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Age and memory related changes in children's immediate and delayed suggestibility using the Gudjonsson Suggestibility Scale

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Abstract

The main aim of this study was to investigate age, gender and memory effects on 'immediate' and 'delayed' suggestibility among children, and the relationship between immediate and delayed suggestibility. The participants were 1183 children aged between 7 and 16 years, who had been subdivided into three age groups (7-9, 10-12, and 13-16 years). All children completed the Gudjonsson Suggestibility Scale (GSS 2) and a non-verbal IQ test. Delayed suggestibility was measured after a one week delay. There were significant age and immediate memory effects across the three age groups with regard to immediate suggestibility. Immediate recall was a better predictor of Yield 1 and Yield 2 than Shift. Age predicted immediate suggestibility beyond immediate recall. No gender effects were found. Immediate and delayed suggestibility were significantly correlated in the two older age groups, but the effect sizes were small. The results suggest that immediate and delayed suggestibility are poorly correlated, and age and immediate recall only predict immediate suggestibility, suggesting that they are underpinned by different processes. What they have in common is poor source monitoring (discrepancy detection), but differ in terms of how the interviewee processes the flawed source monitoring over time.

Key words: Children, source monitoring, immediate and delayed suggestibility, gender, age, memory.

1. Introduction

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). This type of suggestibility is relevant to the police interviewing of both child and adult witnesses and suspects and is seen as a potential vulnerability or risk factor when obtaining a reliable account of events (Gudjonsson, 1992, 1997, 2003).

There are two complimentary approaches available for assessing suggestibility, originally referred to as the ‘individual differences’ and ‘experimental’ approaches (Schooler & Loftus, 1986). These represent the measurement of ‘immediate’ and ‘delayed’ suggestibility, respectively (Ridley & Gudjonsson, 2013). Immediate suggestibility refers to the immediate effects of asking leading questions and applying interrogative pressure and is typically measured by the Gudjonsson Suggestibility Scales (GSS 1 and GSS 2; Gudjonsson, 1984, 1987, 1997). In contrast, delayed suggestibility measures the extent to which the person incorporates misleading post-event information into their subsequent recollection (‘misinformation’ effects) and follows the experimental paradigm of Loftus, Miller and Burns (1978). It is typically comprised of a three-stage misinformation paradigm (Chrobak & Zaragoza, 2013; Ridley & Gudjonsson, 2013): (1) witnessing an event, (2) exposure to misleading post-event information, and (3) a delayed test to see if the misleading post-event information presented earlier leads to a suggestible response. Therefore, unlike immediate suggestibility it is measured in a subsequent test to that of the initial suggestion (Chrobak & Zaragoza, 2013; Lee, 2004; Loftus, 1979; Schooler & Loftus, 1993). The central cognitive mechanism that is thought to drive immediate and delayed suggestibility is faulty

'discrepancy detection' (Schooler & Loftus, 1986), also known as source monitoring errors (Chrobak & Zaragoza, 2013).

Lee (2004) did not find a significant relationship between immediate suggestibility, using the GSS 2, and a separate misinformation paradigm (delayed suggestibility) with children and adolescents (age range 7 to 17 years). In this study, Lee found that age predicted immediate suggestibility, but not delayed suggestibility.

Vagni, Maiorano, Pajardi, and Gudjonsson (2015) measured the relationship between immediate and delayed suggestibility in children (7 to 16 years), using the same test (i.e. the GSS 2), and found no significant association. Furthermore, unlike immediate suggestibility, delayed suggestibility was not found to be related to either immediate or delayed recall on the GSS 2.

In spite of a similar source monitoring mechanism, the results of these studies suggest that there are some fundamental differences between immediate and delayed suggestibility, probably reflecting different psychological processes (Ridley & Gudjonsson, 2013). Only immediate suggestibility appears to be associated with immediate recall and age. There appears to be little or no relationship between immediate and delayed suggestibility. The studies of Lee (2004) and Gudjonsson et al. (2015) did not investigate gender differences in immediate and delayed suggestibility, but mixed results have been obtained across different studies with Bruck and Melnyk (2004) suggesting no major effects.

The main purpose of the present study is to examine these four issues (effects of memory, age and gender on immediate and delayed suggestibility, and the relationship between immediate and delayed suggestibility) in a large study with definitive power. A second aim is to investigate the Cronbach's Alpha Coefficient of immediate suggestibility across three children's age band groups: 7-9, 10-12, and 13-16 years, in case there are age differences in the internal consistency scores. Gignac and Powell (2009) had reported a satisfactory internal consistency for Yield not for Shift on the GSS 2 among of group of 220 children aged 5.3-13.2 years, but no age effects were tested.

Importantly, the use of the GSS 2 for children below the age of 7 has not been recommended (Gudjonsson, 1997) and this may have undermined the results of the study. Danielsdottir, Sigurgeirsdottir, Einarsdottir, and Haraldsson (1993) had found that some of their 6 year old participants had experienced problems with engaging in the GSS 2 task. Therefore, in the current study we have chosen to test children between the age of 7 and 16.

There were four hypotheses:

Hypothesis 1 (H1): There will be significant age group band effects on the GSS 2 memory and suggestibility scores with younger children having poorer memory and being more suggestible than the older children.

Hypothesis 2 (H2): Age will predict the GSS 2 suggestibility scores after controlling for IQ and memory (incremental effects).

Hypothesis 2 (H3): Immediate and delayed suggestibility will be significantly correlated.

Hypothesis 2 (H4): The Gudjonsson Suggestibility Scales, Yield 1, Yield 2, Shift 2, and Total Suggestibility, will have satisfactory internal consistency (Cronbach's Alpha Coefficient) among all three age groups.

2. Method

2.1 *Participants*

A total of 1183 children and adolescents participated in the study. They had a mean age of 11.3 years (SD = 8.6). There were 615 boys (52%) and 568 girls (48%). For the purpose of the study they were divided into the following three age band groups:

1. 7-9 years (n = 381; mean age = 8.09, SD=0.81; 49% girls).
2. 10-12 years (n = 360; mean age = 11.06; SD=0.87; 46% girls).
3. 13-16 years (n = 442; mean age =14.15; SD=1.05; 49% girls).

Participants were selected randomly from several Italian schools and they came from different geographical areas of Italian regions and social classes. None of the participants had a diagnosis of learning disabilities.

3. Instruments

3.1. *Gudjonsson Suggestibility Scale 2(GSS 2; Gudjonsson, 1987a, 1987b, 1997, 2013)*

The recently published Italian Version of the GSS 2 for children and adolescents (Vagni et al. 2015) was used in the study.

The GSS 2 is comprised of a short story, followed by 20 questions, 15 of which are misleading. It provides a score of immediate and delayed recall, each comprising 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 to which 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).

3.2. *Raven's Matrices*

The Coloured Progressive Matrices (CPM) and Standard Progressive Matrices (SPM) (Raven, Court & Raven, 1998) were used in order to estimate the participants' intellectual abilities. 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 standard procedure (Gudjonsson, 1997). The story was read to the participants, participants were asked to listen carefully. They were then asked to make an immediate free recall. Delayed recall is typically obtained after 50 minute delay, but in the present study it was obtained on a separate session one week later. This allowed a measurement of delayed suggestibility (i.e. the number of misleading suggestions provided during Yield 1 and Yield 2,

which had become incorporated into the participant's recall of the story). Raven's Matrices were administered after immediate recall.

3.4. *Analytical strategy*

Means with their standard deviations were provided for continuous descriptive variables. Pearson correlations were performed to investigate the association between delayed suggestibility and the traditional GSS 2 memory and suggestibility scores. Where two groups are compared independent samples t-tests were used and Cohen's d was used to calculate effect sizes.

Cronbach's Alpha Coefficients were used to measure the internal consistency (reliability) of the suggestibility scales for the three age bands. Coefficients of .70 or above were considered satisfactory, although lower alpha may be acceptable due to the diversity of the personality constructs (Kline, 1999).

MANOVA was used to measure overall differences between the three age groups in GSS 2 scores, including delayed suggestibility, whilst controlling for differences in gender and IQ scores. This was followed up by univariate analyses in order to ascertain age group effect with respect to the individual GSS 2 scores. Effect sizes were measured by Partial Eta Squared (η^2).

Hierarchical Regression Analyses were performed on variables (IQ, immediate recall, age and gender) predicting suggestibility. The data was entered in two Steps; IQ and immediate recall in Step 1 and age and gender added in Step 2. This allowed an estimate of the variance in suggestibility explained by age and gender after controlling for the effects of IQ and immediate recall.

4. Results

The IQ scores for the three age groups were: 101.3 (SD = 9.4), 105.4 (SD = 8.9), and 105.1 (SD = 8.6), respectively with the youngest age group having the lowest mean IQ score (98% of the sample had an IQ score between 90 and 110). The difference between the three groups was significant, but with a low effect size ($F = 31.2$, $df = 2$, $p < .001$; $\eta^2 = .05$). Pairwise comparisons showed that the difference in the IQ scores was confined to the youngest age group only.

Independent samples t-tests showed no significant gender differences on any of the suggestibility scales, but girls had significantly higher immediate ($t = 4.2$, $df = 1$, $p < .001$; Cohen's $d = .25$) and delayed ($t = 4.5$, $df = 1$, $p < .001$; Cohen's $d = .28$) memory scores with small effect sizes.

Table 1 shows the mean GSS 2 scores for the three age bands and the Cronbach's Alpha Coefficients for the suggestibility scores. The GSS 2 suggestibility scales had satisfactory internal consistency among all three age bands, apart from Shift (alpha .65) in the 13-16 age groups.

MANOVA showed a significant main (overall) effect of group differences for the dependent variables (Pillai's Trace: $F = 14.1$, $p < .001$; $\eta^2 = .088$). There were small but significant effects of IQ (Pillai's Trace: $F = 16.0$, $p < .001$; $\eta^2 = .099$) and gender (Pillai's Trace: $F = 4.5$, $p < .001$; $\eta^2 = .030$).

Univariate tests showed significant group differences on all the dependent variables: Immediate Recall ($F = 79.2$, $df = 2$, $p < .001$; $\eta^2 = .134$); Yield 1 ($F = 23.4$, $df = 2$, $p < .001$; $\eta^2 = .044$); Yield 2 ($F = 21.5$, $df = 2$, $p < .001$; $\eta^2 = .040$); Shift ($F = 20.3$, $df = 2$, $p < .001$; $\eta^2 = .038$). Total Suggestibility ($F = 32.4$, $df = 2$, $p < .001$; $\eta^2 = .060$); Delayed Recall ($F = 55.0$, $df = 2$, $p < .001$; $\eta^2 = .097$); Delayed Suggestibility ($F = 3.7$, $df = 2$, $p < .05$; $\eta^2 = .007$).

Table 1 about here

Table 2 shows the correlation of delayed suggestibility with memory and immediate suggestibility. For age groups 10-12 and 13-16, immediate suggestibility was significantly correlated with

immediate recall (negative association) and all the suggestibility scores (positive association) with low to medium effect size. No significant relationship was found between delayed suggestibility and delayed recall for these two age groups. Only one of the correlations was found significant for the 7-9 year olds; delayed suggestibility was positively correlated with delayed recall.

Table 2 about here

Table 3 gives the results of the Hierarchical Regression Analysis. The largest overall effects of the dependent variables were with regard to Yield 1 and Yield 2, accounting for 12.1% and 12.8% of the variance, respectively. These are medium effect sizes, which were mainly related to the impact of immediate recall, and to a lesser extent age, on the Yield 1 and Yield 2 scores. Immediate recall and age contributed similarly to the variance in Shift, but the effect size was small (7.4%). The dependent variables accounted for a very small amount of the variance in delayed suggestibility (1.1%) with age and gender not accounting for any significant incremental effects.

Table 3 about here

5. Discussion

The article provides normative data on a large group of children between the ages of 7 and 16, separated into three age groups: 7-9, 10-12, and 13-16 years. GSS 2 suggestibility subscales had satisfactory internal consistency among all three age groups, apart from Shift (alpha .65) in the 13-16 age groups. This is encouraging since concerns have been raised about the borderline acceptability of the internal consistency of the Shift scale with children (Gignac & Powell, 2009). It is our view from the current data that both the Yield and Shift scales can be used as reliable scales with children from the age of seven years.

There were significant age effects across the three age groups as predicted. The largest differences (medium effect size) were found in relation to immediate and delayed recall. The differences in

Yield 1, Yield 2, Shift and Total Suggestibility were more modest, representing low effect sizes. One way of interpreting this finding is that memory capacity, as measured by the GSS, is a better predictor to suggestibility than age. The memory effects are likely to reflect the general developmental changes seen in the improved ability of children from the age of six years to utilize flexible memory strategies and processing resources (Gathrcole, Pickering, Ambridge, & Wearing, 2004). The reduced suggestibility with age is likely to be associated with improved memory capacity of the observed event (i.e., stronger original memory trace), better source monitoring (e.g., discrepancy detection), and social factors related to older children being less influenced by authority figures (Sutherland & Jayne, 2001). In the current study, the regression analysis showed significant effects of immediate recall on all suggestibility scores, including delayed suggestibility, but it was evident that the effects were stronger for Yield 1 and Yield 2 than Shift (i.e. medium versus small effect size), which is predicted by the Gudjonsson and Clark (1986) model and the available empirical evidence (Gudjonsson, 1997, 2003; Ridley & Gudjonsson, 2013).

Age predicted suggestibility after controlling for immediate memory, indicating that it has incremental effects beyond immediate recall. This is important, because it indicates that reduced suggestibility with age is not exclusively dependent on improved memory capaciety. Age had similar effects on Yield and Shift, unlike immediate memory, which may signify general suggestibility effects. These age related generalised suggestibility effects are likely to reflect improved source monitoring and greater social resistance among children between the ages of seven to 16 years (Gathrcole et al. 2004). The exception is delayed suggestibility. There were weak memory effects and no significant age effects. Lee (2004) obtained similar results measuring both immediate and delayed suggestibility. Age only predicted immediate suggestibility. Lee interpreted this finding as a sign that delayed suggestibility is more determined by individual than age differences in suggestibility.

The absence of a significant effect of IQ on the suggestibility scores can be explained by the normal range of IQ scores in the current study. IQ scores in the average range do not show a significant relationship with suggestibility (Gudjonsson, 1988).

The study supports the review findings of Bruck and Melnyk (2004) that there are no major gender effects on the suggestibility of children. In the present study there were very small effects in relation to Yield 1 and Yield 2 and no effects on Shift or delayed suggestibility. For practical purposes these differences are of no importance.

Unlike the findings of Lee (2004) and Vagni et al. (2015), a significant relationship was found between immediate and delayed suggestibility, but the effect sizes were small, which may account for the absence of a significant relationship in the previous studies where the samples sizes were much smaller. Interestingly, significant correlations were exclusively confined to the two older age bands (10-12, 13-16), suggesting that the association between the two types of suggestibility is not present before the age of 10 years. The lack of significance is not due to poor power, because the sample size in each of the three age groups was large. It is more likely to reflect subtle developmental differences in memory processing among the youngest age group, such as their relatively more reliance on delayed than immediate recall. For example, among the youngest age group, delayed suggestibility was positively correlated with delayed recall and not at all with immediate recall. The reverse was true for the two older age groups.

Ridley and Gudjonsson (2013) suggest that different processes may underpin immediate and delayed suggestibility and give as an example the finding that state anxiety increases immediate suggestibility but lowers delayed suggestibility. What they have in common is poor source monitoring (discrepancy detection), but differ in terms of how the interviewee responds and processes the source monitoring difficulties over time (Gudjonsson, Sigurdsson, Sigurdardottir,

Steinthorsson, & Sigurdardottir, 2014). Interviewees may not give in to leading questions and interrogative pressure, even if they have problems with source monitoring (Gudjonsson et al. 2007), which over time may leave them vulnerable to the acceptance of false information (Gudjonsson et al. 2014). Gudjonsson et al. (2014) suggest that delayed suggestibility, unlike immediate suggestibility, is particularly relevant to the development of a false memory syndrome (Gudjonsson & MacKeith, 1982).

The main strengths of the study were the large sample size, providing infinitive power, with a similar number of boys and girls being represented, the fact that both immediate and delayed suggestibility were measured, and IQ was tested and could be controlled for in the regression analyses. The main limitation is that due to the nature of the GSS 2 only children seven years and older could be tested. Therefore, information is missing on very young age groups and children as young as 3 ½ are sometimes interviewed in sexual abuse cases and able to give basic factual testimony (Gudjonsson, Sveinsdottir, Sigurdsson, & Jonsdottir, 2010).

In summary, the present study adds to the current knowledge about age related vulnerabilities of children during questioning and provides a unique insight into the relationship between immediate and delayed suggestibility.

References.

Bruck, M., & Melnyk, L. (2004) Individual differences in children's suggestibility: A review and synthesis. *Applied Cognitive Psychology, 18,* 947-996.

Chrobak, Q. M., & Zaragoza, M . S. (2013). The misinformatuion effect: Past research and recent advances. In A. M. Ridley, F. Gabbert, & D. J., La Rooy (Eds.), *Suggestibility in legal contexts. Psychological research and forensic implications* (pp. 21-44). Chichester. Wiley-Blackwell.

Danielsdottir, G., Sigurgeirsdottir, S., Einarsdottir, H. R., & Haraldsson, E. (1993). Interrogative suggestibility in children and its relationship with memory and vocabulary. *Personality and Individual Differences, 14*, 499-502.

Gathrcole, S. E., Pickering, S. J., Ambridge, B., & Wearing, H. (2004). The structure of working memory from 4 to 15 years of age. *Developmental Psychology, 40*, 177-190.

Gignac, G. E. & Powell, M. B. (2009). A psychometric evaluation of the Gudjonsson Suggestibility Scales: Problems associated with measuring suggestibility as a difference score composite. *Personality and Individual Differences*, 46, 88–93.

Gudjonsson, G. H. (1984). A new scale of interrogative suggestibility. *Personality and Individual Differences, 5*, 303–314.

Gudjonsson, G. H. (1987a). A parallel form of the Gudjonsson Suggestibility Scale. *British Journal of Clinical Psychology, 26*, 215–221.

Gudjonsson, G. H. (1997b). *The Gudjonsson Suggestibility Scales Manual*. Hove. Psychology Press.

Gudjonsson, G. H. (1992). The Psychology of Interrogations, Confessions, and Testimony. Chichester: John Wiley & Sons.

Gudjonsson G.H. (2003). *The Psychology of Interrogations and Confessions. A Handbook*. Chichester. John Wiley & Sons.

Gudjonsson, G. H. (1988). The relationship of intelligence and memory to interrogative suggestibility: The importance of range effects. *British Journal Clinical Psychology*, *27*, 185-187.

Gudjonsson, G. H. (2013). Interrogative suggestibility and compliance. In Anne M Ridley, Fiona Gabbert, & David J La Rooy (Eds.), *Suggestibility in legal contexts. Psychological research and forensic implications.* Chichester. Wiley-Blackwell, pp. 45-61.

Gudjonsson, G. H. (2013). Interrogative suggestibility and compliance. In Anne M Ridley, Fiona Gabbert, & David J La Rooy (Eds.), *Suggestibility in legal contexts*. *Psychological research and forensic implications* (pp. 45-61). Chichester. Wiley-Blackwell.

Gudjonsson, G. H., & Clark, N. K. (1986). Suggestibility in police interrogation: A social psychological model. *Social Behaviour*, *1*, 83-104.

Gudjonsson, G. H. & MacKeith, J. A. C. (1982). False Confessions. Psychological Effects of Interrogation. A Discussion Paper. In A. Trankell (Ed.), *Reconstructing the Past: The Role of Psychologists in Criminal Trials*. Deventer, The Netherlands: Kluwer. Pp. 253-269.

Gudjonsson, G. H., Sveinsdottir, T., Sigurdsson, J. F., and Jonsdottir, J. K. (2010). The ability of victims of childhood sexual abuse (CSA) to give credible evidence. Findings from a

National Child Advocacy Center. *The Journal of Forensic Psychiatry and Psychology*, *2*1, 569-586.

Gudjonsson, G. H., Sigurdsson, J. F., Sigurdardottir, A. S., Steinthorsson, H., & Sigurdardottir, V. M. (2014). The role of the memory distrust in cases of internalised false confessions. *Applied Cognitive Psychology*, *28*, 336-348.

Gudjonsson, G. H., Young, S. and Bramham, J. (2007). Interrogative suggestibility in adults diagnosed with attention-deficit hyperactivity disorder (ADHD). A potential vulnerability during police questioning. *Personality and Individual Differences*, *43*, 737-745.

Klein, P. (1999). *The handbook of psychological testing* (2nd edition). London: Routledge.

Lee, K. (2004). Age, neuropsychological, and social cognitive measures as predictors of individual differences in susceptibility to the misinformation effect. *Applied Cognitive Psychology*, *18*, 997-1019.

Loftus, E. F. (1979). *Eyewitness testimony*. Cambridge, MA: Harvard University Press.

Loftus, E. F., Miller, D. G., & Burns, H. J. (1978). Semantic integration of verbal information into a visual memory. *Journal of Experimental Psychology: Human Memory & Learning*, *4*, 19-31.

Ridley, A. M., & Gudjonsson, G. H. (2013). Suggestibility and individual differences: psychosocial and memory measures. In A. M. Ridley, F. Gabbert, & D. J., La Rooy (Eds.), *Suggestibility in legal contexts. Psychological research and forensic implications* (pp. 85-106). Chichester. Wiley-Blackwell.

Raven, J., Court, J. H., & Raven, J. C. (1998). *Raven Manual, Section 1 (General overview) and Section 2 (Coloured Progressive Matrices)*. Oxford, UK. Oxford Psychology Press.

Schooler, J. W., & Loftus E. F. (1986). Individual differences and experimentation: complimentary approaches to interrogative suggestibility. *Social Behaviour, 1*, 105-112.

Vagni, M., Maiorano, T., Pajardi, D., & Gudjonsson, G. H. (2015). Immediate and delayed suggestibility among suspected child victims of sexual abuse. *Personality and Individual Differences, 79*, 139-133.

Table 1. Reliability Analyses on the Italian version of Gss2 for Age group

Variables GSS2	*Age Group*	*N*	*M*	*SD*	*Cronbach's Alpha Coefficient*
Immediate Recall	7-9	381	10.88	5.37	
	10-12	360	15.26	5.35	
	13-16	442	16.22	5.61	
	Total Sample	1183	14.21	5.93	
Yield1	7-9	381	8.37	3.22	.78
	10-12	360	6.74	3.43	.81
	13-16	442	6.32	3.60	.82
	Total Sample	1183	7.11	3.54	.81
Yield 2	7-9	381	9.19	3.24	.77
	10-12	360	7.76	3.84	.83
	13-16	442	7.02	3.96	.85
	Total Sample	1183	7.95	3.81	.83
Shift	7-9	381	5.67	3.49	.70
	10-12	360	4.73	3.23	.73
	13-16	442	3.96	2.77	.65
	Total Sample	1183	4.74	3.21	.71
Total	7-9	381	13.98	5.07	.70
	10-12	360	11.48	5.46	.78
	13-16	442	10.29	5.22	.75
	Total Sample	1183	11.84	5.47	.77
Delayed Recall	7-9	343	9.46	4.92	
	10-12	321	12.49	5.24	
	13-16	366	14.31	5.65	
	Total Sample	1030	12.13	5.66	
Delayed Suggestibility	7-9	343	.69	1.05	
	10-12	321	.70	.93	
	13-16	366	.52	.79	

Total Sample	1030	.63	.93

Table 2. Pearson correlations between Delayed Suggestibility and GSS2 scores

	Age Group	Immediate recall	Yield1	Yield2	Shift	Total	Delayed Recall
Delayed Suggestibility	7-9	.017	.098	.076	.033	.073	.116*
	10-12	-.158**	.227***	.208***	.147**	.227***	-.078
	13-16	-.159**	.237***	.304***	.115*	.218***	-.069
	Total Sample	-.108**	.190***	.203***	.106**	.178***	-0.31

*p < 0.05; **p < 0.01; ***p < 0.001

Table 3. Summary of Hierarchical Regression Analysis for variables predicting suggestibility.

Explanatory variable	**B**	**SE B**	**Exp (B) (95% CI)**
Yield 1:			
IQ	-.020	.012	-.049 (-.043, .004)
Recall	-.159	.019	-.267 (-.196, -.123)***
Age	-.158	.039	-.120 (-.234, -.081)***
Gender	-.444	.195	-.063 (-.825, -.062)*
Note. Adjusted R^2 = .121; **Δ**R^2 = .017 for Step 2 (p < .001).			
Shift:			
IQ	-.002	.011	-.005 (-.024, .020)
Recall	-.092	.017	-.172 (-.126, -.057) ***
Age	-.196	.036	-.164 (-.267, -.124) ***
Gender	-.055	.181	-.009 (-.410, .301)
Note. Adjusted R^2 = .074; **Δ**R^2 = .023 for Step 2 (p < .001).			
Yield 2:			
IQ	-.025	.013	-.057 (-.050, .000)
Recall	-.178	.020	-.276 (-.217, -.138) ***
Age	-.164	.042	-.115 (-.246, -.082) ***
Gender	-.506	.209	-.066 (-.916, -.095) *
Note. Adjusted R^2 = .128; **Δ**R^2 = .016 for Step 2 (p < .001).			
Delayed suggestibility:			
IQ	-.002	.004	-.018 (-.009, .005)
Recall	-.015	.006	-.094 (-.026, -.004) *
Age	-.011	.012	-.030 (-.034, .013)
Gender	-.073	.058	-.039 (-.188, .042)
Note. Adjusted R^2 = .011; **Δ**R^2 = .002 for Step 2 (ns).			

*p < 0.01; **p < 0.001.