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Mood Incongruent Recall: An Examination of Mediating Variables

Stelian Medianu 

University of British Columbia
Vancouver, British Columbia, Canada

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Abstract

Although the mood-memory relationship can account for the occurrence of mood congruent recall, it cannot account for the occurrence of mood incongruent recall. Mood incongruent recall is an important mechanism for recovering from depression. The present paper examines several mediating variables of the mood-memory relationship that may explain the occurrence of mood incongruent recall. These mediating variables are motivation, depressives vs. non-depressives, and self complexity. The present paper aims to provide a better understanding of the complex mechanisms behind mood incongruent recall and point to a potentially promising line of research. In the end, the paper discusses the practical implications of the findings for depression.

Imagine you are in a sad mood. How are you likely to recall your past? Intuitively, you will probably answer that, in a sad mood, you would recall your past in a negative light. Indeed, many of us have noticed that, in a sad mood, we recall more negative events than in a neutral or happy mood. This everyday observation is called mood congruent recall and has received strong support from researchers (Bower, 1981; Blaney, 1986; Singer & Salovey, 1988).

But why do we recall more negative events in sad moods than in neutral or happy moods? An early account for mood congruent recall comes from Bower's associative network theory. According to Bower (1981), "each distinct emotion...has a specific node or unit in memory" and "each emotion unit is linked with propositions describing events from one's life during which that emotion was aroused....Activation of an emotion node spreads activation through out the memory structures to which it is connected, creating subthreshold excitation at these event nodes....Thus...excitation [of] the sadness node...will maintain activation of that emotion and thus influence later memories retrieved" (p. 135). In other words, Bower argues that mood congruent recall occurs because our current mood automatically primes memories previously associated with that mood. So, if we are in a sad mood, we will be more likely to retrieve sad memories, whereas, if we are in a happy mood, we will be more likely to retrieve happy memories. Bower's theory explains well the mood congruent recall and has basically set the groundwork for future research on the mood-memory relationship (Blaney, 1986).

However, Bower's theory has an important weakness. It assumes that mood and memory share a one to one relationship, an unmediated relationship. While this unmediated relationship may be able to account for the finding of mood congruent recall, it fails to account for two other important findings. First, Bower's theory fails to account for the finding that the majority of people are, most of the time, in a relatively pleasant mood (Meyers & Diener, 1996). No doubt, we do experience sad moods, but, for the majority of us, these moods are only temporary. Nevertheless, according to Bower's theory, if we are in a sad mood, that mood will activate sad memories, which in turn, are likely to exacerbate our sad

mood. Thus, we enter into a vicious cycle from which it is not clear how we can get out, since mood and memory, according to Bower's theory, share this unmediated relationship (Blaney, 1986).

Second, Bower's theory fails to account for the finding that, sometimes, people in sad moods actually recall more positive events than people in happy moods (e.g. Parrott & Sabini, 1990). That is, people in sad moods, instead of recalling mood congruent material (negative events), like Bower's theory would predict, recall mood incongruent material (positive events). Most importantly, people in sad moods, by recalling mood incongruent material, seem to actually improve their moods (Erber & Erber, 1994; Rusty & DeHart, 2000).

Clearly, a mood-memory relationship that assumes no mediating factor has a hard time accounting for the previous two findings: that the majority of people do eventually get out of their sad moods and that people, sometimes, recall mood incongruent material (positive events) in order to do that. If mood incongruent recall can help alleviate sad moods, it is crucial that we examine the factors that contribute to the occurrence of mood incongruent recall. A better understanding of these factors can lead to a better understanding of depression and recovery from depression.

Thus, the purpose of this review is to examine some of the mediating factors of the mood-memory relationship that contribute to the occurrence of mood incongruent recall. We shall look at motivation, depressives vs. non-depressives, and self complexity. We will indicate a promising line of research, and we will discuss the practical implications of the findings for depression.

Motivation

One mediating factor of the mood-memory relationship is motivation. Indeed, people must have a motive why they engage in mood incongruent recall. According to one view, people engage in mood incongruent recall because of hedonism (Isen, 1985). That is, people in sad moods recall positive events because they attempt to repair their sad moods, and they repair their sad moods because they prefer happy moods over sad moods in the same way they prefer pleasure over pain (Isen, 1985).

This hedonistic view of mood regulation is not only a common sense explanation but also a well supported one. Researchers have found that most people have "the set point of mood slightly positive", which means that we are, overall and most of the time, slightly happy (Meyers, 2000, p. 58). While this finding is not sufficient to support the argument for hedonism, it is consistent with it; further, it complements well with a second and more important finding. Researchers have also found that "happiness is a common goal toward which people strive" (Buss, 2000, p.15). Thus, it is reasonable to assume that hedonism is an important factor why we engage in mood incongruent recall (Larsen, 2000).

However, hedonism – one's preference for happiness over sadness - is not the only reason why we engage in mood incongruent recall. Sometimes, we are motivated to change our sad mood because of situational constraints (Erber & Erber, 2000). For example, in one study, Erber & Erber (1994) found that "when participants were motivated to change their sad mood in light of the upcoming, verbally challenging task of participating in class, taking notes, they tended to recall mood incongruent, that is, positively valenced material" (p. 86). In other words, people, sometimes, engage in mood incongruent recall because they need to adapt to challenging situations. In a challenging situation, a sad mood could interfere with our speed and accuracy; thus, in order to improve our sad mood, we recall positive events (Erber & Erber, 1994).

Nevertheless, some situations in life constrain us in quite a different sense. In some situations, we engage in mood incongruent recall not because we want to improve speed or accuracy but because we need to conform to the social norms of the situation (Erber & Erber, 2000). For example, many of us have been in a sad mood, and, sometimes, despite our sad mood, we still had to attend a social function. Despite our sadness for losing a job, we still have to go to a friend's wedding. More importantly, at the wedding, we are expected to be happy; this is the social norm. In order to conform, we will probably attempt to repair our sad mood, and one way to do that would be to retrieve positive events from our memory (Erber & Erber, 2000).

So far, we have described hedonism and situational constraints as two independent motives contributing to the occurrence of mood incongruent recall. However, hedonism and situational constraints are not mutually exclusive. In real life, these two variables could interact and their interaction may raise interesting questions regarding the occurrence of mood incongruent recall (Larsen, 2000). For example, some people may be high in hedonism, whereas other people may be low in hedonism (Schmitt et al., 1993). Some situations constrain us to repair our sad moods (e.g. a challenging task; a wedding), whereas others do not (e.g. the privacy of our room?). In fact, some situations, actually, constrain us to maintain our sad moods (e.g. funerals) (Erber & Markunas, 2005). If so, one possible question we might ask is this: Is the effect of mood incongruent recall larger for people with a high level of hedonism than for people with a low level of hedonism in the case that both types of people find themselves in a situation constraining them to repair their sad moods (Larsen, 2000)? In other words, is there a benefit from a combination of high hedonism and mood repair situational constraints? Is there a synergetic effect between the two? If there is a synergetic effect, then, people high in hedonism should definitely engage in mood repair constraining situations (e.g. a challenging yet doable task) in order to amplify the recall of positive events, and thus, possibly their recovery from the sad mood.

Clearly, an interaction between hedonism and situational constraints gives a higher level of complexity to the occurrence of mood incongruent recall. However, this very interaction between hedonism and situational constraints may itself depend on a third variable: cultural upbringing (Larsen, 2000). Indeed, in Eastern cultures, conformity to social norms may be more important than the pursuit of individual hedonism, while, in Western cultures, the pursuit of individual hedonism may be more important than conformity to social norms. This may have important implications for the occurrence of mood incongruent recall (Larsen, 2000).

So far, we have examined types of motivation that may contribute to the occurrence of mood incongruent recall. Nevertheless, we have not answered an important question: How exactly does motivation mediate the mood-memory relationship so that mood incongruent recall can occur? It seems that, initially, our sad mood does prime sad memories; initially, we do exhibit mood incongruent recall just as many studies have shown (Bower, 1981; Blaney, 1986; Singer & Salovey, 1988). However, as time goes by, if our sad mood reaches a certain level of intensity or a situation is constraining

us to repair our sad mood, we automatically engage in mood incongruent recall, in the recall of positive events. That we can recall positive events is due to the fact that our motivated recall is selective and able to bypass our initial priming to negative events (Forgas, 2000).

Support for this spontaneous mood management view comes from Forgas & Ciarrochi (2002). The researchers received convergent evidence from three experiments that participants in sad moods, initially, retrieved mood congruent information and, as time went by, they began to retrieve increasingly mood incongruent information. The researchers point out that the results show "not simply the decay of mood over time but an active reversal toward mood incongruent responses" (p. 342). They also suggest that whether we observe mood congruent or mood incongruent recall maybe a matter of time passed since the sad mood was induced. If it is immediately after the sad mood was induced, we may observe mood congruent recall. If it is a little later after the sad mood was induced, we may observe mood incongruent recall. According to the researchers, mood congruent and mood incongruent recall are part of the same single, homeostatic mood management system (Forgas, 2000).

Depressives vs. Non-Depressives

For the majority us, this homeostatic mood management system functions reasonably well. Mood congruent recall is followed by mood incongruent recall, and, thus, we manage to keep our sad moods in check (Forgas, 2000). However, for some of us, the system does not function that well. For depressives in a sad mood, mood congruent recall is less likely to be followed by mood incongruent recall. This way, depressives have a harder time overcoming their sad moods (Forgas, 2000). Indeed, in one study, Josephson, Singer, & Salovey (1996) found that both depressives and non-depressives participants induced in a sad mood initially recalled a sad memory, a memory congruent with their mood. However, when the participants had to recall a second memory, non-depressives tended to recall more positive memories, whereas depressives tended to recall more negative memories. In other words, non-depressives were more likely to engage in mood incongruent recall than depressives. The results also showed that the participants who engaged in mood incongruent recall reported an improved mood relative to those who did not engage in mood incongruent recall. In addition, 68% of the participants who engaged in mood incongruent recall "made explicit statements indicating their conscious intention to lift their mood by recalling a more happy experience from their past" (Josephson, Singer, & Salovey, 1996, p. 442).

This last finding may point to a possible explanation for the failure to engage in mood incongruent recall: a motivational deficit. Maybe depressives are not as motivated as non-depressives to repair their sad mood, and, thus, they fail to engage in mood incongruent recall (Erber & Erber, 1994; Smith & Petty, 1995). This motivational account is consistent with our previous discussion on motivation and its important role in mood incongruent recall.

On the other hand, maybe, depressives are just as motivated as non-depressives to repair their sad mood. The only difference could be that depressives have been unsuccessful in the past in retrieving positive events to repair their sad moods, and, thus, they have given up on this strategy (Bandura & Cervone, 1983).

Self Complexity

If we assume that a motivational deficit is not a factor, what else could impede people in sad moods to retrieve positive events? Linville's (1987) self complexity model may provide an answer (Sakaki, 2007). According to this model, people organize their self knowledge in terms of multiple cognitive structures, called self aspects. People have various self aspects. We may see ourselves in terms of types of social roles (e.g. student, friend, son/daughter), kinds of relationships (e.g. colleague, competitor), or types of activities (e.g. playing soccer, dancing). These various self aspects are part of a larger associative network. The activation of a particular self aspect is contingent upon context and its relationship to an already activated self aspect (Linville, 1987).

While people organize their self knowledge in terms of multiple self aspects, the level of organization may differ from person to person (Linville, 1987). Some people are high in self complexity; they have a large number of self aspects that are highly distinct one from another. Other people are low in self complexity; they have a small number of self aspects that are highly overlapping (Linville, 1987). Because previous research has shown that our memories for past experiences are drawn from our self knowledge base (Conway & Pleydell-Pearce, 2000), the level of organization of our self knowledge base could be highly important for the occurrence of mood incongruent recall, for our ability to recall positive events while in a sad mood (Sakaki, 2007).

To illustrate, suppose you just found out you failed your psychology exam and, now, you are in a sad mood. According to Linville's (1987) self complexity model, what actually happens is this: the sad event of having failed the exam activates a closely related self aspect, that is, your student self aspect. Furthermore, the sad mood evoked by the event begins priming other sad memories associated with your student self aspect. You may start remembering other times when you did poorly in school. At this stage, you are engaged in mood congruent recall; you recall sad memories while in a sad mood, and, in a way, you are perpetuating your sad mood (Sakaki, 2007).

Now, whether you engage in mood incongruent recall and overcome your sad mood may depend on your level of self complexity. If you are high in self complexity, you have a large number of self aspects that are highly distinct one from another. Thus, your student self aspect will activate only a few other self aspects, while the majority of self aspects will remain unaffected (Sakaki, 2007). More importantly, your sad mood will prime only a few other sad memories, while the majority of memories will remain unaffected. Since the pool of unaffected memories is large, you will not find it difficult to recall positive events while in a sad mood, that is, to engage in mood incongruent recall (Sakaki, 2007).

On the other hand, if you are low in self complexity, you have a small number of self aspects that are highly overlapping. Thus, your student self aspect will activate many other self aspects, while only a few self aspects will remain unaffected (Sakaki, 2007). More importantly, your sad mood will prime many other sad memories, while only a few memories will remain unaffected. Since the pool of unaffected memories is small, you will find it difficult to recall positive events while in a sad mood, even if you are truly motivated to do so (Sakaki, 2007).

In sum, based on Linville's (1987) self complexity model, we have the following prediction: while in a sad mood, people

high in self complexity should be more likely to engage in mood incongruent recall than people low in self complexity. This prediction was recently tested by Sakaki (2004). The researcher asked participants induced in a sad mood to recall positive events. The results showed that, in a sad mood, the participants high in self complexity recalled more positive memories than the participants low in self complexity. In a subsequent study, Sakaki (2006) found that "these effects hold even when the motivation for mood regulation [is] partialled out" (217). Most recently, Sakaki (2007) investigated the effects of focus in self-knowledge on mood congruent and mood incongruent recall. The researcher found that, when participants recalled memories from a self-aspect related to the sad experience (e.g. student self aspect), the participants were more likely to recall sad memories, that is, mood congruent memories. However, when the participants recalled memories from a self aspect unrelated to the sad experience (e.g. tennis player aspect), they were more likely to recall positive memories, that is, mood incongruent memories. The results suggest that, by focusing on the unrelated self aspects to a sad experience, we may be more likely to engage in mood incongruent recall, and, thus, repair our sad mood (Sakaki, 2007).

A next step in this line of research could be to investigate the role of emotional intelligence in our ability to focus on the unrelated self aspects to a sad experience (Erber & Markunas, 2005). Emotional intelligence refers to our "capacity to reason about emotions, and of emotions to enhance thinking. It includes the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth" (Mayer & Salovey, 1997). Some people may be high in emotional intelligence, whereas some people may be low in emotional intelligence. The level of emotional intelligence may impact our ability to focus on the unrelated self aspects to a sad experience and, thus, our likelihood to engage in mood incongruent recall (Erber & Markunas, 2005).

Practical Implications

The research on self complexity and mood incongruent recall can have practical implications. If people high in self complexity are more likely to engage in mood incongruent recall and thus repair their sad moods, then, maybe we should encourage the development of high self complexity in people (Linville, 1987). This should, probably, start early in life and should involve the exposure of the self to a variety of roles and activities (Linville, 1987). Children should engage not only in academics, but in sports, volunteer work, arts and crafts. They should assume these different roles and find fulfillment in them. This way they can build memories around well defined self aspects. Then, when a self aspect is affected by a sad experience, the majority of the self aspects will still remain unaffected. And it is there, in those unaffected self aspects, where we can find those positive memories on which we can rely to overcome our sadness (Linville, 1987).

Conclusion

We have found that mood incongruent recall is a phenomenon that occurs in a complex reality. No simple cognitive mechanism can account for it. In this complex reality, motivation is of many types, can interact, and can be shaped by our cultural upbringing. In this complex reality, motivation seems to play an important role in the occurrence of mood incongruent recall, but motivation is only part of the story. A more complete answer of why mood incongruent recall occurs seems to lie in the very structure and organization of our memory. Indeed, self complexity appears to be a promising line of research in the study of mood incongruent recall, and the practical implications of self complexity makes this line of research even more valuable.

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