

Transforming fiction into fact: Flawed reality - monitoring of socially sensitive person - information

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In the present experiment we examined reality monitoring for socially sensitive and non-sensitive information relating to prejudice (negative and positive beliefs about an ethnic minority). At study, participants either imagined or perceived negative or positive attributes in connection with photographs of target individuals that clearly varied in ethnicity (non-western or western). At test, the task was to determine if they had imagined or perceived an attribute in connection with each target person from the study phase. We predicted that participants high in motivation to control prejudice would avoid responding that they had generated (imagined) socially sensitive information (i.e. negative attributes in connection with non-western targets), and instead respond that such information was presented. Results confirmed this prediction: Motivation to control prejudice was connected with a bias towards responding “perceived” (instead of “imagined”) when source-decisions were made in regard to the socially sensitive combination non-western + negative. This pattern appeared for both perceived and imagined combinations.

Keywords: Prejudice, stereotypes, reality monitoring, source monitoring.

An attitude can be defined as a tendency to evaluate a certain entity, an attitude object, favourably or unfavourably; such evaluation is reflected in particular cognitive, affective and behavioural responses (Eagly & Chaiken, 1998). The cognitive component of attitudes can be said to consist of positive or negative beliefs about the attitude object; i.e. associations in memory between the object and positive or negative attributes that are ascribed to it (Fishbein & Ajzen, 1974). For example, negative attitudes towards smoking may involve beliefs that

smoking causes lung cancer and negative attitudes towards homosexuality may involve beliefs that romantic relations between same-sex individuals are incongruent with a certain religion. The beliefs that are connected with an attitude also vary in social desirability (in addition to varying along the valence dimension); i.e. it is more socially acceptable to hold and to express certain beliefs compared to other beliefs in a given cultural context. Negative beliefs about smoking are probably less socially sensitive than negative beliefs about homosexuality in Western culture, for example. In this paper we examine reality monitoring for socially sensitive and non-sensitive information about ethnic minorities. We test the prediction that humans are biased towards thinking that socially sensitive information related to prejudice occurred in the external world, even when they generated (imagined) such information. Motivation to control prejudice should prevent people from viewing themselves as the cause of socially sensitive prejudiced beliefs; when deciding if they imagined sensitive information or if such information occurred externally, they should tend to respond that the information occurred externally.

People sometimes have accurate beliefs regarding individuals or groups of individuals. By interacting with a person we are able to encode factual information about that person; this information can be retrieved correctly at a later point in time. We are also able to acquire general knowledge about groups of people. By observing that several members of a group share a certain attribute, we can draw the inductive conclusion that the group possesses the attribute and encode this information into memory. Such information can be retrieved at a later point in time to make more or less correct judgements about members of the group (Smith, 1998). When person memory is accurate in this way, our beliefs are rooted in reality.

However, people sometimes have inaccurate beliefs regarding individuals or groups of individuals. A prominent feature of memory, including memory for social information, is its constructive nature: general knowledge and expectancies lead to inferences at both encoding and retrieval; such inferences colour the contents of what is remembered in addition to information from an actual experience (Roediger & McDermott, 2000; Smith, 1998). When such preconceptions are incongruent with reality, false remembering occurs and our beliefs about people are wrong. Research on attitudes and memory has repeatedly demonstrated that false memory is more likely for attitudinally congruent information than for attitudinally incongruent information (Eagly, Chen, Chaiken, & Shaw-Barnes, 1999; Stangor & McMillan, 1992). Given that memory has this limitation, it is important to examine the cognitive processes that help people distinguishing between reality and imagination.

A key property of human memory is the capacity to discriminate between fact and fiction; people are usually able to tell if they perceived some piece of information or if they imagined the information. For example, we generally know if we experienced a certain event or if we only imagined that the event occurred. Such judgements are called *reality monitoring* judgements (Johnson, 1988). The Source Monitoring Framework (Johnson, Hashtroudi, & Lindsay, 1993;

Mitchell & Johnson) is a model that describes the processes involved in attributing mental experiences to different sources; reality monitoring is one of three types of source attributions. A basic premise in this model is that human memory retrieval is constructive; remembering is the product of knowledge and expectations in addition to information from an actual experience. People thus sometimes remember information that was not present in the world. Accurate recollection therefore requires a mechanism that can discriminate between recollective experiences that originate from external information (i.e. real experienced events) and recollective experiences that originate from internally generated information (i.e. thoughts and mental images). In addition to reality monitoring (Johnson & Raye, 1981), SMF also posits two other types of source attributions: The capacity to discriminate between different external sources (e. g. to remember if person A or person B made a certain statement) and the ability to discriminate between different internal sources (e. g. to remember if one said something or if one imagined saying something).

According to the SMF reality monitoring is based on characteristics of memory representations in combination with judgement processes. If a memory of a given episode is connected with a high degree of visual and spatial information and a low degree of information about cognitive operations, recollection is probably attributed to an external event. Memories for external events in fact tend to have these characteristics (e.g. Johnson, Foley, Suengas, & Raye, 1988). If, on the other hand, a memory for a given episode is connected with little visual and spatial information and a high degree of information about cognitive operations, recollection is probably attributed to an internal source (e.g. only thinking that something happened). Reality-monitoring judgements are sometimes made relatively automatically; i.e. we are able to identify the origin of a mental experience rapidly, effortlessly and without intention. In other cases, source decisions involve more strategic processes, resembling conscious and deliberate problem-solving. In addition to using information present in a memory trace (about visual and spatial detail and about the amount of cognitive operations) we may also use other information to aid source-decisions. For example, knowing that a friend is on vacation, we probably would conclude that we only imagined meeting him rather than conclude that we actually met him.

Source monitoring decisions sometimes go wrong and mental experiences are attributed to an incorrect source. Such errors are thought to depend on the quality and quantity of information in a memory trace (richer memories are connected with fewer source-errors), the similarity between different sources (sources that have common characteristics are more easily confounded) and the quality of the decision mechanisms that are involved in source attributions (factors that usually impair decision-making, such as divided attention and stress, also impair accurate source monitoring). In addition, source-decisions can be affected by various decision biases (Johnson et al., 1993; Mitchell & Johnson, 2000). Hoffman and colleagues, for example,

used a modified Asch-paradigm to study whether reality monitoring decisions regarding perceived and imagined objects would be influenced by conformity (Hoffman, Granhag, See, & Loftus, 2001). In this study, participants tended to follow the confederate's source monitoring judgements, even when the confederate provided incorrect information regarding if the source was external or internal.

In contemporary Western society there is a normative pressure against having and expressing prejudiced beliefs (Crandall, Eshleman, & O'Brien, 2002). This provides individuals with the motivation to avoid making biased judgments of members of stigmatized groups. In the context of source monitoring, one possible consequence of such motivation is the tendency to (falsely) ascribe socially unacceptable information to external sources rather than to internal sources. If it is important not to be prejudiced, and in the lack of a clear memory trace, trying to remember whether the apparent memory that an outgroup member has a negative characteristic is based on an actual experience or something imagined, an attribution of the information to external (experiential) sources rather than to internal (self generated, imagined) sources is more likely. Cultural norms that prohibit prejudice should decrease the likelihood that people view themselves as the cause of negative beliefs about minorities; i.e. that they could have generated (imagined) such information. When making external-internal source judgements, this should increase the likelihood that negative information relating to prejudice is attributed to external sources.

If it is the case that prejudice-consistent information is more likely to be attributed to external sources than less socially sensitive information because of motivational reasons, the magnitude of the source memory bias could be expected to be moderated by individual differences in the motivation to respond without prejudice. People who are motivated to avoid making prejudiced judgments should be even more reluctant to report having imagined that a member of a stereotyped group has a negative trait than people who are lower in this motivation. To the authors' knowledge this hypothesis has not been tested before.

Method

Participants

Thirty-nine university students in Sweden completed the experiment; 33.33% were female, 66.67% were male. Mean age was 23.03 with a standard deviation of 2.42.

Materials

Stimuli consisted of combinations of an image and a word. Images depicted individuals with occidental physical appearance (32) and individuals with non-occidental physical appearance (32). Words denoted negative (32) and positive (32) psychological traits and abilities (e.g.

“unpleasant”, “pleasant”, “intelligent” and “unintelligent”). Three judges independently categorized each face as non-occidental or occidental and each word as negative or positive. Across judges an average of 97.92% of faces and 99.48% of words were categorized as belonging to the intended categories.

Procedure

Participants were tested individually in a soundproof room. Each session contained a study phase, a distraction phase and a test phase; in total, testing usually took about 30 minutes. Custom software running on a PC computer was used to present stimuli on a 17” monitor and to collect responses by means of a computer mouse.

In the study phase stimuli varied according to the following factors: Face (2: occidental, non-occidental), valence (2: negative attribute, positive attribute) and source (2: imagined attribute, perceived attribute). All possible combinations of factor levels were shown in the study phase which contained a total of 64 trials that were presented in random order (8 trials per combination of factor levels).

Each trial in the study phase consisted of the following events. (1) The presentation of a face, randomly to the left or right on the screen, together with either a symbol or a word in the opposite position (right or left, respectively). Faces had non-occidental or occidental appearance; symbols were “+” or “-“; words referred to negative or positive attributes. Participants were instructed to read the word quietly when a word was presented, to imagine a negative trait when shown “-“ and to imagine a positive trait when shown “+”. The next event followed when a response button labelled “Ready”, shown in the lower part of the screen, was selected. (2) The presentation of a 4-point rating scale with “Very negative”, “Slightly negative”, “Slightly positive” and “Very positive” as alternatives; the face and word or symbol remained visible during this event. (3) The presentation of a 4-point rating scale with “Very incompatible”, “Slightly incompatible”, “Slightly compatible” and “Very compatible” as alternatives; here as well, faces and words/symbols remained visible. Participants were told to rate the valence of imagined/perceived words (in 2) and to rate whether imagined/perceived words were compatible with each face or not (in 3).

The distraction phase consisted of a short vocabulary test in which the meaning of each of 14 words had to be determined by selecting one of 5 alternative connotations on the computer screen. This task usually took between 3 and 6 minutes to complete.

The test phase consisted of 64 trials with old combinations and of 64 distracter trials with new combinations. Old combinations preserved the mapping between face and valence from study to test; i.e. a given face appeared together with the same valence (negative or positive) at both study and test. For new combinations, the mapping between face and valence changed from study to test; i.e. a given face appeared together with opposite valence at test compared to

study (e.g. if a face had been shown with the positive word “amiable” at study, in the test phase that face would be presented with “-“). Trials with old combinations consisted of all permutations of the factors face (2: non-occidental, occidental), valence (2: negative symbol, positive symbol) and source (2: imagined attribute at study, perceived attribute at study).

Each trial in the test phase contained the presentation of a face randomly to the left or right together with a negative or positive symbol in the opposite position (right or left, respectively). The task was to determine if one had seen a trait-word together with the face, if one had imagined a trait together with the face, or if the combination of face and (negative or positive) valence was new. Participants responded by clicking on one of three buttons marked “New”, “Imagined” and “Perceived”. The next trial followed after a response had been made.

Finally participants completed a unidimensional measure of motivation to control prejudice (Dunton & Fazio, 1997). Statements and response alternatives appeared on the computer screen; participants responded by marking one alternative on a 7-point scale with “Completely disagree” and “Completely agree” as end-points.

Data analysis

For each combination of the factors face, valence and source we calculated the proportion of “perceived” – responses at test as $P(\text{“perceived”}) / [P(\text{“perceived”}) + P(\text{“imagined”})]$. Average valence ratings from the study phase for imagined/perceived traits[†] were computed for each combination of these factors as well. Items in the motivation to control prejudice scale were aggregated to a single measure of motivation to control prejudice (after reversing responses to negative items). All variables were then corrected for outliers (defined as values with a two-tailed probability lower than 0.01 in a normal distribution) by replacing extreme values with the raw scores that correspond to $p = 0.01/2$ and $p = 1 - 0.01/2$ in a normal distribution (see Tabachnick & Fidell, 2001). The variable that had the highest number of outliers had 7.69% outliers.

Results and discussion

Valence ratings from the study phase were entered in a three-way repeated measures ANOVA with face (2: non-occidental, occidental), valence (2: negative attribute, positive attribute) and source (2: imagined attribute, perceived attribute) as within subjects factors[‡]. This ANOVA revealed a significant interaction between valence and source, $F(1, 38) = 7.81, p < 0.05, \eta^2 = 0.17$, and a main effect of valence, $F(1, 38) = 421.61, p < 0.05, \eta^2 = 0.92$. The three-way interaction did not reach significance, $F(1, 38) = 0.00, p = 0.99, \eta^2 = 0.00$. Follow-up analyses

[†] Compatibility ratings were only designed to enhance relational encoding; this data is thus not analysed.

[‡] There were two missing values because of division by zero in the calculation of the proportion (i.e. two participants only had “new” responses and no “perceived” or “imagined” responses in certain conditions).

showed significant main effects of valence for both imagined and perceived attributes, $F(1, 38) = 298.57, p < 0.05, \eta^2 = 0.89$, and $F(1, 38) = 440.91, p < 0.05, \eta^2 = 0.92$, respectively. As shown in figures 1A and 1B participants rated imagined and perceived positive attributes more positively than imagined and perceived negative attributes, even if the main effect of valence was larger in the perceived condition.

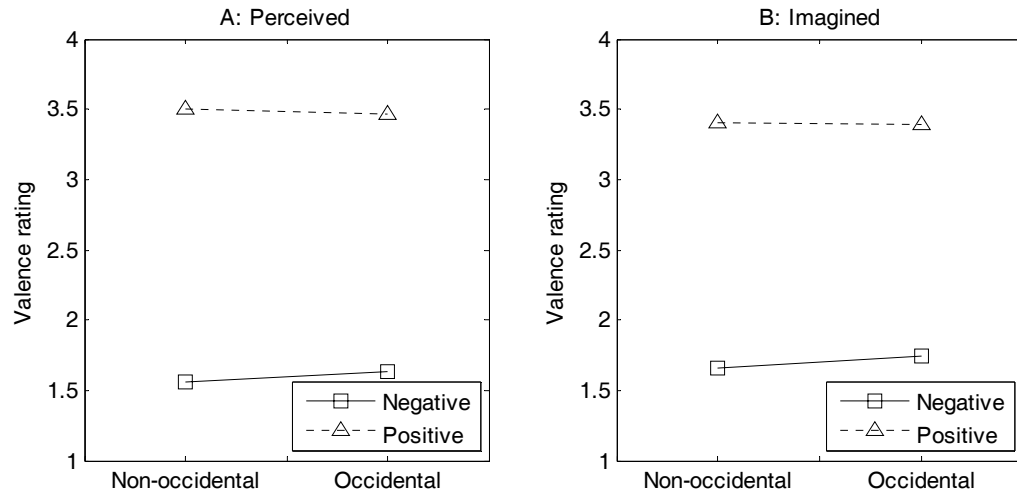


Figure 1. Valence ratings from the study phase.

The proportion of “perceived” responses on old trials from the test phase was entered in a repeated measures ANOVA with face (2: non-occidental, occidental), valence (2: negative symbol, positive symbol) and source (3: imagined attribute at study, perceived attribute at study) as within subjects factors. The effect of face x valence x source was not significant, $F(1, 36) = 0.01, p = 0.91, \eta^2 = 0.00$. As predicted, however, there was a significant interaction involving face x valence, $F(1, 36) = 23.61, p < 0.05, \eta^2 = 0.40$. Participants were more inclined to make external source attributions for socially sensitive information than for non-sensitive information, as revealed in figure 2A and 2B. The effects of valence x source and of face x source were not significant, $F(1, 36) = 1.23, p = 0.28, \eta^2 = 0.03$, and $F(1, 36) = 1.23, p = 0.27, \eta^2 = 0.03$, respectively. The only significant main effect was source, $F(1, 36) = 53.03, p < 0.05, \eta^2 = 0.60$; participants generally tended to respond “perceived” more often on perceived sources than on imagined sources (compare figure 2A and 2B).

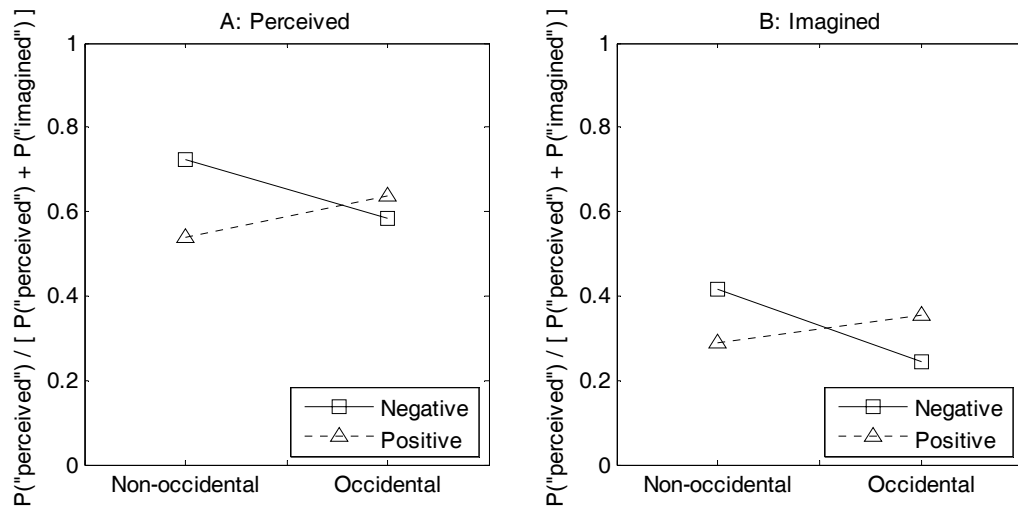


Figure 2. Proportions of “perceived”- responses to perceived and imagined stimuli.

Subjects were then divided in two groups on the basis of their scores on the motivation to control prejudice scale (MTCPP) using a median split. This factor was entered in an ANOVA with face, valence and source as within subjects factors. The effect of MTCPP x face x valence was as expected significant, $F(1, 35) = 4.39, p < 0.05, \eta^2 = 0.11$. Follow-up ANOVAs with face, valence and source were then conducted separately for each group. These revealed significant interactions between face and valence for both low and high motivation to control prejudice participants, $F(1, 17) = 5.05, p < 0.05, \eta^2 = 0.23$, and $F(1, 18) = 22.40, p < 0.05, \eta^2 = 0.55$, respectively. Even if both groups made more external attributions for socially sensitive information than for non-sensitive information, this tendency was about two times stronger in participants high in motivation to control prejudice, as shown in figure 3A and 3B.

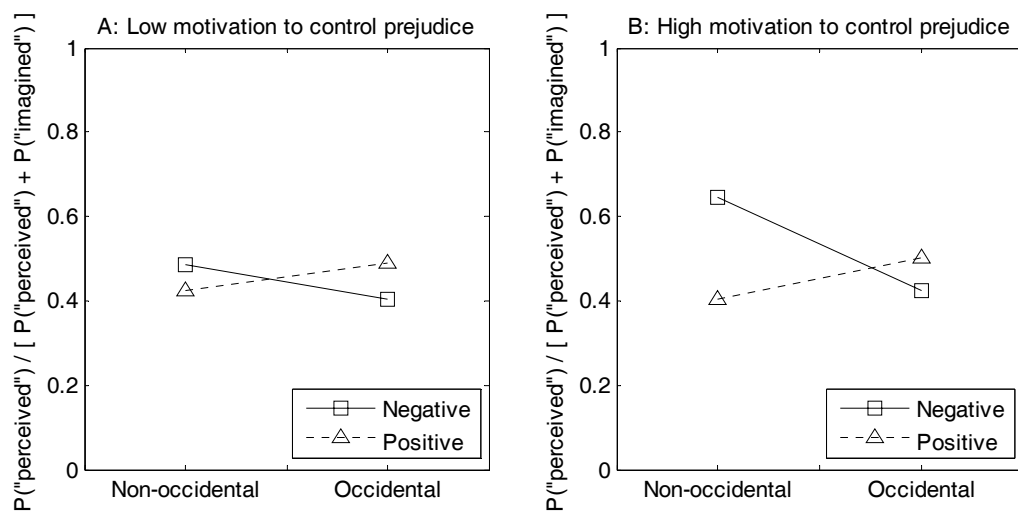


Figure 3. Perceived responses aggregated across perceived and imagined stimuli, separately for participants high and low in motivation to control prejudice.

The only other significant effect involving MTCP was a significant interaction between MTCP, valence and source which we refrain from interpreting, $F(1, 35) = 4.30, p < 0.05, \eta^2 = 0.11$.

Discussion

The purpose of the present research was to investigate external-internal source monitoring for socially sensitive information. We predicted that individuals high in motivation to control prejudice would be biased towards attributing socially sensitive information to external rather than to internal sources. This prediction was confirmed: Higher levels of motivation to control prejudice were connected with a tendency to attribute information involving non-occidental and negative to external sources; this effect was significantly smaller for individuals with lower levels of motivation to control prejudice. As far as we know, this is the first time such a bias has been shown to exist.

The present results are interesting but they merely represent a preliminary demonstration of the phenomenon; much more research is needed in order to draw any firm conclusions. For instance, it would be reassuring to find that similar source confusions occur in other participants, in other contexts and for other stereotypes (such as stereotypes towards gender, sexual-orientation, etc). At this point we are certainly not in the position to make any general statements. In addition, it would be interesting to know if the source bias is primarily caused by a need to maintain a positive private self-image (independently of others' opinions) or because of motivation related to external self-presentation. At present this question does not have any clear answer either. Another issue that needs to be addressed is whether the bias occurs automatically; i.e. rapidly, without intention and without awareness. If people are unaware of transforming fictitious prejudiced beliefs into what they believe are facts, they should be more prone to take these "facts" for granted. If they were aware of making flawed source attributions on the other hand, they should be more likely to view false external source attributions as fantasies.

The present results could have important implications because they might point towards one (out of several) explanation for why prejudiced beliefs are maintained in spite of contradictory evidence. Norms in Western society usually prohibit one from holding and expressing negative beliefs about minorities; as a consequence people are less likely to believe that they have generated (imagined) stereotypic information that is socially sensitive, compared to non-sensitive information. When making external-internal source-decisions, socially sensitive information is instead deemed to have occurred in the external world. Ironically, then, motivation to control prejudice seems to lead to source confusions, whereby fictitious prejudiced beliefs are transformed into prejudiced facts; people tend to believe in information that they view as factual.

The motivation to reduce prejudice may stem from an ambition to live up to one's moral standards, i.e. a striving to minimize the discrepancy between one's self and ideal self. It is part of being an egalitarian person to try to avoid discrimination of minority group members. It is therefore ironic that the memory bias proposed here is increased as a consequence of this praiseworthy ambition. There is a risk that the prejudiced picture of out-group members that one strives to avoid is withheld because of the very motivation to reduce it. Fear of being prejudiced makes associations in memory between out-group members and negative attributes appear based on real experiences when they are in fact simply imagined.

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