same way to all the children. During the administration of the GSS 2 the first experimenter left the room.

In both experimental conditions, the GSS 2 scale was administered by the second experimenter where immediate recall was obtained, Raven's Matrices was administered, and after about 40 minutes the GSS 2 questioning was conducted and Yield 1, Yield 2, Shift and Total Suggestibility scores were obtained. After one week, all participants were asked to tell the story again in order to check memory accuracy (delayed memory) and susceptibility to suggestions (delayed suggestibility).

On the basis of the relationship that existed between the victim and his/her abuser two subgroups were created – 'Intra-Family' and 'Extra-Family' abuse. When the police report indicated sexual abuse by a member of the child's family (e.g. father, brother, grandfather) the victim was placed in the 'Intra-Family' group. When the report showed that there was no family relationship between the victim and abuser then the child was placed in the 'Extra-Family' group.

3.4. Statistical analysis. MANOVA was used to measure overall differences between groups in suggestibility, which allowed Shift and Yield 2 to be entered simultaneously to measure their joint effects whilst controlling for memory. Age was not controlled for in the analysis because the Victim and Control groups were matched for age and the mean age scores were almost identical for the Intra-Family and Extra-Family groups (see Tables 1 and 2).

4. Results

Table 1 shows significant differences between the Victim and Control groups in immediate and delayed Suggestibility, indicating higher average suggestibility levels in the Victim group. The greatest differences were in relation to Yield 2 (large effect size), Shift, and Total Suggestibility (medium effect size). There was a low effect size for delayed suggestibility. Significant group differences also emerged in relation to immediate and delayed recall (medium and large effect sizes, respectively).

Table 1. Differences in scores on the GSS 2 between the Victim and Control groups.

| | Group | N | M | SD | t-value | p | d | | | | | | |
|------------------|---------|----|--------|------|---------|------|------|--|--|--|--|--|--|
| IQ | Victim | 90 | 100.50 | 7.47 | | | | | | | | | |
| | Control | 90 | 100.86 | 7.59 | | | | | | | | | |
| Immediate Recall | Victim | 90 | 11.68 | 5.88 | -3.77 | .000 | .56 | | | | | | |
| | Control | 90 | 15.03 | 6.07 | | | | | | | | | |
| Yield 1 | Victim | 90 | 6.99 | 3.79 | 1.21 | .229 | .18 | | | | | | |
| | Control | 90 | 6.33 | 3.5 | | | | | | | | | |
| Yield 2 | Victim | 90 | 12.91 | 5.84 | 7.60 | .000 | 1.16 | | | | | | |
| | Control | 90 | 7.06 | 4.11 | | | | | | | | | |
| Shift | Victim | 90 | 6.14 | 3.92 | 4.82 | .000 | .72 | | | | | | |
| | Control | 90 | 3.68 | 2.86 | | | | | | | | | |
| Total | Victim | 90 | 13.13 | 5.70 | 3.51 | .001 | .53 | | | | | | |
| | Control | 90 | 10.15 | 5.60 | | | | | | | | | |
| Delayed Recall | Victim | 90 | 8.41 | 4.51 | -6.39 | .000 | .95 | | | | | | |
| | Control | 90 | 13.28 | 5.65 | | | | | | | | | |

| | | | | | | | | | | | | | |
|------------------------|---------|----|-----|------|------|------|-----|--|--|--|--|--|--|
| Delayed Suggestibility | Victim | 90 | .76 | 1.11 | 2.33 | .011 | .35 | | | | | | |
| | Control | 90 | .42 | .79 | | | | | | | | | |
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In order to test the overall differences in immediate suggestibility between the Victim and Control groups, MANOVA was performed on the dependent measures Shift and Yield 2 with Group as the independent (fixed) variable. Immediate Recall was used as a covariate in view of the significant differences noted between Groups. There was significant main effect: Pillai's Trace = .191, $F = 20.09$, $p < .001$; $\eta^2 = .191$. Univariate analyses revealed significant Between-Subject-Effect on both the dependent measures: Shift ($F = 14.28$, $p < .001$; $\eta^2 = .077$); Yield 2 ($F = 39.95$, $p < .001$; $\eta^2 = .189$).

A univariate analysis was performed on Group differences regarding delayed suggestibility (dependent measure) and delayed recall was used as a covariate. Significant Between-Subject-Effect was noted ($F = 5.17$, $p < .05$; $\eta^2 = .031$).

Table 2 shows significant differences between the Intra-Family and Extra-Family groups in immediate suggestibility, indicating higher average suggestibility levels in the Intra-Family than Extra-Family group. No significant effect was found for delayed suggestibility. The greatest difference was in relation to Shift (large effect size), followed by Yield 2 and Total Suggestibility (low effect size). Significant Group difference emerged in relation to delayed recall (low effect size). The Intra-Family and Extra-Family groups had very similar IQ scores.

Table 2. Differences in scores on the GSS 2 between the Victims of Intra-Family and Extra-Family abuse.

| | Group | N | M | SD | t-value | p | d | | | | | | |
|------------------|-------|----|--------|------|---------|------|-----|--|--|--|--|--|--|
| IQ | Intra | 42 | 100.02 | 7.42 | | | | | | | | | |
| | Extra | 48 | 100.92 | 7.57 | | | | | | | | | |
| Immediate Recall | Intra | 42 | 12.21 | 6.01 | .81 | .421 | .17 | | | | | | |
| | Extra | 48 | 11.21 | 5.78 | | | | | | | | | |
| Yield 1 | Intra | 42 | 6.50 | 3.52 | -1.15 | .254 | .24 | | | | | | |
| | Extra | 48 | 7.42 | 3.99 | | | | | | | | | |
| Yield 2 | Intra | 42 | 13.98 | 5.99 | 1.64 | .106 | .35 | | | | | | |
| | Extra | 48 | 11.98 | 5.59 | | | | | | | | | |
| Shift | Intra | 42 | 7.74 | 4.28 | 3.88 | .000 | .81 | | | | | | |
| | Extra | 48 | 4.75 | 2.99 | | | | | | | | | |
| Total | Intra | 42 | 14.24 | 5.83 | 3.51 | .000 | .37 | | | | | | |
| | Extra | 48 | 12.17 | 5.46 | | | | | | | | | |
| Delayed Recall | Intra | 42 | 9.43 | 5.03 | 2.04 | .022 | .43 | | | | | | |
| | Extra | 48 | 7.52 | 3.83 | | | | | | | | | |

| | | | | | | | | | | | | | |
|------------------------|-------|----|-----|------|------|-----|-----|--|--|--|--|--|--|
| Delayed Suggestibility | Intra | 42 | .74 | 1.06 | -.14 | .89 | .03 | | | | | | |
| | Extra | 48 | .77 | 1.15 | | | | | | | | | |
| | | | | | | | | | | | | | |

In order to test the overall differences in immediate suggestibility between the Intra-Family and Extra-Family groups, MANOVA was performed on the dependent measures Shift and Yield 2 with Group as the independent (fixed) variable. Delayed recall was used as a covariate in view of the significant differences noted between Groups. There was significant main effect: Pillai's Trace = .177, $F = 9.23$, $p < .001$; $\eta^2 = .177$. Univariate analyses revealed significant Between-Subject-Effect on both the dependent measures: Shift ($F = 18.60$, $p < .001$; $\eta^2 = .176$); Yield 2 ($F = 8.32$, $p < .01$; $\eta^2 = .087$).

Delayed suggestibility did not correlate significantly with immediate suggestibility: Yield 1 ($r = .08$), Yield 2 ($r = .11$), Shift ($r = .08$), or Total Suggestibility ($r = .11$). Nor did it correlate significantly with immediate recall ($r = -.06$) or delayed recall ($r = -.03$). Immediate recall and delayed recall were significantly correlated ($r = .86$, $p < .001$) and both correlated more strongly with Yield 1 ($r = -.50$ and $-.43$, $p < .001$, respectively) than Shift ($r = -.29$ and $-.28$, $p < .001$, respectively).

5. Discussion

The findings show that children suspected of being victims of sexual abuse have significantly higher Shift and Yield 2 suggestibility scores than controls, but do not differ in Yield 1. The effect sizes were large for Yield 2 and medium for Shift. The differences in suggestibility between groups were maintained after adjusting for memory capacity on the GSS 2, which was significantly different for the Victim and Control groups, the former group being significantly more impaired in their memory than the controls in spite of similarities in non-verbal IQ.

The poor memory in the Victim Group could be due to victims of negative events developing an emotional arousal state that impairs their poor memory and increases their suggestibility (Bruck, Melnyk, 2004). Eisen et al. (2007) suggests that trauma-related psychopathology may be associated with poorer memory and increased suggestibility due to abused and emotionally disturbed children being more easily distracted, are poorer at encoding new information, and cope less well with interviews and leading questions.

Hypothesis 2, which only applied to the Victim Group, was also supported in that the children allegedly abused by members of their own family (Intra-Family) scored significantly higher on Shift (.81, large effect size) than did those who alleged abuse by outsiders. No significant difference was found for Yield 2, although both Shift and Yield 2 were significant after controlling for memory recall. The Intra-Family abused group has significantly higher delayed recall score than the Extra-Family group, in spite of similar immediate memory scores. It means that the Intra-Family group was better able to retain memory over a one week period, which suggests differential effects on memory retention related to the nature of the perpetrator. This finding merits further investigation.

The reversal of the role of Shift and Yield 2 in relation to the two hypotheses merits a comment. Shift refers the extent to which the children shifted their answers after negative feedback

irrespective of direction of the shift. Yield 2 refers to level of suggestibility after the negative feedback has been administered. With regard to the large difference in Yield 2 between the Victim and Control groups, in contrast to no significant difference in Yield 1, it suggests that the effect of the abuse is to make them exceptionally vulnerable to giving in to leading questions after being provided with negative feedback. The situation is somewhat different in relation to Intra-Family versus Extra-Family abuse groups. Here Shift more powerfully distinguished between the groups. It suggests that those children who are suspected of sexual abuse within the family, are additionally vulnerable to further shifting their answers in either direction. Both groups are very vulnerable during questioning where there is interrogative pressure, but the Intra-Family group more so, presumably due to the greater trauma associated with abuse by family members (Browne & Finkelhor, 1986). Taken together the findings in relation to H1 and H2, they strongly suggest that any challenges to the answers of children suspected of being victims of sexual abuse during police questioning and in Court should be treated with extreme caution in order to avoid misleading testimony, perhaps following the advocacy interview model, which adds a protective factor to the interview process (Gudjonsson, Sveinsdottir, Sigurdsson, & Jonsdottir, 2010).

Discriminant validity was supported in that delayed suggestibility did not differ significantly between the Intra-Family and Extra-Family groups and differences between Victim and Control groups, although significant, had a low effect size. In the current study immediate suggestibility was significantly negatively associated with immediate and delayed memory, whereas there was no significant relationship between delayed suggestibility and memory in the current study. Lee (2004) found that associative memory was positively correlated with delayed suggestibility but negatively with immediate suggestibility, which suggests that these are different types of suggestibility. Lee also found no correlation between immediate and delayed suggestibility, which is consistent with the findings in the current study. This does not mean that delayed suggestibility is not relevant to the reliability of testimony in real life cases. Indeed, it is likely to be highly relevant in cases where

suspects are extensively interrogated over a long period of time, where the main vulnerability of people with a history of memory distrust is that they tend to confuse misinformation (delayed suggestibility) with authentic information during persuasive interviewing (Gudjonsson et al., 2014).

In agreement with the literature (Ridley & Gudjonsson, 2013), the present study suggests that psychosocial factors are more reliably associated with immediate rather than delayed suggestibility. Adverse life-events may predispose an individual to be suggestible. The victims may suffer from emotional and psychosocial vulnerability, caused by having experienced a trauma such as sexual abuse. This vulnerability is associated with higher levels of immediate suggestibility in terms of yielding to leading questions when under interrogative pressure.

It is likely that reporting abuse within the family generally activates a higher level of emotional and relational stress in children and adolescents because of the betrayal of trust and the consequences that such an event has on them and on their family system. Sometimes, in fact, in order to safeguard the child the abuser is removed from the family, in other instances it is the child who is placed in an institutional setting and thus removed from his/her home environment. In either case family links are discontinued and often broken up. The main limitation of the current study is that it is not possible to differentiate between the impact of the stress associated with the abuse and that of the judicial process.

The current study adds significantly to previous studies by focusing on the child's ability to cope with interrogative pressure, which has been neglected in the literature. In an early study, Gudjonsson and Singh (1984) showed that whilst adolescents did not differ from adults on Yield 1, but obtained significantly higher scores on Shift and Yield 2, which the authors interpreted as unique vulnerability in this age group associated with difficulties coping with interrogative pressure and dependence on authority figures. Until Gudjonsson's work in the 1980s researchers were only focusing on the effect of misleading questions and misinformation, not on the effects of interrogative pressure (i.e. Shift and Yield 2). The current findings suggest that sexual abuse leaves

children vulnerable to impaired memory capacity and adversely affects their ability to cope with interrogative pressure during questioning, even after controlling for their IQ and impaired memory. This has important implications for the way these children are interviewed by police, social services, and the court, because if not carefully interviewed their high level of suggestibility may undermine their credibility as witnesses to genuine abuse.

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