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BRIEF ARTICLE

Does displayed enthusiasm favour recall, intrinsic motivation and time estimation?

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ABSTRACT

Displayed enthusiasm has been shown to relate to intrinsic motivation, vitality, and positive affect, but its effects on recall performance and time estimation have not yet been explored. This research aimed at studying the effects of a delivery style characterised by High Enthusiasm (HE) on recall, time estimation, and intrinsic motivation. In line with previous studies, effects on intrinsic motivation were expected. In addition, higher recall and lower time estimations were hypothesised. In two experiments, participants assigned to a HE condition or to a normal reading control condition listened to a narrative and to a descriptive passage. Then, they were asked to rate perceived time, enthusiasm, pleasure, interest, enjoyment and curiosity, before writing a free recall. Experiment 1 showed that in the HE condition, participants recalled more, were more intrinsically motivated, and expressed lower time estimations compared to the control condition. Experiment 2 confirmed the positive effects of HE reading compared to normal reading, using different passages and a larger sample.

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Enthusiasm; recall; intrinsic motivation; positive affect

Enthusiasm is a high energising state which can stem from a positive emotional experience (Frenzel, Goetz, Lüdtke, Pekrun, & Sutton, 2009), an expectation of a reward (Shiota, Neufeld, Yeung, Moser, & Perea, 2011), or the fulfilment of motives such as autonomy, competence, and relatedness (Ryan & Deci, 2000). In addition, it can also be conceived as a style of delivering information (Kunter, Frenzel, Nagy, Baumert, & Pekrun, 2011), characterised by a display of interest, by a pursuit of goals, by high levels of engagement, arousal and excitement (Pekrun, 2006), and by a set of non-verbal behaviours and gestures which can be easily recognised as a display of enthusiasm: varied vocal delivery, expansive body movements, wide-open eyes, face lighting up, and frequent demonstrative gestures (Collins, 1978). These are also referred to as expressiveness or immediacy (Babad, 2007; Harris & Rosenthal, 2005) because they communicate an implicit message of approach, closeness, and liking (Frymier, 2013; Mehrabian, 1971).

This study focuses on the latter definition of enthusiasm as a delivery style conveying interest, engagement, and joy. Previous studies, as reviewed below, have examined the effects of displayed enthusiasm on a range of emotional and motivational factors, and on school achievement, whereas no study has ever focused on recall, which is surprising. Due to emotional transmission and contagion (Hatfield, Cacioppo, & Rapson, 1994), it is natural that an enthusiastic person conveys to others the same or a similar affective state and create a positive climate that favours engagement and positive assessments of performance. However, it is worth exploring whether information transmitted with an enthusiastic delivery style can be recalled more readily. This study will test the hypothesis that this is true.

Effects of a modality to deliver information characterised by the presence of enthusiastic behaviours will be explored on recall performance, intrinsic motivation (pleasure, interest, curiosity), and time estimation. The main hypothesis is that the enthusiastic delivery style will favour recall as well as intrinsic motivation and time estimation, considered to be an index of emotional involvement. This should depend

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on that fact that displayed enthusiasm conveys positive affect, defined as experience of pleasurable emotions such as excitement, pride, and enjoyment, and intrinsic motivation, which in turn should favour some cognitive processes such a recall. The literature about these points will be reviewed below.

Displayed enthusiasm conveys positive affect and favours intrinsic motivation

Enthusiasm can be expressed towards a subject, perceived as interesting and pleasurable, or towards teaching, that is for transmitting knowledge about a subject to others. The level of perceived enthusiasm has been found to affect the quality of teaching, measured by the students' perceptions of cognitive challenge, monitoring, and social support (Kunter et al., 2008), thereby leading to positive affect.

Displayed enthusiasm as perceived by students mediates the relation between teachers' and students' enjoyment of mathematics (Frenzel et al., 2009). This means that the more teachers display enthusiasm, the higher the positive affect in the students. It is worth noting that this applies in a subject which is generally not enjoyed by students, thus suggesting that effects could be even stronger in subjects that are enjoyed more. Patrick, Hisley, Kempler, and College (2000) found that a 7-minute lecture delivered by a highly expressive experimenter produced increased intrinsic motivation and vitality, compared to the same lesson given without any signs of displayed enthusiasm (study 2). They also found (study 1) that the students' perceived enthusiasm was the strongest predictor of their intrinsic motivation, when compared with 12 other behaviours. In the realm of English learning, Hsu (2010) found that some expressions of enthusiasm such as smiling, use of gestures, and of a variety of vocal expressions, rather than a monotone voice, affected students' motivation, thus confirming that displayed enthusiasm increases motivation.

Linked to both motivation and affect is the perception that time passes fast or seems never to pass. This refers to time estimation compared to actual time elapsed. When a person is motivated and experiences a positive affect, time seems to run fast. On the other hand, when a person does not experience a positive affect, but feels bored or stressed, time seems to pass very slowly. Therefore, displayed enthusiasm should favour a shorter time estimation compared to a control condition, as it is associated with a pleasurable and motivating setting. However, these are just speculations that need empirical support. To the best of our knowledge, no study to date has addressed effects of displayed enthusiasm on time estimation. Our hypothesis is that the positive climate characterised by enjoyment and motivation which depend on the perceived displayed enthusiasm should favour a shorter time estimation.

Positive affect and intrinsic motivation favour learning

Positive affect and intrinsic motivation are distinct but interlinked variables, both favoured by displayed enthusiasm and both related to learning.

Defined as an experience of pleasurable emotions (i.e., excitement or enjoyment), positive affect favours cognitive processes, such as attention, reasoning, and memory, through global processing, a phenomena known as 'seeing the forest' (Fredrickson, 2001; Kareem, Waugh, & Fredrickson, 2010). It enlarges the perceived options, and the willingness to engage, while negative affect narrows these processes (Fredrickson & Branigan, 2005; Isen, Daubman, & Nowicki, 1987). Hence, positive affect should favour learning. In fact, a few studies have shown that positive affect leads to higher recall of both attended (Kensinger, 2009) and non-attended stimuli (Biss & Hasher, 2011), regardless of their emotional content (Gable & Harmon-Jones, 2010). This means that no matter what content is recalled, the experience of pride, satisfaction, and joy per se boosts cognitive processes such as recall.

Intrinsic motivation could be defined as 'enjoyment-driven motivation' (Wentzel & Brophy, 2014, p. 7), characterised by an experience of pleasure, a display of curiosity or interest and subjective perceptions of self-determination (Condry & Stokker, 1992). Usually considered as the opposite of extrinsic motivation (e.g., driven by external rewards or pressures), intrinsic motivation could be favoured by a satisfaction of basic needs, such as competence, autonomy and relatedness (Ryan & Deci, 2000), an experience of challenging and controlling the situation (Bandura, 1997), or a fulfilment of personal goals (Elliot, 2006) or values (Wigfield & Eccles, 2000). Whatever arises, intrinsic motivation, by definition is favoured, accompanied or followed by a positive affect experience. Therefore, intrinsically motivated individuals also feel a sense of challenge, enjoyment or satisfaction depending on whether they are

starting, are engaged in or have ended a motivating experience. Many studies have shown that intrinsic motivation, whatever its origin (e.g., self-efficacy: Caprara et al., 2008; expectancies and values: Wigfield & Cambria, 2010), favour achievement and learning (for recent reviews see Alderman, 2007; Brophy, 2010). Consequently, it is reasonable to expect that both positive affect and intrinsic motivation arising from displayed enthusiasm ought to favour learning.

Displayed enthusiasm favours learning

Some correlational studies have shown that teachers' behaviours that suggest immediacy and closeness relate to students' learning (Rodríguez, Plax, & Kearney, 1996; Witt & Wheeless, 2001). However, these relationships are minimal or even not significant (Bettencourt, Gillett, Gall, & Hull, 1983; McKinney et al., 1983) compared to those with students' perceptions and affective and motivational aspects. Among the latter, the most studied are those related to facets of intrinsic motivation, which is considered to be a very important correlate of learning (Wentzel & Brophy, 2014), characterised by experienced enjoyment, and pleasure, a display of curiosity and interest and perception of self-determination (Condry & Stokker, 1992).

Intrinsic motivation has been shown as mediating the relationship between students' perceptions of teacher immediacy and students' perception of mastering the learning material (Allen, Witt, & Wheeless, 2006). Similarly, Rodríguez et al. (1996) found that affective learning, considered to be an expression of intrinsic motivation, mediates the relationship between teachers' non-verbal immediacy and students' cognitive learning. Witt, Wheeless, and Allen (2004) confirmed, in a meta-analysis, the link with displayed enthusiasm and motivational aspects showing that teacher immediacy relates to a student perception of learning, rather than objective learning. This suggests that teacher immediacy favours intrinsic motivation aspects which, in turn, is among many other factors which affect learning. In addition, it is worth noting that these results were found in correlational studies. To the best of our knowledge, there are just a few experimental studies on the effects of displayed enthusiasm on achievement. Most notably, these lead to contrasting results. While McKinney, Robertson, Gilmore, Ford, and Larkins (1984) found no positive effect on forth graders' achievement, but rather on classroom behaviour, Brigham, Scruggs, and Mastropieri (1992) found that displayed enthusiasm increased academic achievement and reduced off-task behaviours in a group of high school students with learning disabilities.

These contrasting results outline the need to assess the effects of displayed enthusiasm in experimental studies. They also show that the relation between displayed enthusiasm and leaning could be mediated by some motivational (Allen et al., 2006) and affective (Rodríguez et al., 1996) aspects and by perceived instructional quality (Kunter et al., 2008).

The present study

This study examined the effects of displayed enthusiasm on text recall, intrinsic motivation and time estimation, with the hypothesis that an enthusiastic delivering style favours recall, affects pleasure and motivates interest towards learning, and makes the time pass faster compared with a neutral transmission of knowledge. In addition, the relationships between recall, intrinsic motivation, and perceived enthusiasm were assessed.

Two kind of passages were considered: narrative and descriptive, following Brewer's (1980) classification. The narrative passages have an internal structure with information linked by an underlying story and temporal-causal links. Descriptive passages include a set of information which is not necessarily connected, but requiring the extra effort to create a structure to memorise them. As a consequence, descriptive passages could be more difficult to memorise than narrative ones. Given that Babad (2007) showed that the non-verbal communication is more important with young students than with high school, fifth graders were tested to assess the following hypothesis:

(1) a delivery style characterised by High Enthusiasm (HE) favours recall performance and intrinsic motivation;
(2) in the HE condition, participants give shorter time estimations than in the control, due to the greater pleasure experienced;
(3) intrinsic motivation and perceived enthusiasm relate to recall performance.

Experiment 1

Method

Participants. Forty children (aged 9–12, mean 10.28, *SD* = .55, 18 girls) participated on a voluntary basis.

Formal consent was obtained from both parents and verbal consent from each child. Twenty children were randomly assigned to the HE condition, and 20 to the control condition (see Procedure).

Materials. Three passages were chosen from books unknown to the participants but suitable for their age. The first passage, entitled 'The sports centre' (126 words, describing the visual and spatial characteristics of such a centre), was used to measure baseline performance. The other two passages were entitled 'At the castle' (a narrative passage describing a typical day of people living in a castle, 400 words), and 'The gecko' (a descriptive passage about the characteristics and habits of geckoes, 385 words).

Two independent judges divided each passage into idea-units, that is, pieces of information. They were 14, 37 and 34, respectively, for 'The sports centre', 'At the castle', and 'The gecko'. For example: At the castle, the day starts very early:/at six a servant enters the room where the Lord and his wife sleep/ and wake up them in a very simple manner/: he scrolls the pillow of the bed (the slashes divide the idea-units, passage 'At the castle'). Then a third judge solved the few discrepancies. For example: 'The Gecko is about ten inches long./It has four short legs/which adhere perfectly to every surface,/and allow it to climb safely even upside down on the ceiling' could have been 'It has four short legs, which adhere perfectly to every surface' (one idea-unit), but the third judge considered that 'having for legs' is a concept and that 'these legs adhere to every surface is another' (passage 'The gecko').

A 5-item self-report questionnaire was devised for this study to assess (1) perceived enthusiasm, as a measure of the psychological state arising from the HE or control condition (O'Keefe, 2003), (2) four expressions of intrinsic motivation: enjoyment, interest, pleasure, and curiosity, which are the main facets of intrinsic motivation following Condry and Stokker (1992). Participants were asked to rate on a 5-point Likert-type scale (anchoring points 1 = 'very few', 5 = 'very much') each of the five following questions: 'With how much enthusiasm was the story/description read?' (perceived enthusiasm), 'How much did you enjoy the story/description?' (enjoyment), 'Would you like to read something else by the same author or on the same subject?' (interest), 'Do you like reading this kind of story/description?' (pleasure) and 'Are you curious about these kinds of descriptions/stories?' (curiosity). Cronbach alphas were .77 and .83, respectively, for the passages 'At the castle' and 'The gecko'.

Procedure. Participants, subdivided into small groups, were asked to read silently the baseline passage entitled 'The sports centre' for subsequent recall (5 minutes allowed). The sheets with the passage printed were then collected, and participants were given a white sheet and asked to write as much information as they could remember about it, in any order, without time restrictions.

Then, in balanced order, the two passages 'At the castle' and 'The gecko' were read aloud to them by a female experimenter trained on how to display or not display enthusiasm. In the HE condition, she read aloud, demonstrating as much enthusiastic behaviour as possible, following the suggestions provided by Collins (1978): rapid, varied, emphatic vocal delivery; excited speech, with sudden and considerable changes in tone; dancing, shining and wide-open eyes; frequent demonstrative movements of body, head, arms, hands and face; ample use of facial expressions; exuberant overall energy level. In the control condition, she was quiet, and expressed herself using a monotone vocal delivery, few gestures, and low energy, that is without any sign of enthusiasm. The speed due to the rapid vocal delivery in the HE condition was compensated for by the time taken to engage in body, face, head, and hands movements so that in both conditions, the total time of reading was 3 minutes. After listening to each passage, participants were asked how long they thought the reading had taken, in seconds, together with any other information they could recall, and to provide the five self-reported ratings of perceived enthusiasm and intrinsic motivation. Lastly, they were thanked for having taken part in the experiment.

Scoring. One point was assigned for each recalled idea-unit, and the total score was calculated by two independent judges who did not know to which group each participant belonged. The few discrepancies were solved by discussion, and the final score was used for the analysis. Two mean intrinsic motivation scores were calculated, one for each passage, by summing the four ratings and dividing by four.

Analysis and results

Preliminary analysis. Recall, time estimation, and perceived enthusiasm did not differ in order A (first the narrative, then the descriptive passage) or B (vice

versa). Therefore, the effects of order were not considered further.

Perceived enthusiasm. An ANOVA 2 (groups: HE vs. control) × 2 (passages: narrative vs. descriptive) was run on the perceived enthusiasm scores. The HE group ($M = 4.72$, $SD = .38$) assigned higher perceived enthusiasm ratings than the control ($M = 1.67$, $SD = .89$), $F(1, 38) = 197.76$, $p < .001$, $MSE = .941$. No other effect due to passage or interaction emerged, showing that in the HE condition, higher levels of enthusiasm were perceived.

Effects of displayed enthusiasm. An ANOVA 2 (groups: HE vs. control) × 2 (passages: narrative vs. descriptive) was run on mean recall scores with the baseline recall performance as covariate. The HE group ($M = 9.60$, $SD = 3.87$) recalled more than the control ($M = 4.87$, $SD = 3.99$), $F(1, 37) = 33.84$, $p < .001$, $MSE = 13.193$. Those recalling more at baseline reached higher recall scores: effects due to covariate $F(1, 37) = 52.02$, $p < .001$, $MSE = 13.193$. Hypothesis 1 about the positive effects of displayed enthusiasm on recall was confirmed.

An ANOVA 2 (groups: HE vs. control) × 2 (passages: narrative vs. descriptive) was run on mean time estimates, after having excluded those participants who had failed to understand the task and who had provided estimations which were either too low (under 30 seconds) or too high (up to 5 minutes). The HE group ($M = 168.44$, $SD = 30.36$) estimated shorter times than the control group ($M = 304.91$, $SD = 65.35$), $F(1, 30) = 57.40$, $p < .001$, $MSE = 5191.636$, supporting hypothesis 2. It should be noted that the HE group made estimates, which were closer to and slightly lower than the actual time of reading: 180 seconds.

An ANOVA 2 (groups: HE vs. control) × 2 (passages: narrative vs. descriptive) was run on the mean scores of intrinsic motivation. Motivation was higher for the descriptive ($M = 3.66$, $SD = 1.09$) than the narrative passage ($M = 4.22$, $SD = 1.00$), $F(1, 38) = 6.28$, $p = .017$, $MSE = .509$. The HE group ($M = 3.89$, $SD = .74$) expressed higher intrinsic motivation than the control ($M = 2.99$, $SD = .81$), $F(1, 38) = 13.30$, $p = .001$, $MSE = 1.501$. (see Figure 1).

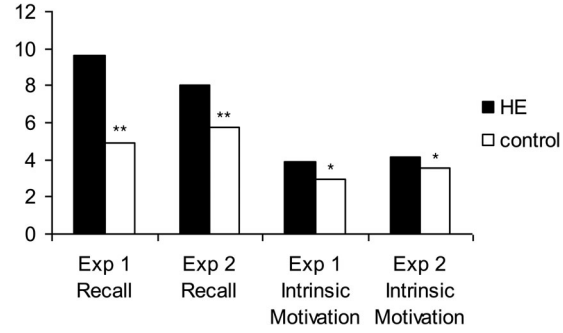

Figure 1. Recall performance and intrinsic motivation in the HE and control conditions. HE = High Enthusiasm and $^{**}p < .001$, $^{*}p < .01$.

Discussion

The results confirmed that in the HE condition, participants recalled more information, were more intrinsically motivated and estimated a shorter time of reading than in the control condition. However, the effects obtained in this Experiment 1 could be due either to the positive effects of a HE delivery of information or to the negative effects of a reading made to be as unenthusiastic as possible. For this reason, in Experiment 2, a new control condition was introduced, characterised by normal reading style.

Experiment 2

Experiment 2 was run to test the same hypothesis about effects of HE reading on recall performance, time estimation, and intrinsic motivation. However, this was compared to a normal reading condition, with a larger sample, new passages and a different (simpler) task for assessing time estimation, given that in Experiment 1 eight participants had failed to understand the task of providing time estimations in seconds, maybe attributable to their young age. Finally, having a larger group also allowed us to assess the relationships among recall, intrinsic motivation, and perceived enthusiasm.

Method

Participants. Sixty children (32 girls) aged 9–11, mean age 9.78, $SD = .74$ participated in the study. Formal consent was obtained from both parents and verbal consent from each child. Thirty children were randomly assigned to the HE group and 30 to the control group.

Materials. Two new passages were chosen from books unknown to the participants but suitable for their age, and divided into idea-units by two independent judges, as in Experiment 1. The passages were entitled 'The farmer' (a narrative passage of a story about a farmer, 250 words, 20 idea-units), and 'The

dragon-fly' (a descriptive passage about the insect's habits, and characteristics, 192 words, 20 idea-units). For the baseline measure of recall, the same passage as in Experiment 1 was used.

For the 5-item self-report questionnaire assessing perceived enthusiasm, pleasure, enjoyment, interest, and curiosity (5-point Likert-type scale), the Cronbach alphas were .80, and .75, respectively, for the two passages 'The farmer' and 'The dragon-fly'.

Procedure. The procedure was the same carried out in Experiment 1 except for the time estimation measure, which was taken in a simpler way by asking participants to rate how long the experimenter took to read the passage on a 1–4 Likert-type scale, from '1 = not long' to '4 = a long time', and for the characteristics of the control condition. The experimenter (who was different from that of Experiment 1) read the passages as usual, without forcing herself to express as much enthusiasm as she could, but also without forcing herself to be inexpressive. Moreover, in Experiment 2, the reading time was 3 minutes for each of the passages and conditions (HE or control).

Scoring. As in Experiment 1, for the passages, one point was assigned for each idea-unit recalled, than summed by two independent raters. Then, two mean scores of intrinsic motivation were calculated, one for each of the two passages, by summing the four ratings and dividing by four.

Analysis and results

Preliminary analysis. As in Experiment 1. No order effect emerged.

Perceived enthusiasm. The HE group ($M = 4.53$, $SD = .47$) gave higher perceived enthusiasm ratings than the control group ($M = 3.08$, $SD = .86$), $F(1, 58) = 65.31$, $p < .001$, $MSE = .966$. No interaction or main effect due to passage emerged. It is worth noting that while the HE group gave similar ratings of perceived enthusiasm in this Experiment 2 and in Experiment 1, the control group, in a normal reading situation, gave higher ratings (3.08) than in the low enthusiasm condition (1.67), thereby confirming that in Experiment 2, the reading was perceived as 'normal' while in Experiment 1, it was perceived as being rather inexpressive.

Effects of enthusiasm. An ANOVA 2 (groups: HE vs. control) × 2 (passages: narrative vs. descriptive) was run on mean recall scores with the baseline recall performance as covariate. The HE group ($M = 8.03$, $SD = 1.87$) recalled more than the control group ($M = 5.73$, $SD = 2.15$), $F(1, 57) = 19.20$, $p < .001$, $MSE = 8.098$. As in Experiment 1, the effect of the baseline performance was statistically significant, $F(1, 57) = 8.19$, $p = .006$.

An ANOVA 2 (groups: HE vs. control) × 2 (passages: narrative vs. descriptive) was run on the mean time estimation. The HE group ($M = 1.88$, $SD = .47$) estimated less time than the control group ($M = 2.35$, $SD = .51$), $F(1, 57) = 11.95$, $p = .001$, $MSE = .480$.

An ANOVA 2 (groups: HE vs. control) × 2 (passages: narrative vs. descriptive) was run on the mean scores of intrinsic motivation. A group effect, $F(1, 58) = 10.68$, $p = .002$, $MSE = .997$, confirmed that the HE group ($M = 4.14$, $SD = .65$) obtained higher scores of intrinsic motivation than the control group ($M = 3.55$, $SD = .76$). The narrative passage ($M = 3.98$, $SD = .82$) produced more motivation than the descriptive one ($M = 3.71$, $SD = .86$), $F(1, 58) = 8.83$, $p = .004$, $MSE = .249$.

Relations among perceived enthusiasm, intrinsic motivation, and recall performance. The following three mean total scores were computed: total mean Recall, by summing the scores given for the two passages (which were interrelated: $r = .49$, $p < .001$) and dividing by two; Intrinsic Motivation (IM) by summing the two scores of intrinsic motivation of the two passages (which were interrelated: $r = .64$, $p < .001$), and dividing by two; and Perceived Enthusiasm (PE) by summing the two scores (that were interrelated: $r = .73$, $p < .001$) and dividing by two. These three scores were interrelated, supporting hypothesis 3: IM with PE ($r = .46$, $p < .001$), IM with recall ($r = .28$, $p = .03$), and PE with recall ($r = .29$, $p = .02$). A hierarchical regression analysis was run with total mean Recall as dependent variable. At step 1, PE was included as the only predictor. At step 2, IM was added. The results showed that PE is a significant predictor of Recall, when considered alone, but not when IM is added (see Table 1). This suggests that the common variance between IM and PE (22% which means 78% collinearity index, 1.28 Variance Inflaction Factor) is what affects the relation between PE and Recall.

Discussion

The results of this Experiment 2 confirmed the positive effects of HE reading delivery compared with a normal reading. In the HE condition, participants recalled more, were more intrinsically motivated and estimated a lower length of reading time (see Figure 1). In addition, perceived enthusiasm, intrinsic motivation and recall were interrelated showing that a higher

Table 1. Hierarchical regression analysis predicting recall.

Predictors	β	t	p	R^2
Step 1				
Perceived enthusiasm	.29	2.34	.023	.086
Step 2				
Perceived enthusiasm	.21	1.49	ns	.111
Intrinsic motivation	.18	1.27	ns	

recall rate corresponds to higher intrinsic motivation and perceived enthusiasm.

General discussion and conclusions

The two experiments confirmed that, in the HE condition, participants recalled more, estimated shorter reading times, and were more intrinsically motivated than in a control condition, with either no sign of displayed enthusiasm or normal reading. Interestingly, perceived enthusiasm, recall, and intrinsic motivation were interrelated. From a theoretical point of view, these results add information about the effects of displayed enthusiasm. If information is delivered with enthusiasm, not only do the levels of intrinsic motivation and positive affect increase, but performance on a recall task also improves.

No differences in recall performance were found between the narrative and descriptive passages in either experiments. This emphasises the fact that the crucial aspect was the highly enthusiastic way of delivering information, regardless of its content, with the positive effect on recall performance being the same with different kinds of passages and in both experiments. This result is in line with the literature showing that the effects of displayed enthusiasm, when found, regard various subjects ranging from mathematics (e.g., Frenzel et al., 2009), to English (Hsu, 2010) or to science (Brighham et al., 1992) and that the effects on recall due to the modality of delivering information do not depend on the kind of passage (De Beni & Moè, 2003; Moè & De Beni, 2005).

The two experiments lead to similar results as for as recall and time estimation, while for intrinsic motivation, it emerged that the content of the passage makes a difference. This could help understand why effects were not always found in previous studies: the method of delivery matters, and also the content of the passages or of the lessons and hence the pleasure and interest they can arouse in the participants play an important role. Essentially, the overall and hypothesised effect of higher intrinsic motivation in the HE condition compared to both kind of control conditions (low enthusiasm or normal reading) was confirmed, although in Experiment 1 the passage considered as more motivating was the descriptive one, while in Experiment 2, it was the narrative. These effects could depend on the convenience passages used that appear per se more or less motivating, regardless of whether they were narrative or descriptive.

This is the first research to examine and confirm the effects of displayed enthusiasm on recall performance and time estimation, demonstrating that, in the HE condition, recall is higher and time of reading is estimated as being lower than in two control conditions: no displayed enthusiasm or normal reading. However, our study has some limitations. First, only children participated. More studies with different populations are needed. Second, effects were observed in only one trial and it would be interesting to explore maintenance of recall after a delay. Third, only students' perceived enthusiasm was assessed. It should be interesting, in future studies, to measure also perceived experimenter's enthusiasm and intrinsic motivation to verify effects of displayed enthusiasm and relations with the participants intrinsic motivation. Finally, the intrinsic motivation questionnaire was devised for this study and included only four items. Future research could consider also already validated instruments, measuring specific aspects of intrinsic motivation, such as self-determination, goals, values, competence perception, and a measure of positive affect, to better substantiate the effects obtained.

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