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Credibility assessment to perceived and imagined memory descriptions

Antonio L. Manzanero & Margarita Diges[1]

ABSTRACT

The effects of preparation on perceived and imagined memory descriptions were examined in previous research (Manzanero & Diges, in press). Preparation produced more detailed reports for both internal and external memories, but also it reduces statements' qualities. Now, descriptions of imagined and perceived events under two different preparation levels were given to be discriminated respect of their origin (source monitoring judgments). Results showed descriptions were more likely to be attributed by judges to perception than to imagination if descriptions contained moderate levels of sensorial and contextual details than if they contained high or low levels of sensorial and contextual details. Moreover, people use some of the same cues to judge the source of other people's memory descriptions as they use in making attributions about the source of their own memories.

Memories for perceived and imagined complex events differ in several characteristics. As Johnson and others have shown (e.g. Johnson & Raye, 1981; Johnson, Foley, Suengas & Raye, 1988, Suengas & Johnson, 1988) , memories for self-generated events (i.e. dreams, fantasies, imaginations…) contain more sensorial and contextual details and more semantic information and less mentioning of cognitive processes than memories for perceived events. People use such differences to discriminate between autobiographical memories of perceived and self-generated events. In addition, Schooler and others (Schooler, Gerhard & Loftus, 1986; Schooler, Clark & Loftus, 1988) have shown that people would use these same differences in trying to ascertain the origin of other people's memories. As Wells and Lindsay (1983) purposed the "memory judge" assigns credibility to other people's memories in terms of self-based judgments. "The processing of conditional information is heavily biased toward self-referencing" (Wells & Lindsay, 1983, pp.48). On the other hand, other researchers (e.g. Trankell, 1972; Undeutsch, 1988) have applied similar attributes to the statement reality analysis in the case of infant sexual abuse.

Other studies have shown that descriptions of events may reflect not only characteristics of initial memories for the events, but also the memorial effects of subsequently thinking and/or talking of the events (Johnson and Suengas, 1988; Manzanero and Diges, 1994 a), preparation of the statements (Manzanero and Diges, in press), multiple retrieval and retention interval (Manzanero and Diges, 1994 b), and post-event information (Schooler, Gerhard y Loftus, 1986).

In the present study, we were interested in 1) the effects of preparation on witnesses' descriptions of events (Manzanero and Diges, in press); and 2) the effect of witnesses' preparation on judges' attributions about the origin of witnesses' memories. To manipulate the type of preparation in which witnesses engaged, we asked

[1] Dpt. Basic Psychology. Autonoma University of Madrid. 28049 Madrid. Spain.

E-mail: "antonio.manzanero@uam.es"

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them to prepare and make coherent as a whole the statements before they described the event.

PHASE 1: Collection of the descriptions

Method: A total of 64 students from the Autonoma University of Madrid participated in this first phase, Subjects were randomly assigned to four groups corresponding to the four different conditions.

Perceptual Condition

32 subjects viewed a video-taped filmed event about a traffic crash during 27 seconds. Some minutes later, half the subjects were asked to prepare their statements about the event before they described it. While the other subjects were asked to give free recall whatever they could remember in whatever order they wished.

Imagined Condition

A schematic description of the same event was given to the others 32 subjects, and they were asked to imagine as vividly as possible the event. Some minutes later, half of the subjects were asked to prepare the free recalls and the remained were asked to give unprepared free recalls in the same way as that of the perceptual conditions.

A 2x2 factorial design was used, which included the between-subjects manipulation of two variables: the origin of the memory (perceived vs. imagined) and the preparation of reports (prepared vs. unprepared). And, the free recall measures included: accuracy variables (sensorial and contextual details and distortions) and qualitative variables (explanations, length of the narrative, changes in the narrative order, reference to cognitive processes, dubitative expressions, impossible information and spontaneous corrections). Half the subjects were asked to remember a filmed traffic accident (27 secs. duration). The other subjects were presented with a verbal description of the accident and were asked to imagine it. Half of each group were instructed to prepare the reports before giving in them; the other half were not instructed to do this. Then, the reports were typed and analyzed by two independent trained judges in terms of the presence or absence of the quantitative and qualitative variables. The scoring system used to analyse the statements was developed and validated in previous studies (e.g., Diges, 1988)

Results and discussion

The 64 descriptions were transcribed. Two scorers evaluated the transcripts according to five categories: sensorial and contextual details, mentioning of cognitive processes (e.g., remember, thought, …), number of words, semantic information (functional explanations) and hesitant expressions were mentioned in each description. Both scorers agreed 100% in all measures. Initial disagreements were resolved by discussion. Means values for each measure are shown in table 1. A 2x2 (origin x prepared condition) mixed analysis of variance was performed on each measure.

Accuracy measures

Main effects for origin were found in sensorial and contextual details, $F(1,60)=164.782$, $p<.001$.

Imagined descriptions contained more sensorial and contextual details than perceptual ones. Also, main effects for preparation condition were found in sensorial and contextual details, $F(1,60)=5.36$, $p<.05$. Preparation produced an increase of details. No main effects were found for origin x preparation condition.

Qualitative measures

Main effects for origin were found in the length of the narratives, $F(1,60)=20.233$, $p<.001$; semantic information, $F(1,60)=4.722$, $p<.05$; and hesitant expressions, $F(1,60)=6.691$, $p<.01$. Perceptual descriptions contained more semantic information and more hesitant expressions, but less number of words. Main effects for prepared condition were found only in hesitant expressions, $F(1,60)=5.874$, $p<.01$. Prepared descriptions contained more hesitant expressions than spontaneous ones. There were main effects of origin x prepared condition only in hesitant expressions, $F(1,1,60)=5.874$, $p<.01$. Posteriori analysis (Scheffe) have shown that only prepared perceptual descriptions differed from other conditions (Scheffe=.561, $p<.05$ compared with spontaneous perceptual descriptions; Scheffe=.545, $p<.05$ with prepared imagined descriptions; and Scheffe=.545, $p<.05$ with spontaneous imagined descriptions).

Figure 1. Mean scores in dependent measures

	Prepared conditions			
	Spontaneous		Prepared	
	P	I	P	I
Length	96.667	182.765	133.133	180.294
Semantic inf.	2.467	2.294	3.2	1.118
Sensorial & contextual	10.8	27.235	12.8	31.588
Cognitive processes	2	3.353	1.8	2.294
Hesitant expressions	0.267	0.235	1.2	0.235

Note. origin of the memory: P = perceived, I = imagined

Discussion

Results show that the origin of memory descriptions —perception or imagination— significantly affects the accuracy features of the descriptions. Imagination-originated memories contained more sensorial and contextual details, which was not in the expected direction, especially given Johnson and others' results. So, these results motivated a revision of the imagined instructions. This revision shows that the number of sensorial and contextual details may be produced by the wide description given to imagined-condition subjects. In addition, items to be imagined were given sequentially while items to be perceived were given in parallel, and in a very short interval (27 secs.). The same is true for the number of words. However, semantic information and hesitant expression were in the expected direction.

PHASE 2: Origin judgments

Although we found few differences between prepared and spontaneous descriptions, narratives from perceived and imagined events were clearly different (Manzanero & Diges, in press). However, these differences may be produced for imagined instructions. Thus, phase 2 assessed a) whether internal and external features affect new subjects' judgments about the origin of events; b) what intuitive theories subjects have about the characteristics of imagined and perceived events. To manipulate the memory descriptions' features two descriptions of each previous phase condition were chosen. Taken into consideration were their scores in sensorial and contextual details and in idiosyncratic information (mentioning of cognitive processes and hesitant expressions), which are the main differential features as Johnson and others (e.g. Johnson & Raye, 1981; Johnson, Foley, Suengas & Raye, 1988, Suengas & Johnson, 1988) have shown.

Two pair of descriptions (imagined and prepared) were given to subjects, and they were asked to judge their origin taking into consideration that one of both was perceived and the other was imagined. Once subjects had judged each description they were asked to answer some questions on their certainty of each judgment and about the characteristics on which they based each judgment, i.e. to give reasons for their decisions.

Method

A total of 16 students from the Autonoma University of Madrid, who had not participated in phase 1 of the experiment participated in this second phase. Each student judged the origin of four different narratives from two pair of descriptions in which one was imagined and the other was perceived. 16 different pairs of descriptions were judged.

Results and discussion

Judgments

Figure 2 shows the overall frequencies of subjects' responses. Subjects differentiated correctly perceived from imagined descriptions 62.5 % of the cases. However, subjects could reliably differentiate perceived from imagined when pair of descriptions included one prepared and other spontaneous memory descriptions (overall mean correct identification of origin = 75%). In contrast, they could not differentiate when both descriptions were spontaneous or both were prepared. Thus the overall results indicated that subjects' judgments were affected by the preparation of the descriptions. Or, in other words, they were affected by the number of sensorial and contextual details and idiosyncratic information. As figure 3 shows, descriptions were more likely to be attributed by judges to "perception" than to "imagination" if descriptions contained moderate levels of sensorial and contextual details than if they contained high or low levels of sensorial and contextual details.

Figure 2. Percentage of correct responses

		Imagined	
		Spontaneous	Prepared
Real	Spontaneous	50%	75%
	Prepared	75%	50%

Confidence

Correlation between confidence and judgment accuracy were analysed. Results show null correlation, r=.229, f.d.=14, p>.05, which fit previous studies.

Subjects' reasons

Subjects provided several reasons for deciding whether descriptions corresponded to perceived or imagined events, and these were classified according to four categories: detailed descriptions, length of the descriptions, presence of hesitant expressions, and others. 100% of the subjects mentioned the number of details as a reason for their decision. But the real effect of this factor on imagined and real descriptions varied from one subject to the other. 62,5% of the subjects had correct knowledge of it, they judged correctly the origin of the descriptions. 37,5% of the subjects had erroneous knowledge of it (v.g., memories from imagined events should be more detailed that from real events), they judged erroneously the origin of the descriptions. 15,6% of the subjects reported that they believed events had been imagined if the description contained hesitant expressions or sounded vague. In contrast, 9.4% subjects reported that events had been perceived for the same reason. The length of the descriptions was mentioned in 29,03% of the total. Subjects reported that events had been perceived when descriptions were large (16,13% of the reasons); and that events had been imagined for the same reasons in 12,9% of the reasons.

Discussion

In summary, it may be when descriptions are at the same preparation condition that subjects are not able to distinguish the origin of the events. Furthermore, when subjects compare descriptions at different levels of preparation they are able to distinguish the origin of the events. In other words, when the features of the descriptions are more different (spontaneous condition) and when they are less different (prepared condition) subjects don't differentiate imagined from perceptual memory descriptions.

Figure 3. Mean scores of sensorial and contextual details and of idiosyncratic information in each type of description; and their classifications with respect to the pair compared

Note. IE=spontaneous imagined, IP=prepared imagined, RE=spontaneous real, RP=prepared real

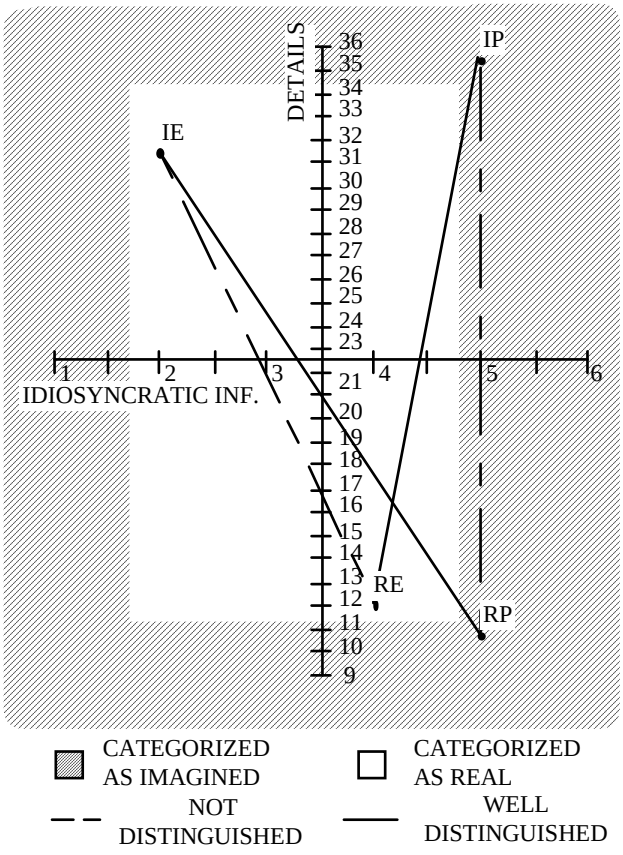

Figure 3 shows overall means of sensorial and contextual details and of idiosyncratic information for each type of description. As it seems, descriptions were more likely to be attributed by judges to perception than to imagination if descriptions contained moderate levels of sensorial and contextual details than if they contained high or low levels of sensorial and contextual details. The results were not in the expected direction, especially given Johnson and others' results. Albeit if we take into consideration common sense theories on credibility, results are in agreement with what says "all extreme is not from true —reality—" (v.g., subject number 4 affirmed that "the narrative nº 48 is describing too much detail, so it should be imagined"). In the opposite, a narrative described with very few details would be considered as unreal. These common sense theories also fit in with subjects' reasons for deciding whether descriptions corresponded to imagined or perceived events. When two spontaneous descriptions were compared, subjects presented great problems in to deciding. Spontaneous perceived descriptions contained moderate levels of sensorial and contextual details and of idiosyncratic information, the same was to spontaneous imagined descriptions. So, both would be considered as likely to be perceived. Judgments would be assigned by chosen.

The same would be when two prepared descriptions were compared. But, in this case, both descriptions would be considered as likely to be imagined. Prepared perceived and imagined descriptions contained too high or too low levels of sensorial and contextual details. Now, both descriptions presented similar levels of idiosyncratic information. Furthermore, it is interesting to point out that subjects affirmed they based their decisions on the same variables proposed by Johnson and others (e.g. Johnson & Raye, 1981; Johnson, Foley, Suengas & Raye, 1988, Suengas & Johnson, 1988) and Schooler and others (Schooler, Gerhard y Loftus, 1986).

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