Emotional Mood and Character Identification
in Story Memory.

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Abstract

We hypothesized that when people read a story they will identify with, and encode facts mainly about, that character whose emotional mood is most similar to their own as they read. A post-hypnotic suggestion caused our subjects to feel very happy or sad as they read a balanced story describing the actions and interactions of a happy and a sad character. The happy story-character had mainly positive experiences, whereas the sad character had mainly negative ones. As predicted, subjects identified with the same-mood character and judged the story to be mainly about him. They also recalled more facts about him the next day while in a neutral mood.
It is often said that the meaning a reader extracts from a story depends on the perspective from which he reads it. Readers tend to select and emphasize those aspects of a story relevant to their attitudes and beliefs, and to de-emphasize other aspects. Thus, in witnessing or reading a neutral account of an automobile collision, an auto mechanic may note the nature of the damage to the car, a doctor the bodily injuries of the passengers, a policeman the way in which traffic could be routed around the debris, and an insurance claims adjustor the indicators of relative negligence and fault of the drivers. People are likely to notice and make salient those aspects relevant to their interests.

Pichert and Anderson (1977) have demonstrated such a selectivity by having readers deliberately adopt the perspective of someone reading a passage with specific interests in mind. Specifically, a passage about a boy coming home after school with a friend and giving him a tour of his house was read from the perspective either of a prospective burglar of this house or a prospective buyer of it. For the subject reading from the point of view of a burglar, the relevant schema for the situation provides him with a purpose (e.g., to rob without being caught), a standard plan (e.g., to gain entry, snatch the valuables and exit unseen) and instructions that are essential for that plan (e.g., note the location of unlocked doors and portable jewelry). Information relevant to this perspective should receive special attention and processing in memory. In the same way, subjects reading from the point of view of the home-buyer would be more likely to notice and remember details relevant to the structural quality of the house (e.g., leaky roofs and cracked plaster ceilings). Indeed, this was the case. Pichert and Anderson found that their subjects did recall more information related to their respective points of view.
The perspective phenomenon studied by Pichert and Anderson involves a framework external to the story itself. That is, the burglar or home-buyer were not characters in the story. These perspective-taking instructions are a veiled form of orienting instructions, like those used by Rothkopf (1972) explicitly directing the reader to look for prescribed information, such as historical dates of wars. A rather different aspect of perspective in narrative comprehension has been studied by Abelson (1976) and by Owens, Dafoe, and Bower (1977). This second aspect might be called "character identification". The reader is subtly induced to empathize or identify with one of the story characters as he reads; we then examine how that identification affects the reader's interpretation and recall of events. Owens, Dafoe, and Bower (1977) found, for instance, that memory became distorted in the direction sympathetic to the character with whom the reader identified. Slip-ups and mishaps of this character were attributed to the difficulty of his external conditions. In contrast, the errors of his adversary were attributed to his incompetence.

The present study extends this work on character identification in text comprehension and memory. The question at issue is whether the emotional mood of the reader will affect the story character he identifies with and, consequently, affect his encoding and recall of the story. From earlier studies by Isen and Levin (1972) and by Isen, Schalker, Clark, and Karp (1978), we have learned that a happy mood increases the person's altruistic ("helping") behaviors towards others; it also increases his positive evaluations of consumer products (e.g., his car) and of pictured scenes. The question we ask is whether a reader's happy (or sad) mood will cause him to identify with that major story character who is also happy (or sad).
Common sense and psychological theories make no clear prediction for the case. On the one hand, one could suppose that, other things being equal, a reader will identify with that storybook character who is most similar to him on important dimensions, and emotional mood could be one such dimension of similarity. Thus, the happy subject will identify with a happy character and the sad subject will identify with a sad character. On the other hand, one might suppose that people generally prefer reading and thinking about pleasant, enjoyable events. The preference might be acute for sad readers; they may want "cheering up", and hence would avoid the bad news in the text in favor of the good news. This view would predict that all readers, particularly sad ones, will identify more with a happy character in a narrative. The experiment below explores these several possibilities.

We induced a strong happy or sad mood in our subjects while they were in hypnosis. They were then given the post-hypnotic suggestion that they would feel this mood later when they read a story given to them by the experimenter. Moreover, they were told to have amnesia for this suggestion, and not attribute their mood at that time to the hypnotic suggestion. We used hypnosis here simply as a tool for inducing a happy or sad mood in our subjects while they read the story. We are, therefore, not concerned with the ultimate nature of hypnosis, whether it is an altered state of consciousness (a "trance") or a self-convincing, imaginative role-enactment. All that matters for our purpose is that it allows us to elicit a strong emotional mood rapidly and on cue as the subject prepares to read an experimental text. For convenience below, we use the "trance" terminology in our description since it is more familiar.
After our subjects read the story, they answered some questions to assess which of two characters they had identified with. The subjects returned the next day and while in a neutral ("normal") mood recalled everything they could about the text they had read the day before. The specific issue is whether subjects will recall more facts about that story character having the same mood as they had when they read the story.

**Mood**

**Subjects**

The subjects were 16 Stanford undergraduates from the "highly hypnotizable" pool maintained by the Stanford Hypnosis Laboratory under the direction of Dr. E. R. Hilgard. They had been screened as scoring 10 to 12 on the Stanford Hypnotic Susceptibility Scale, Form C, (Weitzenhoffer & Hilgard, 1962), and most had served in one or more experimental studies of hypnosis (none involving mood state of learning). Highly hypnotizable subjects were used in order to obtain reliably strong mood states and to increase the likelihood of post-hypnotic amnesia for the mood-arousal that the subject experienced while reading the story. The subjects were paid upon completion of their second experimental session.

**Materials**

The story written for this experiment was about 1000 words, divisible into 121 "idea units" (roughly, basic propositions) for scoring purposes. The story was about two college men, Jack and Andre, as they met for and played a friendly afternoon game of tennis. The story narrates their driving to and arrival at the gym, getting dressed into their tennis clothes, warming up and playing a game of tennis, then showering and getting dressed into their street clothes again. Andre is very happy and enjoying himself: he
and his girlfriend are getting along great, he is anticipating a fabulous concert and dinner date with her; he is in a buoyant mood, unworried, joking, singing, enjoying the spring sunshine, and he wins the tennis match easily. In contrast, his friend, Jack, is in a particularly glum and depressed mood today. His girlfriend has just jilted him and he broods over that hurt; he is worried over his up-coming exams. Everything goes wrong to irritate him: his car needs repairs, his gym-locker jams, he breaks a shoelace, loses at tennis, feels scorched and beaten by the sun, and he feels miserable. The sentences of the story were written to be clearly about either Andre (54 idea units), or Jack (57), or neither of them (10). In this way, we were able to score each recall unit as being about Andre, Jack, or neither.

This story was typed on a sheet of white paper and handed to the subject to read through twice. When finished, the subject filled out a five-item questionnaire which asked: "Which character did you identify with? Which character was stressed (emphasized) the most? Who had the most details associated to him? How comprehensible (on a 10-point scale) was the story? Describe any images you may have had as you read."

The next day subjects received recall instructions printed on a white sheet of paper. It emphasized recall (in writing) of details, as complete as possible, and as close to verbatim as possible.

Procedure

The subjects were assigned in random alternation to the Happy or Sad reading conditions and were tested singly. The experiment was described to them vaguely as a study of the influence of mood upon cognitive processes. On Day 1, the subject was hypnotized using a standard relaxation eye-closure
induction (see Weitzenhoffer & Hilgard, 1962). Being very susceptible, all subjects rapidly entered a "deep trance" but were able to talk and indicate their depth of hypnosis (1 to 10 scale). After induction, the subject was asked to choose a situation that had made him intensely happy (or sad), or to make up one that would do so. They were to adjust the intensity of the emotional feeling to be intense but not hysterical (or unbearable). After thoroughly familiarizing themselves with this emotion, subjects were told that after awakening they would re-experience this same emotion (but not the situation) when they began to read a story that the experimenter would give them. The emotional state was to continue as they read the story twice, filled out a questionnaire about it, and then learned a list of 20 words (for an unrelated experiment not reported here). The mood would be lifted and they would revert to a normal mood state when the experimenter pointedly said, "That's fine. It's over." Furthermore, subjects were told that while experiencing the mood during reading they would forget the hypnotic suggestion which brought this about ("source amnesia"). They would forget its source until at the end of the second session the experimenter said, "Now you can remember everything about this study". At that point, the post-hypnotic suggestion was cancelled. We did not erase it at the end of the first session because we wished to re-arouse the mood at the second session for use with the other, word-list recall experiment which occurred after the story was recalled.

After receiving the post-hypnotic suggestion on Day 1, subjects were "awakened" from hypnosis. The mood was reinstated when they were given the story to read through twice at their own pace. They then filled out
questionnaire, and received two study/free recall cycles over a 20-word list while in the emotional mood. After that they were told, "You're finished. That's fine. It's over." After insuring normalization of their mood, we sent the subjects home with instructions to return to the same room the next day.

At the beginning of the second session the subject was hypnotized for purposes of the word-list experiment and asked to experience either a happy or sad mood (half of each mood-group from Day 1); it was also suggested that he would feel this emotion later when he read recall instructions (for the word list) printed on green paper. The "green paper" cue was particularly stressed since we wanted to insure that the subject did not have that emotional mood (i.e., was normal) when he recalled the story on white paper.

After the mood induction and post-hypnotic suggestion, subjects were awakened from trance, and then handed the story-recall instructions. These were printed on white paper (so presumably no mood was induced) and the person recalled by writing on that paper. He was allowed as much time as he needed for recall. After he had finished, he was given a green sheet with instructions to recall the word list. The green paper supposedly reinstated the emotional mood established at the beginning of the second session. When word-list recall was finished, the experimenter said, "That's fine. It's over.", then asked subjects to remember their moods during the session and to speculate about the aims of the experiment. They were then told, "Now you can remember everything about this experiment", and queried again about their mood changes during the two days' sessions and any hypotheses about the aim of the experiment. After removing the post-hypnotic mood
suggestion, the subjects were thoroughly debriefed, paid, and thanked for their participation.

Results

Success of Hypnotic Suggestions

Being highly susceptible, the subjects rapidly went into a deep trance and were excellent at "getting into" the moods under hypnosis, typically imaging a carnival or beach scene for the happy mood and a personal failure, loss, or funeral scene for the sad mood. To informal questioning, they seemed to follow the post-hypnotic suggestions exactly, feeling happy or sad on the appropriate occasions. When questioned at the end of the second session, most could remember that they had experienced a mood shift while recalling the word-list on Day 2, and many recalled a mood shift while reading the story on Day 1 and while learning the word-list on Day 1. However, when probed about the purpose of the experiment, they either said they didn't know or they reiterated the vague description they had been given when initially contacted.

The questionnaire asked three items relevant to which story character was identified with: Who did you mostly identify with? Who was stressed? Who had most details associated to him? Twelve of the 16 subjects answered all three of these questions with the same character; four subjects gave the same character as answer to two items and replied with the other character to the third question. Assigning these four subjects to have identified with the character mentioned in two of the three questions, we find a perfect correlation between mood state and character identified with: all eight happy subjects identified with Happy Andre, and all eight sad subjects identified with Sad Jack. So, our mood manipulation was completely
effective in determining which character the subject empathized with. In retrospect, it would have been worthwhile to have had subjects give estimates of the relative frequency of propositions in the text about Andre versus Jack. If subjects estimate frequency by using relative availability in memory of the two sets of facts (see Tversky & Kahneman, 1973) and if readers better encode those facts relevant to the character they identify with, then they should overestimate the frequency of facts stated about their character.

The questionnaire also asked for reports of imagery during reading. Five of the 16 subjects wrote no answer to this question. For the remaining 11, there were an average of 3.5 images reported about the character identified with but only 0.4 images about the other character. Nine of the 11 subjects reported more images relevant to the character they had identified with ($p < .03$ by a sign test). Thus, we may conclude that in identifying with a character, the reader tends to have imagery about that character and the events in which he participates, according him "center-stage".

**Recall**

The recall protocols were scored for propositions or idea-units recalled, and these were classified as facts about Happy Andre, Sad Jack, or neither character. First, the Happy and Sad subjects did not differ in the total number of idea units recalled; the recall means were 23.6 for Happy and 20.8 for Sad subjects ($t(14) = 0.56$). Also the two groups did not differ in the number of neutral idea-units recalled (3.5 for Happy vs. 1.9 for Sad).

The major difference between the groups was in the proportions of Happy vs. Sad facts recalled. The proportion of Happy to Happy plus Sad facts
recalled was calculated for each subject and then averaged. This Happy average was 55% for the Happy subjects and 20% for the Sad subjects. The difference in percentages (arc sine transformation) is statistically reliable, \( t(14) = 3.02, p < .005 \). Every one of the Sad subjects recalled more facts about Sad Jack, whereas only three of eight Happy subjects did so. Setting aside one subject who recalled an equal number of facts about the two characters, 12 of the other 15 subject recalled more facts about the character who felt the same as they did when they read the story. This recall bias is significant by a sign test, \( p < .018 \).

We wondered why the bias in favor of recalling happy facts by Happy subjects was not nearly so pronounced (relative to a 50% baseline) as was recall of sad facts by Sad subjects. An answer was forthcoming upon re-examining the story; in retrospect, the story seemed subjectively to be mainly about Sad Jack. We had another 22 nonhypnotized subjects (an Introductory Psychology section) read the story and indicate which character, if either, they thought was more prominent or salient. Thirteen (59%) picked Sad Jack, seven said "Equal", and two (9%) picked Happy Andre. Thus, the story is normally viewed as being mainly about Sad Jack, so one would expect a normal-mood control group to recall somewhat more facts about Sad Jack than about Happy Andre. The point here is to argue that the percentage of Happy facts recalled by Normal-mood readers would probably be around 40-45%; so the 55% Happy-recall bias found for Happy subjects would indicate an effect of mood-identification that probably is close in magnitude to that reflected in the 20% Happy recall by Sad subjects. However, this quantitative point did not seem important enough to our main conclusion to invest the time to collect and score normal recall protocols.
Discussion

We have found that readers identify with that story character who is experiencing a mood similar to what they are experiencing while they read the story. Thus, mood-similarity is a factor in identification. The character identified with affects the reader's perception and recall of the story; he thinks the story was mainly about the character he identified with, that more details were said about him, and he recalls more facts about that character.

A person's ability to identify with a storybook character is, we believe, an application of his ability to identify and empathize with others in his society. This ability to adopt another's perspective, to imagine and role-play another's thoughts and feelings, underlies the socialization of the egocentric child. Empathy requires that we imaginatively go over the thoughts and feelings we would have if we were in that other person's skin, as if the events were happening to us rather than him. Imagery about the character and his surroundings from the character's point of view seems closely associated with identification in text; Owens, Dafoe, and Bower (1977) found this also.

We have claimed that the selective recall of Happy vs. Sad facts is mediated by character identification. In identifying with a character, the reader makes him the subjective focus of the story, the focus of attention. Therefore, facts about that character receive deeper processing or more elaborate encoding and, as a consequence, are better remembered.

An alternative viewpoint is that focusing on a character affects retrieval in free recall and not encoding during reading of the story. That is, the subject may organize his reconstruction of the story around his subjective
"main character", and he prompts or cues himself to recall facts about that character to the detriment of recalling facts about the other characters. This hypothesis could be tested, perhaps, either by using recognition memory tests for text sentences (which obviate output strategies) or by inducing the character identification after the person had read the text (in a neutral state) but before he recalls it. Although we find the encoding hypothesis more plausible, the output hypothesis is sufficiently plausible to call for follow-up research.

We have assumed that the post-hypnotically suggested mood primarily affects which character the reader selects to identify with. In other words, the recall biases observed after hypnotic mood manipulations are similar to those we would expect if we explicitly instructed the reader to identify with a specific character as he read. Normal subjects might recall somewhat more overall because our hypnotic subjects were somewhat distracted by the intense moods experienced as they read the story, some displaying euphoric laughter, others verging on tears. However, the relative bias for recalling happy or sad facts should be similar for our mood subjects and for normals told to identify with a specific character.

An alternative account of how emotional mood affects encoding of the text would focus on the subject's attribution problem: As he reads, he notices he is feeling intensely sad (say). To what can he attribute that intense mood? How can he explain it to himself? According to this hypothesis, the subject should attribute the cause of his mood to the story, and he should search out and selectively attend to those facts which would justify his mood. Thus, on this account, character identification is not the effective mediating process; rather it is the process of justifying a solution to the subject's
mood attribution problem that causes selective processing of sad vs. happy events. This suggests an alternative method for studying mood effects: Have happy or sad subjects read a single, main-character story containing a mixture of happy and sad events. The question is whether readers would selectively encode and recollect those events congruent with their mood. This question, along with the evaluation of the attribution explanation, remain on the research agenda.

Although we have found that readers will identify with that character experiencing the same mood as they are, we recognize that this is limited to "all other things being equal". In particular, other facts promoting identification must be equated for the two characters—-the linguistic focus of the story, the number and nature of assertions about each character, their likeableness, sex, race, age, and so on.

Indeed, many variables affecting identification with and selective imitation of live models by viewers should have counterparts in the narrative story context. This state of affairs is as it should be if identification with storybook characters makes use of the same social-empathy skills as those we have been taught and use in our daily lives.
References


Footnote

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