Fast track report

She just doesn’t look like a philosopher...? Affective influences on the halo effect in impression formation

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Abstract

Can good or bad moods influence people’s tendency to rely on irrelevant information when forming impressions (halo effects)? On the basis of recent work on affect and cognition, this experiment predicted and found that positive affect increased and negative affect eliminated the halo effect. After an autobiographical mood induction (recalling happy or sad past events), participants (N = 246) read a philosophical essay, with an image of the writer attached, showing either an older man or a young woman (halo manipulation). Judgements of the essay and the writer revealed clear mood and halo effects, as well as a significant mood by halo interaction. Positive affect increased halo effects consistent with the more assimilative, constructive processing style it recruits. Negative affect promoting more accommodative and systematic processing style eliminated halo effects. The relevance of these findings for impression formation in everyday situations is considered, and their implications for recent affect-cognition theories are discussed. Copyright © 2011 John Wiley & Sons, Ltd.

For better or for worth, most people’s idea of an academic philosopher is more likely to be a middle-aged bespectacled man rather than a young woman. Whether such expectations have any foundation in reality (and Prof. Summers, ex-President of Harvard University, got into a great deal of trouble by suggesting that they might; Lewin, 2010), they can certainly exert a ‘halo effect’ on how a philosophical essay is evaluated. The halo effect is a cognitive bias whereby the perception of one trait (i.e. a characteristic of a person or object) is influenced by information about another, often irrelevant trait (Forgas & Laham, 2009).

An example would be judging a good-looking person as having a more desirable personality (Dion, Berscheid & Walster, 1972) or perhaps inferring that a young woman is less likely to be a competent philosopher than a middle-aged man. Although halo effects have a powerful influence on impression formation in everyday life, such as in job interviews, dating and political judgments, not enough is known about how affective states may impact on the prevalence of halo effects. On the basis of recent affect-cognition theorizing (Bless & Fiedler, 2006; Bower, 1991; Forgas, 2002; Schwarz, 1990), this experiment explored the hypothesis that positive moods may increase and negative moods eliminate the incidence of halo effects because of the different information processing strategies these mood states recruit.

Halo Effects

Halo effects refer to the widespread human tendency to make unwarranted inferences about a person’s unknown characteristics on the basis of known but often irrelevant information. It seems as if known traits radiate a ‘halo’ influencing how other unrelated qualities are perceived. Halo effects differ from stereotype effects in that, in the case of halo effects, it is a person’s unique traits or characteristics that give rise to unwarranted inferences (Forgas & Laham, 2009). In contrast, stereotype effects occur because the generalized characteristics of a group are applied to an individual associated with that group. This study looks at halo effects, elicited through the presentation of images of unique individuals using the technique pioneered by Dion et al. (1972).

Halo effects were first described in the 1920s by Thorndike and have since been documented in numerous experiments. For example, early traits reliably influence the interpretation of later traits (Asch, 1946; Crano, 1977; Forgas, in press; Hendrick & Costantini, 1970; Kelley, 1950). In a similar way, physically attractive women are often judged to have more desirable personal qualities and even receive higher marks for the same essay than do homely, unattractive-looking women (Dion et al., 1972; Landy & Sigall, 1974). Attractive-looking or smiling people are also punished less severely when they commit a transgression (Efran, 1974; Forgas, O’Connor & Morris, 1983).

Even observable physical characteristics may be misperceived because of halo effects. In one study, students rated the same guest lecturer as significantly taller when he was introduced as a high-status academic rather than a low-status academic (Wilson, 1968). Something as innocuous as a person’s name may also give rise to halo effects: school teachers gave the same compositions higher grades when the writer had a popular Christian name (David, Michael) rather than an unusual, strange name (Elmer, Hubert) (Harari & McDavid,
Moods may indirectly prime related mood-congruent information that is more likely to be used when performing social judgments (Bower, 1981; Forgas, 1995). Thus, positive mood should facilitate the access and the use of more positive information, and negative mood should prime more negative information, leading to a mood-congruent bias in judgments (Forgas & Eich, in press; Forgas & Bower, 1987; Forgas, 1994, 1995; Forgas et al., 1983). Accordingly, an overall mood-congruent main effect on judgments was predicted in both halo conditions, without any expected interaction with the halo manipulations (Fiedler, 2001; Forgas, 2002; Sedikides, 1995).

Processing Effects

Moods may also have an effect on how information is processed by influencing the extent to which judges employ an attentive, vigilant processing strategy or a relaxed, superficial processing style (Clark & Isen, 1982; Schwarz, 1990). According to this account, negative affect functions as an adaptive warning signal, recruiting more vigilant processing, and positive affect signals that less vigilant thinking is appropriate. An integrative theory of mood effects on processing style was developed by Bless and Fiedler (2006; Bless, 2001; Fiedler, 2001), suggesting that positive moods promote more assimilative, holistic and top–down processing style, whereas negative moods recruit more accommodative, stimulus-driven and bottom–up processing, consistent with the adaptive signalling functions of these mood states. Several experiments support this processing dichotomy, showing that negative mood triggers more accommodative thinking and the more elaborate processing of stimulus information, resulting in better memory, fewer eyewitness distortions, reduced judgmental errors, decreased use of stereotypes and improved ability to detect deception (Bless, 2001; Fiedler, 2001; Forgas, 1998, 2007; Forgas & East, 2008a,b; Forgas, Vargas & Laham, 2005; Forgas, Unkelbach & Goldenberg, 2009). More accommodative processing in negative mood may also reduce reliance on pre-existing knowledge structures such as stereotypes. In several studies, Bodenhausen (1993; Bodenhausen, Kramer, and Süsser, 1994) found that happy participants relied more on ethnic stereotypes when evaluating a student accused of misconduct, whereas negative mood reduced this tendency. Sad individuals also tend to pay greater attention on specific, individuating information when forming impressions (Bless, Schwarz, & Wieland, 1996).

Extrapolating from this evidence, moods may also directly influence the occurrence of halo effects. Assimilative thinking produced by positive mood should promote the kind of constructive, holistic processing strategy that facilitates generalizations from known to unknown characteristics resulting in halo effects. In contrast, negative mood should recruit a more elaborate, systematic and externally focused accommodative processing style resulting in a reduction in halo effects (Hendrick & Costantini, 1970). Accordingly, this study predicted that (i) judgments should be more positive in a positive mood and more negative in a negative mood (mood congruency effect). Further, (ii) the attached images of the writers should also produce a significant halo effect. As the photos were irrelevant to evaluating the essay or the writer, any difference in judgments due to the different photos presented can be defined as a halo effect. Of greatest interest is the predicted interaction between mood and halo effects, such that (iii) halo effects should be increased in a positive mood and eliminated by negative mood, consistent with the accommodative versus assimilative processing styles promoted by these two mood states.

METHOD

Overview, Participants and Mood Induction

Participants performed two consecutive tasks, described as two unrelated experiments: an autobiographical mood induction (writing about a happy, neutral or sad prior experience) and an impression formation task, reading a one-page
philosopher than the female target. A photo of the author attached showed either a typical, middle-aged male academic or a young woman. Participants were undergraduate students (N = 246; 82 in each mood condition) who participated in the study for course credit. The design was a 3 × 2 factorial between-subjects design, with mood (happy, control, sad) and physical appearance of the writer (young woman, older man) as the independent variables.

Mood Induction

Participants first completed a ‘study of social memories’, asking them to remember, re-experience and write one page about a happy, euphoric or a sad, depressing episode in their past. In the control condition, they were asked to describe the area where they live. They took between 7 and 10 minutes to do so. The effectiveness of the mood induction was validated in a pilot study (N = 90), where after performing this task, participants were asked to rate their mood on seven-point happy–sad and feeling good–feeling bad scales. These two scales were highly correlated (r = .88) and were combined into a single affect valence measure. An analysis of variance (ANOVA) confirmed a significant mood effect [F(2, 88) = 18.81; p < .001]. Those in the happy condition felt significantly better [F(1, 59) = 9.32; p < .01] and those in the negative mood group felt significantly worse [F(1, 59) = 8.41, p < .01] than did controls [M = 2.55, 3.88, 5.03].

The Impression Formation Task

Next, the participants completed what they believed was an unrelated ‘social judgement task’. They were instructed to read a one-page philosophical essay written by an academic called Robin Taylor, described as a recent publication from a scholarly magazine. The photo of Robin Taylor was also attached, showing either a middle-aged, bespectacled man or a young woman.

Manipulation and Validation of the Halo Effect

The two target photos were pre-tested to establish their effectiveness in creating a halo effect. A pilot sample of 48 students viewed the photos and rated the targets on seven-point scales measuring likelihood of being a philosopher, intelligence, competence and likeability. Their ratings were factor analysed, resulting in two factors. The likely to be a philosopher, intelligence and competence scales were highly correlated and were combined into a single measure of ‘likely to be a philosopher’ (Cronbach’s alpha = .88). The likability scale formed a separate factor. Univariate ANOVAs confirmed that there was no difference between the two targets on likability. However, the male target was significantly more likely to be seen as a philosopher than the female target [F(1, 47) = 32.15; p < .001; M = 2.03 vs 5.88]. This pilot study thus confirmed that the photos were indeed highly effective in creating a powerful global halo effect likely to influence perceptions.

Dependent Measures

Judgments were assessed on five 8-point scales measuring impressions about the article (interesting–boring; well written–poorly written; intelligent–not intelligent; convincing–not convincing; and enjoyable–not enjoyable) and nine scales measuring impressions of the writer (intelligent–not intelligent; pretentious–not pretentious; likeable–not likeable; competent–not competent; successful–not successful; open-minded–close minded; friendly–unfriendly; popular–not popular; and conservative–radical). The order and polarity of the scales was counterbalanced. As a preliminary analysis detected neither order nor polarity effects, responses were combined and analysed jointly. The effectiveness of the halo manipulation was further validated by collecting ratings on an eight-point ‘senior academic–junior academic’ measure, showing that the young female target was indeed rated as significantly more junior on this scale [t(245) = 13.11; p < .01; M = 3.05 vs 6.17].

Debriefing

A careful debriefing concluded the study and revealed no awareness of the manipulations. Participants were informed about the purpose and design of the experiment, and care was taken to eliminate any residual negative mood effects.

RESULTS

Judgments of the Essay

The five scales were first factor analysed in order to create a smaller number of non-redundant measures and to reduce the likelihood of type 1 error. All five scales were highly correlated and loaded on a single factor with an Eigenvalue of 5.43, accounting for 52.41% of the variance, and were combined into a single ‘essay evaluation’ measure using factor score coefficients as weights (Cronbach’s alpha = .82). The effects of mood and the halo manipulation were assessed using a two-way ANOVA. Any difference in judgments due to the photos may be defined as indicating a halo effect, as the photos did not in fact contain any relevant information about the quality of the essay or the personality of the writer.

Mood had a significant mood-congruent influence on essay evaluation [F(2, 244) = 7.48; p < .01]. Those in a negative mood were more critical of the essay than was the control group [F(1, 163) = 4.46; p < .05] and the positive mood group [F(1, 163) = 5.75; p < .05], but the difference between the positive and control groups did not reach significance (M = 4.93; 4.55, 3.94), showing a clear mood-congruent bias (Forgas, 2002; Forgas & Bower, 1987). Further, the halo effect was also significant: the essay was evaluated more positively when it was attributed to a middle-aged male writer rather than a young female writer [F(1, 245) = 8.93; p < .01; M = 4.11 vs 4.80]. Of greatest theoretical interest is the significant interaction between mood and the halo effect [F(2, 244) = 9.81, p < .01]. As hypothesized, positive mood increased and negative mood decreased the halo effect (Figure 1). The neutral group rated the essay more positively when written by the male author [F(1, 81) = 3.99; p < .05; M = 4.88 vs 4.23; Cohen’s d = .385]. This halo effect was significantly greater when judges were in a positive mood [F(1, 81) = 8.23; p < .01; M = 5.41 vs 4.36; Cohen’s d = .606] (Figure 1). In contrast, negative mood
eliminated the halo effect \(F(1, 81) = 1.59;\) NS; \(M = 3.76\) vs 4.12]. These results confirm that positive mood increased and negative mood decreased the halo effect, consistent with the more assimilative versus accommodative processing styles they recruited (Bless & Fiedler, 2006; Forgas, 2006, 2007).

**Judgments of the Writer**

Judgments of the writer on the nine impression formation scales were also factor analysed, and two factors with Eigenvalues of 4.93 and 1.87 were identified, accounting for 44.28\% and 24.55\% of the variance, respectively. The competent, intelligent, successful and open-minded scales loaded on the first factor and were combined into a composite measure labelled task competence using factor score coefficients as weights (Cronbach’s alpha = .85). The remaining five scales, likeable, friendly, popular, pretentious and conservative loaded on the second factor and were combined into a measure labelled likeability (Cronbach’s alpha = .79). These two characteristics frequently emerge as basic dimensions of impression formation (Jones, 1990). The effects of mood and the halo manipulations on these measures were assessed using two-way ANOVAs.

**Competence**

Mood had a significant mood-congruent effect on the perceived competence of the writer \(F(2, 245) = 7.32, p < .01\). Happy people judged the writer as more competent and those in a negative mood as less competent than the control group did \(F(1, 161) = 3.95; p < .05; F(1, 161) = 4.11; p < .05; M = 4.05; 4.65; 5.23\]. There was also a significant halo effect, as the male writer was seen as significantly more competent than the female writer \(F(1, 246) = 5.45; p < .05; M = 4.31\) vs 4.98. As predicted, there was a significant interaction between mood and the halo effect \(F(2, 245) = 11.31, p < .001\). Positive mood increased and negative mood decreased the size of the halo effect (Figure 2). The control group saw the male academic as more competent than the young female writer \(F(1, 81) = 4.88; p < .05; M = 4.29\) vs 5.01; Cohen’s \(d = .441\). This halo effect was much greater in the positive mood condition \(F(1, 81) = 6.81; p < .01; M = 3.69\) vs 5.15; Cohen’s \(d = .715\) and was eliminated by negative mood \(F(1, 81) = 0.92;\) NS; \(M = 3.98\) vs 4.13], consistent with negative mood triggering a more accommodative, bottom–up and stimulus-driven processing style (Bless & Fiedler, 2006; Forgas, 2006, 2007).

**Likeability**

There was also a significant mood-congruent effect on the likeability measure \(F(2, 244) = 8.74, p < .01\), as happy judges rated both writers as more likeable than sad judges did \(F(1, 163) = 5.99; p < .05\) (Forgas, 2002; Forgas & Bower, 1987), although differences between the positive and neutral and between the neutral and negative groups did not reach significance \(F(1, 163) = .68; NS; F(1, 163) = 2.10; NS; M = 4.91; 4.73, 4.23\]. There was only a marginal halo effect on likeability, as the male writer was evaluated somewhat more positively than the woman \(F(1, 265) = 3.55; p < .06; M = 4.33\) vs 4.91. There was also an interaction between mood and halo effects \(F(2, 264) = 4.15, p < .01\). As predicted, the size of the halo effect was greater in good mood and reduced by negative mood compared with the control condition (Figure 3). Judgments of the two targets were different in the control group \(F(1, 81) = 3.93; p < .05; M = 4.43\) vs 5.04; Cohen’s \(d = .352\), and this effect was greater in positive mood \(F(1, 81) = 4.53; p < .05; M = 4.44\) vs 5.38; Cohen’s \(d = .588\) and absent in negative mood \(F(1, 81) = .31; NS; M = 4.13\) vs 4.33.

**Evidence for Processing Differences**

In order to obtain more direct evidence about the predicted mood-induced processing differences, a separate sample of 40 participants underwent the same positive and negative mood induction and performed the same tasks as described above, with the key difference that the time taken to read the stimulus information and perform the judgments was carefully measured. An ANOVA confirmed the predicted mood-induced processing differences. Those in a positive mood spent less time reading the information than did those in a negative mood \(F(1, 39) = 8.32, p > .01; M = 69.91\) seconds vs 87.28 seconds]. There was also a significant difference between the positive \((M = 52.33\) seconds) and negative \((M = 68.43\) mood conditions in the time taken to complete the judgments \(F(1, 39) = 5.69, p > .05\). Thus, both the reading latency and the judgmental
The observed effects are also conceptually consistent with other research demonstrating mood effects on the processing of persuasive messages, showing that positive mood generally increases the influence of heuristic features such as source attractiveness and source credibility, but negative mood results in the more attentive processing of message content (Wegener, Petty & Smith, 1995). More assimilative processing in happy mood was also found to increase reliance on ethnic stereotypes (Bodenhausen, 1993; Bodenhausen et al., 1994), whereas negative mood increased attention to individuating information (Bless et al., 1996).

The results of this study are broadly consistent with theories predicting mood effects on processing strategies, such as Schwarz and Bless’s (1991; Schwarz, 1990) cognitive tuning model, as well as the affect as input model of Martin et al. (1993) and Clark and Isen’s (1982) distinction between mood-maintenance and mood-repair strategies. These ideas have now been integrated within Bless and Fiedler’s (2006) assimilative/accommodative processing distinction, an explanation that fits particularly well with our findings.

The present results also contribute to the growing recent literature demonstrating the intriguing cognitive benefits often associated with negative mood. For example, negative mood has been found to improve attention and memory (Forgas, Unkelbach & Goldenberg, 2009), reduce eyewitness distortions (Forgas et al., 2005), reduce the fundamental attribution error (Forgas, 1998), increase scepticism and improve people’s ability to detect deception (Forgas & East, 2008a,b) and improve the quality of persuasive arguments (Forgas, 2007). These experiments all point to the surprising and somewhat counterintuitive adaptive benefits of negative affect and support the notion that negative mood typically triggers greater focus on external stimulus information (Bless & Fiedler, 2006).

Practical Implications

Forming accurate impressions on the basis of limited information is also very important in our personal and working lives, especially in organizational, industrial and clinical settings. Despite strong evidence for affective influences on many social judgments (Clore et al., 1994; Forgas, 1995; Fiedler, 2001; Sedikides, 1995; Schwarz, 1990), it is surprising that affective influences on halo effects, perhaps the most ubiquitous source of bias in impression formation, have not been demonstrated previously.

The possibility that positive affect may increase halo effects has important practical implications in areas where impression formation is important, such as in the legal, forensic, clinical, educational, counselling and human resources fields. Training programmes for professionals working in these fields may be designed to increase people’s awareness of such affectively induced biases. Conversely, growing evidence that negative affect may reduce some common judgmental biases, including the halo effect, deserves to be more widely disseminated among professional psychologists (Forgas, 1998, 2002).

Limitations and Future Prospects

Of course, a variety of situational and contextual variables may qualify these results, such as the personal relevance and salience of the task, the complexity of the information, and

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**DISCUSSION**

Forming accurate impressions about others is a complex and demanding cognitive task that is subject to a number of short-cuts and biases. Extrapolating from known information to unknown details (the halo effect) is one of the most common such heuristics people use (Asch, 1946; Crano, 1977). This study presents the first clear evidence that positive affect can increase and negative affect eliminate halo effects in impressions. These findings have a number of interesting theoretical and practical implications.

**Theoretical Implications**

These findings are consistent with theories of impression formation, suggesting that halo effects are most likely to occur in the primary, fast and assimilative processing of stimulus information (Gilbert, 1991; Jones, 1990). A complementary and more elaborate processing strategy, involving slower, more systematic and accommodative processing triggered by negative mood was found to reduce halo effects (Bless & Fiedler, 2006; Gilbert, 1991). The pattern of mood-induced differences in processing latencies demonstrated here is consistent with the predicted assimilative/accommodative processing dichotomy, as also found in prior experiments (Forgas, 2007; Forgas et al., 2005; Forgas & Bower, 1987).

The observed effects are also conceptually consistent with other research demonstrating mood effects on the processing latency data support the hypothesis that those in negative mood processed the information in a more accommodative and attentive manner.

Overall, these results confirm that positive mood promotes a faster, assimilative, top-down processing style that accentuates halo effects, whereas negative affect recruited more accommodative and elaborate processing that eliminated halo effects. This finding supports the assimilative/accommodative processing model (Bless & Fiedler, 2006) and confirms that judgmental biases such as the halo effect are most likely to be eliminated when negative affect triggers a more balanced, stimulus-driven and attentive processing style (Crano, 1977; Forgas, in press; Hendrick & Costantini, 1970).
motivational influences (Forgas, 2002; Forgas & Fiedler, 1996). As Hendrick and Costantini (1970) showed, impression formation biases can be reduced by manipulations that call for more systematic processing directing greater attention to the available stimulus information. The present results suggest that negative affect functions in a similar way, recruiting more elaborate, systematic and accommodative processing.

There are likely to be other variables (such as the familiarity and complexity of the task) that can also call for more detailed or extensive processing, and such influences may well over-ride more subtle mood effects, as found in some earlier research (Forgas, 1991; Forgas, 1995; Forgas & Fiedler, 1996). Future studies may well explore the role of various pragmatic and contextual influences in recruiting different processing strategies and mediating mood effects on the halo effect. Although the present findings, based on a large participant sample, suggest that these effects are likely to be reliable and robust, it would nevertheless be desirable to demonstrate the effects of positive and negative moods on moderating the halo effect in a wider variety of naturalistic situations.

In conclusion, this study was successful in showing that positive mood can increase and negative mood can eliminate halo effects, perhaps the most common constructive bias in impression formation, an effect not previously demonstrated. Much remains to be discovered about how mood-induced processing differences may impact on impression formation and on halo effects in particular. In extending affect-cognition research to the new domain of halo effects, these findings support recent affect-cognition theories (Bless & Fiedler, 2006) and also highlight the importance of mood states in impacting on the process of impression formation.

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