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Published online: 24 Sep 2016.

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Does a person selectively recall the good or the bad from their personal past? It depends on the recall target and the person's favourability of self-views

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ABSTRACT

In three studies, participants remembered real-life behaviours at Time 1 and attempted to recall them at Time 2. When the recall target was the self, a positivity bias emerged: self-positivity. In Study 3, self-positivity extended to an individual (target) who was liked by the participant, but did it not extend to a disliked target. For this latter target, a negativity bias emerged. For recall targets that were participants' acquaintances, self-positivity in recall was also eliminated in Studies 1 and 3, and a negativity bias in recall emerged in Study 2. Finally, in Study 2 (but not Study 3), the favourability of participants' self-view predicted the magnitude of the self-positivity in self-recall, but it did not predict valence effects in other-recall. Taken together, the results indicate that the link between behaviour valence and recall is moderated by the recall target and the favourability of one's self-view.

Memory is a strange sieve: it retrains everything good of us and everything bad of others. Wieslaw Brudziński (Polish satirist and writer; 1920–1996; translated from www.zitate.eu/de/autor/476/wieslaw-brudzinski)

Studies of person memory in naturalistic settings have emphasised two memory targets: others (Lindsay, Ross, Read, & Toglia, 2007) and the self (Beike, Lampinen, & Behrend, 2004; Conway, 2005). Remarkably, although these two facets of person memory share issues, processes, and putative mental structures (Skowronski, McCarthy, & Wells, 2013), there has been little real-world memory research that compares directly patterns in memory for others to patterns in memory for the self. There is reason to maintain that these patterns differ. One domain of difference is likely to be the relation between event valence and event recall.

Several theories converge on the hypothesis that self-memory in naturalistic environments is characterised by a positivity bias among healthy adults. For example, Freud (1953–1974, Vol. 14, pp. 143–158; Vol. 23, pp. 3–137) proposed that defence mechanisms, some conscious, some unconscious, worked to inhibit recall of negative relative to positive events, particularly when the negative events posed a high self-threat. The hypothesis that a positivity bias can emerge in autobiographical memory also resonates with contemporary thinking about the self. In psychologically healthy people, the powerful motives of self-enhancement and self-protection, as well as both cognitive and motivational tendencies toward self-consistency, are likely to promote recall of positive

autobiographical memories and to diminish recall of negative autobiographical memories (Alicke & Sedikides, 2009, 2011; Libby & Eibach, 2007; Sedikides & Strube, 1997). Positivity biases in memory may also occur as a function of self-regulation or emotion-regulation strivings. For example, older adults are more likely to evince a positivity bias in memory than younger ones, and this difference may be a consequence of older adults' enhanced tendency to use autobiographical memory for emotion regulation (Mather & Carstensen, 2005; also see: Skowronski 2011; Walker & Skowronski, 2013). Note that evidence of this positivity effect also emerges in research in which the content of behaviours is highly controlled. For example, laboratory studies on the phenomenon of mnemic neglect are often interpreted as showing that memory for important *negative* behaviours that are relevant to the self is impaired relative to memory for important positive behaviours that are relevant to the self (Sedikides & Green, 2009; Sedikides, Green, Saunders, Skowronski, & Zengel, 2016).

In contrast, some theorising suggests that, when remembering information about others and all else being equal, negative information ought to be better recalled than positive information (Skowronski & Carlston, 1987). One perspective comes from the observation that negative behaviour is normatively unexpected. That is, people generally are met with positive behaviours from others, so, when they encounter negative behaviours, they find them surprising. Such surprise can lead to cognitive processing that is likely to produce heightened recall (Chang & Sanfey, 2009; Sherman & Frost, 2000). A similar

mechanism favouring enhanced memory for the negative behaviour of others comes from a perspective that relies on expectations about peoples' traits. Perceivers expect others to possess mostly positive traits (Rothbart & Park, 1986), so behaviours that contradict such traits are especially surprising. This kind of surprise can also lead to cognitive processing that is likely to produce heightened recall. Indeed, as illustrated by the incongruency effect in person memory (Skowronski et al., 2013), information that is incongruent with expectancies about a person is often well recalled. In theory, under some circumstances, such incongruency can promote recall for negative information about others (Ybarra & Stephan, 1996).

Perspectives that focus on self-motives also lead to the hypothesis that memory for others' negative behaviours will be particularly good: Such memories make the self-look favourable in comparison (Suls & Wheeler, 2000; Wills, 1981). An example of evidence for this view is research conducted by Crocker (1993), who explored the extent to which self-esteem is related to recall for others' behaviours. She measured dispositional self-esteem and then, following a bogus social sensitivity test, provided participants either with success or failure feedback. High self-esteem participants who received failure feedback recalled three times as many negative other-behaviours than did high self-esteem participants who received success feedback. Participants with moderate and low self-esteem did not evince this recall pattern (for similar results, see Ybarra, 1999, 2002). Such findings suggest that, when it comes to remembering information about others, individuals with high self-esteem may manifest enhanced memory for others' negative behaviours, especially when doing so is self-protective (i.e., is a response to self-threat or failure feedback).

Collectively, then, considerable theorising led us to the expectation that people will recall the best about themselves and the worst about others. However, few real-world memory studies have examined, in the context of an established paradigm, how event valence is related to recall of self-events and to recall for events in the life of another person (other-events). Two such studies were conducted by Skowronski, Betz, Thompson, and Shannon (1991; also described in Thompson, Skowronski, Larsen, & Betz, 1996, pp. 76–77). Each participant kept two diaries. The first was a diary of events in the participant's own life, the second was a diary of events in another person's life (the other person was an acquaintance chosen by the participant). A short time after completing the diaries, participants provided ratings that indicated how well they remembered these events. In regression analyses controlling for several other characteristics of the events recorded in the diaries (e.g., event extremity), participants rated the memorability of negative events from their own past as lower than the memorability of positive events from their own past. However, this was not the case in ratings of memory for other-events. In one study, participants rated as roughly similar the memorability of negative and positive events from another person's past; in the other study, they gave higher ratings to the memorability of another person's past negative than positive events.

Given the paucity of data of the type reported by Skowronski et al. (1991), there is a clear need for additional naturalistic memory research that directly compares, in the context of an established paradigm, recall for self-events to recall for other-events. Accordingly, in all three studies reported in this article, we asked participants to remember real-world positive and negative events about themselves, and real-world positive and negative events about another person. At a later time, we assessed recall for these events; in particular, we examined whether, when, and for whom event valence predicted event recall. Our first objective (pursued in all studies) was to gauge support for the hypothesis that people recall the best about themselves and the worst about others. Our second objective (pursued in Studies 2 and 3) was to explore the extent to which putative valence-related effects are moderated by the favourability of participants' self-view.

Study 1

In our initial study, at Time 1 participants remembered both positive behaviours and negative behaviours about themselves, and both positive behaviours and negative behaviours about an acquaintance. Specifically, we asked participants to remember and list up to eight positive behaviours and eight negative behaviours about each target. Each participant did this both for the self and an acquaintance of their choosing. Later, at Time 2, participants recalled as many of each of the behaviours that they provided at Time 1 that they could. Our memory measure was the proportion of Time 1 (retrospective event descriptions) autobiographical behaviours of each type that participants recalled at Time 2 (recall of as many from Time 1 as possible). Note that this free-recall measure provides an objective memory score that differs from the behaviour memorability self-report rating measure that Skowronski et al. (1991) used. Thus, Study 1 has the potential to provide convergent validity to the Skowronski et al. (1991) real-world memory results. To our knowledge, this particular method – assessing memory for what people said that they remembered at Time 1 – has not previously been used to study valence effects in autobiographical memory.

We looked for evidence in our data that, as in Skowronski et al. (1991), people recall the best about the self and the worst about others. If this were the case, participants should recall (1) more self-positive than self-negative behaviours/events, and (2) more other-negative than other-positive behaviours/events.

These predicted outcomes should not be considered givens. For example, some autobiographical memory findings indicate that negative self-referent information is remembered just as well as positive self-relevant information (Talarico, LaBar, & Rubin, 2004). Moreover, the

extensive corpus of laboratory experiments on mnemic neglect for feedback provided to a participant has often used, as control condition, memory for feedback given to a hypothetical other (e.g., Chris). The results from this control condition have typically *not* yielded a negativity bias in memory (Sedikides, Gaertner, & Cai, 2015; Sedikides & Green, 2000, 2009). Finally, at least one real-world memory study (the "88OH" data set reported in Thompson et al., 1996, p. 77) has also yielded results indicating that other-referent positive information is remembered just as well as other-referent negative information.

Method

Participants
Participants were 26 undergraduate students (most of whom were Caucasian and 22 of whom were women) from the University of Southampton. Their average age ranged from 18 to 42 years (*M* = 20, *SD* = 4.84). One participant did not complete the recall task, and we discarded her data prior to analyses.

Design, procedure, and materials
Actor and behaviour valence. At Time 1, participants remembered eight negative behaviours enacted by them and eight positive behaviours enacted by them as well as eight negative behaviours enacted by an acquaintance and eight positive behaviours enacted by an acquaintance. In all, each participant recalled and typed 32 event-behaviours, starting with a Positive Self, followed by Negative-Acquaintance, Negative-Self, and then Positive-Acquaintance. Participants were instructed that all to-be-remembered behaviours were to be between 1 and 24 months old.[1]

The design of the study reflected these remembered behaviours, and included only the within-subject variables of actor (self vs. acquaintance) and behaviour valence (negative vs. positive). We defined "acquaintance" for participants as follows: "This person should be someone whom (1) you know well enough to recall 16 of his/her past behaviours, and is/was someone whom (2) you neither like nor dislike."

Behaviour recall. At Time 1, participants took approximately 40 minutes to complete the research task in a lecture theatre. Each participant remembered behaviours that they enacted and behaviours that an acquaintance of theirs enacted. At Time 2, one month later, participants who remained in the study picked up a booklet in a student commons area. On their own time and in a context of their choice, they recalled and recorded in the booklet as many of the behaviours they reported at Time 1 as they could. They returned their completed booklet to a secure drop box in the commons area.

The behaviours that participants recalled and described were generally quite typical of life events. For instance, one participant reported: (positive, self) "was friendly to someone"; (positive, acquaintance) "let us stay with her for 2 weeks"; (negative, self) "talked about someone behind their back"; and (negative, acquaintance) "got cross with someone".

Scoring of recalled behaviours. Two research assistants (RAs) contributed to the matching of recalled behaviours across sessions. The RAs each counted participants' identical or nearly verbatim matches between Time 1 and Time 2 as correct recall. They counted blanks and misremembered behaviours as incorrect recall. A few participants did not generate 32 behaviours at Time 1. Thus, we derived the dependent measure from the proportion of behaviours recalled in each cell of the Actor × Behaviour Valence matrix. We computed these proportions by dividing the number of behaviours correctly recalled in each cell by the number of behaviours listed for that cell at Time 1 (i.e., usually eight). Hence, we calculated for each participant correct recall proportions for (1) positive self-behaviours, (2) negative self-behaviours, (3) positive acquaintance behaviours, and (4) negative acquaintance behaviours. The data, then, were clustered, such that each participant's responses contributed to four recall proportions: 2 (Actor: self vs. acquaintance) × 2 (Behaviour Valence: negative vs. positive).

Results and discussion

Results from an analysis of the proportions of items recalled indicated that the Actor × Behaviour Valence interaction was significant, $F(1, 96) = 6.21$, $p = .01$, $d = 0.51$. Examination of the means for this interaction shows that participants recalled a significantly lower proportion of negative (*M* = 0.46) than positive (*M* = 0.54) self-behaviours, $F(1, 96) = 4.13$, $p < .05$, $d = 0.42$. This outcome replicates findings from the mnemic neglect literature suggesting that memory for important negative information that is relevant to the self is impaired (Sedikides & Green, 2009; Sedikides et al., 2016). This outcome also replicates (with a free-recall measure instead of a self-rating measure) the Skowronski et al. (1991) findings suggesting that positive self-information is better recalled than negative self-information. The positivity bias we obtained does not characterise real-life memories about others. Participants exhibited only a directional tendency toward recalling a greater proportion of negative (*M* = 0.53) than positive (*M* = 0.47) acquaintance behaviours, $F(1, 96) = 2.23$, $p = .14$, $d = 0.31$.

Study 2

Despite the absence of statistical significance for the latter effect, on the whole, the results pattern fits with the content of the Brudziński quote that began this article, and that was echoed in the results reported by Skowronski et al. (1991): People recall the best about themselves, but the worst about others. Study 2 examined the extent to which these effects are related to the favourability of an

individual's self-view. Here, we asked whether the recall pattern for self-behaviours that emerged in Study 1 (i.e., inferior memory for negative than positive self-behaviours) is especially strong among persons with favourable self-evaluations.

We could not derive an unequivocal a priori prediction regarding the link between the magnitude of self-view favourability and the extent to which people recall the worst about others. On the one hand, on the basis of theory (Alicke & Sedikides, 2009; Sedikides, 2012; Sedikides et al., 2015), recalling the best about the self should be self-enhancing and especially likely in those who have a highly favourable view of themselves (for relevant evidence, see Hart et al., 2011; Story, 1988; Sutin & Robins, 2008). Indeed, the literature suggests that one way to promote positive feelings about oneself is to think poorly about others (Fein & Spencer, 1997). However, the case of positivity bias in self-recall/negativity bias in other-recall may not be that simple. There is some evidence that negative thinking about others primarily emerges in the face of self-threat, and does not emerge in the absence of self-threat. For example, Fein and Spencer (1997) reported that participants' judgments were not adversely affected by their prejudices unless they were recently exposed to information that threatened the self. Crocker (1993) provided a similar demonstration in the domain of person memory. As mentioned previously, high self-esteem participants who received failure feedback recalled many more negative behaviours of others compared to high self-esteem participants who received success feedback. Ybarra (1999, Experiment 1) supplied complimentary evidence by showing that giving participants success feedback eliminated any negative memory bias for the behaviours enacted by others. Extrapolating from these findings, we argue that, in the absence of self-threat, self-view favourability will be unrelated to the magnitude of negativity bias in memories about others. Those who have a favourable self-view will not experience a need to think negatively about others except in response to a self-threat.

Method

Participants

Participants were 29 undergraduate, mostly Caucasian, students (26 women) from the University of Southampton. Their average age ranged from 18 to 21 years ($M = 18.72$, $SD = 0.83$).

Procedure and design

The procedure resembled closely that of Study 1, with two exceptions. First, to test the generality of Study 1 findings, we doubled the retention interval; that is, two (rather than one) months passed from Time 1 to Time 2. Second, one RA (rather than two) matched recalled behaviours across sessions. As in Study 1, each participant recalled and typed 32 behaviours in the following order: Positive Self,

Negative-Acquaintance, Negative-Self, and Positive-Acquaintance.

We measured self-view favourability via the How I See Myself questionnaire (HSM; Taylor & Gollwitzer, 1995), which participants completed following the recall task at Time 2. The HSM consists of 21 positive characteristics (e.g., academic ability, popularity) and 21 negative characteristics (e.g., selfish, pretentious). Participants rate themselves on each characteristic in comparison to their peers on a scale ranging from 1 (*much less than the average college student of my age and gender*) through 4 (*about the same as the average college student …*) to 7 (*much more than the average college student …*). We reverse-scored ratings on negative characteristics and summed all ratings. Higher scores reflect more favourable self-views (i.e., seeing oneself as better than the average peer). The HSM evinced good reliability: Cronbach's alpha was .87 (95%CI: lower = .83, upper = .90).

Results and discussion

We wondered whether the proportion of behaviours recalled varied as a function of actor and behaviour valence, and whether this recall pattern depended on self-view favourability. In particular, we asked, as in Study 1, if participants would recall negative behaviours they enacted more poorly than positive ones, but would recall negative behaviours an acquaintance enacted better than positive ones. More importantly, we asked whether these effects are especially strong among participants with favourable self-views.

We used an Actor (self vs. other) × Behaviour Valence (positive vs. negative) × Self-View Favourability regression analysis in which we treated self-view favourability as a continuous variable. The full regression model significantly predicted recall, $F(8, 107) = 8.71$, $p < .0005$. Examination of the individual effects in the regression model yielded results consistent with predictions. As in Study 1, the Actor × Behaviour Valence interaction was significant, $F(1, 112) = 63.48$, $p < .0005$, $d = 1.51$. Participants recalled fewer negative ($M = 0.35$) than positive ($M = 0.65$) self-behaviours, $F(1, 112) = 36.66$, $p < .0001$, $d = 1.14$, but recalled more negative ($M = 0.63$) than positive ($M = 0.37$) acquaintance behaviours, $F(112) = 27.17$, $p < .0001$, $d = 0.98$. This pattern of means duplicates that observed in Study 1. Notably, though, the difference between recall for positive and negative behaviours was significant for both the self (where it was also significant in Study 1) and acquaintance (where it was not significant in Study 1). Hence, in comparison to Study 1, the Study 2 results are an even better fit with the Brudziński assertion [echoed by Skowronski et al. (1991)] that people recall the best about themselves, but the worst about others.

However, this conclusion is qualified by the emergence of a significant Actor × Behaviour Valence × Self-View Favourability interaction, $F(1, 107) = 5.06$, $p = .027$, $\Delta R^2 = .03$. To explore and present this interaction efficiently,

we calculated for each participant a difference score by subtracting the proportion of negative behaviours recalled from the proportion of positive behaviours recalled. We then examined the extent to which the HSM predicted this difference score at the 10th, 25th, 50th, 75th, and 90th percentiles of HSM, coupled with the corresponding HSM rating in parentheses.

The difference score was generally positive for self-recall (i.e., self-positivity bias). Yet, whereas this self-positivity recall bias was significant at all HSM levels, at lower HSM levels it was smaller and at higher HSM levels it was larger: HSM scores in the lowest percentile, 10th ($M = 3.97$) evinced the lowest positivity bias of 0.17 (S.E. = .07), $t = 2.44$, $p = .01$; HSM scores in the 25th percentile ($M = 4.19$) evinced a higher positivity bias of 0.22 (S.E. = .06), $t = 3.96$, $p = .0001$; HSM scores in the 50th percentile ($M = 4.47$) evinced a slightly higher positivity bias of 0.29 (S.E. = .04), $t = 6.07$, $p < .0005$; HSM scores in the 75th percentile ($M = 4.67$) evinced a higher positivity bias of 0.34 (S.E. = .05), $t = 6.40$, $p < .0005$; and finally, HSM scores in the 90th percentile ($M = 4.88$) evinced the highest positivity bias of 0.38 (S.E. = .07), $t = 5.88$, $p < .0005$. Additionally, this change in magnitude across levels of self-view favourability reflected a significant linear increase: $B = 0.23$ (S.E. = .11), $t = 2.09$, $p = .04$. Thus, as predicted, more favourable self-views were related to larger positivity biases in self-memory.

The results differed substantially for acquaintance memory. These results generally evinced a significant negativity bias in recall that emerged across all HSM levels. This negativity recall bias for acquaintance memory appeared to be smaller at lower HSM levels and larger at higher HSM levels: 10th (HSM = 3.97) = −0.19 (S.E. = .07), $t = −2.64$, $p = .01$; 25th (HSM = 4.19) = −0.22 (S.E. = .06), $t = −3.79$, $p = .0002$; 50th (HSM = 4.47) = −0.25 (S.E. = .04), $t = −5.22$, $p < .0005$; 75th (HSM = 4.67) = −0.28 (S.E. = .05), $t = −5.22$, $p < .0005$; and, 90th (HSM = 4.88) = −0.30 (S.E. = .07), $t = −4.58$, $p < .0005$. However, this change in magnitude across levels of self-view favourability was not significant, $B = −0.12$ (S.E. = .11), $t = −1.08$, $p > .27$. Thus, whereas the magnitude of the difference scores suggest that increased self-view favourability was related to larger negativity biases in acquaintance memory, this effect did not emerge in a reliable fashion.

Study 3

Study 2 yielded a positivity bias in self-memory that was linked to the extent to which one viewed the self favourably, and a negativity bias in acquaintance memory that, though suggestive, was not reliably linked to the extent to which one viewed the self favourably. In Study 3, we examined target-relevant variables that might alter the relationship between event valence and memory for target's behaviours. In particular, we assessed recall for behaviours about each of four targets: the self, a liked other, a neutral other, and a disliked other. Of course, we

expected to obtain a positivity bias in memory for the self, replicating Studies 1 and 2. Additionally, we hypothesised that other-recall should depend on the degree to which the person about whom memories are generated is liked or disliked (for relevant evidence, see: Peterson, Bonechi, Smorti, & Tani, 2010; Tani, Bonechi, Peterson, & Smorti, 2010).

We relied on two sources to derive this hypothesis. The first source is congruity: memories generally fit with the impressions and feelings that people have about another person. Such congruity may aid the cognitive processing that affects memory. One way it may do so is by attuning perceivers to information that fits actors (Zadny & Gerard, 1974). A second way in which congruity may aid memory is that behaviours that fit expectancies may be processed and stored with relative ease (Sherman & Frost, 2000). Memory congruity may also be influenced by features of storytelling (Skowronski & Walker, 2004; Tversky & Marsh, 2000): People tell positive stories about liked others and negative stories about disliked others. Stories may be retold, and rehearsals should strengthen memory in a person-congruent manner.

A second source of the hypothesis that other-recall should depend on the degree to which the person about whom memories are generated is liked or disliked is research indicating that liked others are included in the self, whereas disliked others are excluded from the self (Aron, Lewandowski, Mashek, & Aron, 2013). This perspective suggests that, as liking for the other increases, recall for them will increasingly resemble the self-positivity effect in recall. Such a pattern has emerged in research on mnemic neglect (Sedikides & Green, 2004), where recall for close friends resembled that for the self. Conversely, because disliked others are excluded from the self, recall for their negative behaviours might be particularly high.

Finally, we re-tested the relation between self-view favourability and recall for self-behaviours and other-behaviours. Adopting a convergent operations approach (Campbell & Fiske, 1959), we operationalised self-view favourability differently than we did in Study 2. We used the Rosenberg Self-Esteem Scale (RSES, Rosenberg, 1965) instead of the HSM. We hypothesised that, as in Study 2, the positivity bias in self-recall would be larger for participants with above average (vs. average and below average) self-esteem. The Study 2 findings lead to the expectation that no relation between self-esteem and the negativity of other-recall would emerge, although, as noted earlier in this article, some theoretical propositions might predict the emergence of such a relation.

Method

Participants

An RA approached groups of prospective volunteers, all undergraduates, in classrooms at the University of Limerick, Ireland. Seventy-four persons initially volunteered to

take part in the study; however, 58 (45 women) completed it. Their age ranged from 17 to 46 ($M = 20.57$, $SD = 4.28$).

Procedure and materials

The procedure resembled the one we used in Studies 1 and 2. On arrival to the first session, participants were randomly assigned to one of the study conditions. They then each recalled and described five negative behaviours and five positive behaviours that occurred between 1 and 24 months ago. Thus, event valence was a within-subject variable.

Two weeks later (Time 2), those 58 participants who returned to the second session were instructed to recall as many of the 10 behaviours that they described two weeks earlier as possible. This time delay differed from the delays used in Study 1 (1 month) and Study 2 (2 months), a methodological innovation intended to test for the generality of findings. Finally, participants completed the dispositional self-esteem measure.

Manipulating the memory target (actor). Each participant was prompted to describe "An important [negative or positive] behaviour that the [actor] did." Actor was a between-subjects variable. Participants received one of four actor prompts: Something (1) the participant did (self), (2) an *acquaintance* of theirs did, (3) someone whom they *like* did, or (4) someone whom they *dislike* did.
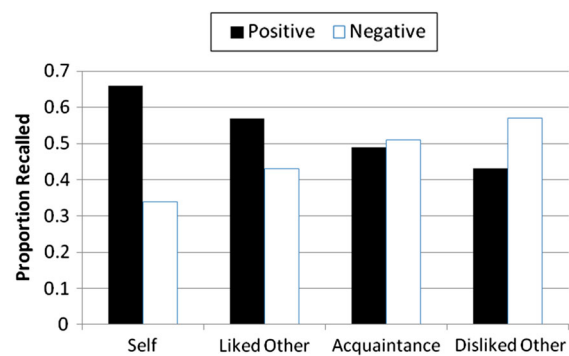
Behaviour recall. We used the same procedure for calculating the proportion of correctly recalled positive and negative behaviours as in Studies 1 and 2.

Self-esteem. We assessed self-esteem with the RSES (Rosenberg, 1965). It evidenced good internal consistency: Cronbach's alpha = .85 (95%CI: lower = .80, upper = .89).

Results and discussion

We scored and tabulated the proportions of negative behaviours recalled and positive behaviours recalled in the same manner as in Study 2. A mixed-model ANOVA on these recall proportions yielded a significant Actor × Behaviour Valence interaction, $F(3, 54) = 6.53$, $p = .0008$, $\eta_p^2 = .27$.

Decompositions of this interaction by actor (Figure 1) showed that participants: (1) recalled fewer negative ($M = 0.34$) than positive ($M = 0.66$) self-behaviours, $F(1, 13) = 18.95$, $p = .0008$, $\eta_p^2 = .59$; (2) tended to recall fewer negative ($M = 0.43$) than positive ($M = 0.56$) behaviours pertaining to the liked other, a difference that did not achieve statistical significance $F(1, 13) = 1.79$, $p = .20$, $\eta_p^2 = .12$; (3); recalled about the same proportion of negative ($M = 0.49$) and positive ($M = 0.51$) behaviours for the neutral acquaintance, $F(1, 15) = .01$, $p = .91$, $\eta_p^2 = .001$; and (4) recalled more negative ($M = 0.57$) than positive ($M = 0.43$) behaviours pertaining to the disliked other, $F(1, 13) = 5.97$, $p = .03$, $\eta_p^2 = .31$.

Figure 1. Study 3: Proportion of correctly recalled autobiographical behaviours enacted by self versus a liked other versus an acquaintance versus a disliked other.

Decompositions of this interaction also focused on actor differences within each behaviour valence. These were conducted using pairwise Tukey tests with the alpha level for each test set at .05. For negative behaviours, recall for the self ($M = 0.34$) significantly differed from recall for an acquaintance ($M = 0.49$) and recall for a disliked other ($M = 0.57$). No other pairwise comparisons were significant. Likewise, for positive behaviours, self-recall ($M = 0.66$) significantly differed from acquaintance recall (0.51) and recall for a disliked other ($M = 0.43$). No other pairwise comparisons were significant.

Collectively, these results indicate that recall for a liked other resembled recall for the self. Recall for acquaintance behaviours and the behaviours of a disliked other both differed from recall for self-behaviours.

We conducted an additional analysis to examine whether the Study 2 recall patterns varied by self-view favourability. We entered the recall scores into an Actor (self vs. other) × Behaviour Valence (positive vs. negative) × Self-View Favourability regression analysis in which the self-view favourability variable was treated as continuous. Unfortunately, due to a procedural error, we lost the self-esteem scores for 20 participants. The triple interaction was not significant, $F(3, 40) = .79$, $p = .50$, $\eta_p^2 = .27$. Hence, the Actor × Behaviour Valence interaction remained relatively constant across levels of participant self-esteem.

General discussion

How is recall of an individual's personal past (e.g., events or behaviours) linked to the valence of her or his past? Some authors suggest that "bad is stronger than good" (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001), which implies that negative memories will be recalled better than positive ones. In comparison, when discussing recall of an individual's personal past, pundits often rely on old cultural axioms such as "people remember the world using rose-coloured glasses". This implies that memory for the past ought to favour the positive. A third position reflects the quote from with Wieslaw Brudziński, with which we led off this article: The link between the

valence of one's past and recall should be partially determined by the recall target. That is, individuals may recall the best about themselves, but may recall the worst about others – a position that has already received some empirical support (Skowronski et al., 1991).

The present article reports results from three studies that tested these divergent predictions. Participants recalled and listed up to eight positive behaviours about one's own self and about an acquaintance and eight negative behaviours about one's own self and about an acquaintance. Later, at Time 2, participants attempted to recall each of the behaviours that they provided at Time 1. To our knowledge, our research pioneered this method for the study of valence effects in autobiographical memory. The method provides an objective memory measure (percentage of Time 1 events or behaviours recalled at Time 2) that does not rely on subjective participant ratings of memory quality or memory strength (as in Thompson et al., 1996).

The recall target varied across studies. One target was the participant herself or himself. A second target was an acquaintance of the participant's choosing. These two targets appeared in all studies. In Study 3, we introduced two additional targets. One of these was an individual who was liked by the target. The second was an individual who was disliked by the target. This infrequently used methodological aspect (i.e., manipulation of the recall target) compares directly self-recall with other-recall (Sedikides & Green, 2004; Skowronski et al., 1991).

In all studies, when the target was the self, a positivity bias in recall emerged. At Time 2, participants recalled a larger proportion of the positive Time 1 behaviours they had remembered than the proportion of negative Time 1 behaviours they had remembered. In Study 3, this positivity bias in recall descriptively extended to individuals who were liked by participants. The valence effect did not reach conventional levels of significance, but we suspect that this simply reflects the relatively low power for the valence comparison for these liked actors. This interpretation is supported by inspection of actor effects within valence: the recall for liked individuals resembled recall for the self, whereas the recall for acquaintances and disliked individuals did not.

The results fit with other real-world memory findings, suggesting that self-memory favours the positive (Thompson et al., 1996; but see Talarico et al., 2004). Thus, at least in the domain of autobiographical memory, bad is not stronger than good (Baumeister et al., 2001). Indeed, sometimes good is stronger than bad. This power of positivity in autobiographical memory extends beyond the content of recall. Affect in response to autobiographical memories favours positive events at the expense of negative events, a phenomenon known as the fading affect bias (Skowronski, Walker, Henderson, & Bond, 2014). This differential fading of affect provides a potential mechanism for preferential positivity in recall. Affectively intense stimuli are recalled better than less intense stimuli. Thus, if positive

stimuli retain affect better than do negative ones, this differential affect retention might help to explain the positivity bias in self-recall (Holmes, 1970; but see Lindeman, Zengel, & Skowronski, in press; Walker, Vogl, & Thompson, 1997).

However, one concern in most autobiographical memory studies (including those reported in the present article) is that the content of events is relatively uncontrolled, so that positivity effects in recall can emerge for reasons other than event valence (e.g., event extremity, self-relevance). In this regard, it is important to note that evidence of this positivity effect even emerges in laboratory experiments in which the content of behaviours is highly controlled. For example, research on mnemic neglect shows that memory for important and self-relevant negative behaviour is impaired relative to memory for important and self-relevant positive behaviours (Sedikides & Green, 2009; Sedikides et al., 2016).

Such self-positivity effects in memory fit with considerable theorising. Self-enhancement motivation and self-protection motivation, as well as both cognitive and motivational tendencies toward self-consistency, should generally work to promote recall of positive autobiographical memories and to diminish recall of negative autobiographical memories (Alicke & Sedikides, 2009; Libby & Eibach, 2007; Sedikides & Strube, 1997). Positivity biases in self-memory may also reflect attempts at self-regulation (Mather, 2006; Mather & Carstensen, 2005; Skowronski 2011; Walker & Skowronski, 2013).[2]

Indeed, the Study 2 results fit with this self-regulation view. Studies 2 and 3 examined how the positivity bias in self-recall was related to the extent to which a person felt favourably about themselves. This positivity bias in recall extended across all levels of self-view favourability, and the positivity bias in self-memory was greatest for individuals who viewed themselves most favourably.

In comparison, the positivity bias in self-recall did not extend to recall targets who were disliked by participants. For these targets, a negativity bias in recall emerged, such that participants recalled a higher proportion of the negative than positive behaviours they had remembered at Time 1. This positivity bias was also eliminated for recall targets who were participants' acquaintances. The positivity bias was eliminated in two studies (Studies 1 and 3), and indeed, a negativity bias in recall emerged in one of these studies (Study 2). Moreover, despite the notion that one way that people can feel better about themselves is to think poorly of others, in Studies 2 and 3 there was no evidence of a link between degree of self-view favourability and valence effects in memory for others.

However, in evaluating this conclusion, one should recognise that the results of Studies 2 and 3 are not entirely consistent. Study 2 indicated that the positivity bias in self-memory was related to the magnitude of self-view favourability, whereas Study 3 did not. It is unclear whether this inconsistency is caused by differences in the measures of self-view favourability, by methodological differences (i.e.,

different time delays), or by the relatively low power of Study 3 that resulted from loss of the self-esteem data for some participants. These are issues that remain to be addressed in future investigations.

We also obtained inconsistent results with regard to the negativity bias in recall for acquaintance behaviours across studies. Here, the difference in the Time 1–Time 2 recall intervals across the studies is relevant. The negativity bias in recall for acquaintance behaviours did not emerge at the two shorter intervals (two weeks and one month), but did emerge at the longest interval (two months). An obvious next step, then, is to vary systematically the recall interval in the context of a single study in order to test if this methodological detail can reconcile this inconsistency.

Yet, the results of all three studies were clear in supporting the core idea that the relation between valence and memory for behaviours in an individual's personal past is linked to the target of recall. However, the results contradict the Skowronski et al. (1991) assertion that people remember the worst about others. Instead, the results suggest that there may be a positivity bias in memory for liked others, and that the negativity bias in recall may be restricted to disliked others, and perhaps to some neutral others (i.e., lesser familiar neutral others).

Much more remains to be done on this topic. First, a minor revision to the method and procedure would be to counter-balance event valence during the initial event recall task, such that half of the participants each recall and describe negative and then positive events, and that the other half of the participants each recall and descript positive and then negative events. Obtaining a similar pattern of results to what we reported in the present manuscript would quell concerns related to context effects.

Next, consider the positivity bias that we obtained in self-memory. One fruitful empirical direction would be to explore possible reasons underlying this effect. Some of these reasons may pertain to the cognitive representations of behaviours from the personal past. For example, positive behaviours may be more cognitively accessible than negative ones, and such accessibility may be responsible for the positivity bias in self-recall. That is, when searching one's own memory, for most people it may be easier to find positive than negative behaviours. Such accessibility may be linked to the self-relevance of behaviours. Positive behaviours generated by participants may be perceived to be more self-relevant than negative ones. Thus, when the self is used as a memory search cue, the strong links between the self and positive behaviours might make those behaviours easy to find relative to negative ones.

Such mechanisms contribute to general memory for events from the personal past, but they could just as well apply to the specific memory situation that we planned in our studies (which is roughly "remembering what you reported remembering"). That is, these mechanisms would apply if one assumed that reporting positive events about the self is positive and that reporting negative events

about the self is not. However, because our memory situation was unique, the results that we obtained may also involve mechanisms that are unique to our memory task. For example, people may be more used to saying positive things about the self than negative things about the self (Walker & Skowronski, 2013), so general self-knowledge ("this is the kind of thing that I would say about myself") and self-memory ("I have said this about myself in the past") may provide cues that facilitate recall of positive personal events relative to negative personal events. Similarly, if a personal event had been recalled in the past, such rehearsal practice may strengthen the cognitive procedures that are involved in reporting life events; these too may favour recall of positive personal events.

Another issue of concern is the extent to which participants followed our instructions to recall a neutral acquaintance. They may not have done so. In retrospect, it would have been desirable to obtain likability ratings of those individuals who were the memory targets. If participants followed our instructions, that would have verified the neutrality of the memory targets. If participants did not follow our instructions, we could have done subsidiary analyses based on the likability of the memory targets chosen. However, results from Study 3 provide insight into this issue. These results show that patterns of recall for others vary by other likability. Clearly, the data are not consistent with the idea that people spontaneously recalled liked others (despite instructions to recall neutral others). Liked others were associated with a positivity bias in recall, and that did not emerge in either Study 1 or Study 2. Instead, the data from Study 1 resemble the neutral target data from Study 3, and the data from Study 2 resemble the negative target data from Study 3. As such, Studies 1 and 2 leave open the possibility that the data may have been influenced by variability in the likability of the recall targets that participants selected. Future research needs to build on the method used in Study 3 to eliminate this interpretive ambiguity.

One other issue of note is that our samples, as many do in psychological studies that sample conveniently, included a preponderance of women. Although we did not hypothesise about the potential influence of participant gender as a moderator of the behaviour/event valence by actor interaction, gender differences in the positivity of self-memory could be pursued more rigorously in future studies.

Finally, alternative memory measures may eliminate the positivity bias in free recall. For example, would such a positivity bias emerge in studies that assessed recognition memory or that provided recall cues? Evidence from the mnemic neglect paradigm (Green, Sedikides, & Gregg, 2008; Pinter, Green, Sedikides, & Gregg, 2011) reveals a diminishment or loss of mnemic neglect when participants move from a free-recall task to a recognition task or a cued recall task.

These intriguing possibilities point to the inadequacy of simplistic conclusions such as "bad is stronger than good"

and "people remember the world through rose-coloured glasses". Instead, the relationship between behaviour valence and autobiographical memory is likely to be complex, probably mediated by variables such as the characteristics of the remember, the recall target, the exact nature of the behaviours recalled, the manner in which memory for the behaviours is assessed, and the time delay between the event and recall. Future research needs to pursue all of these possibilities to understand better how and why people recall or forget elements from their personal past.

Notes

1. In Study 1, we also asked participants to report the affect that was associated at each event, both at its occurrence and at recall. We collected these data to test the Fading Affect Bias in memory, and thus we do not report them here.

2. There is currently a debate about whether motivated tendencies toward self-positivity emerge across cultures. In particular, some have claimed that self-positivity, whether manifest in self-judgment or in memory, may not emerge (or may emerge in muted form), in individuals who are from Far Eastern cultures (e.g., Heine, Lehman, Markus, & Kitayama, 1999). Results from several studies are consistent with this view (e.g., Falk, Heine, Takemura, Zhang, & Hsu, 2015; Heine & Hamamura, 2007; Heine et al., 1999). However, other evidence suggests that self-positivity in self-judgment and self-memory does indeed emerge in individuals from Far Eastern cultures (Brown, 2010; Cai, Wu, Shi, Gu, & Sedikides, 2016; Chiu, Wan, Cheng, Kim, & Yang, 2011; Sedikides et al., 2015; Sedikides et al., 2016; Skowronski, Sedikides, Xie, & Zhou, 2015). It may be that both of these positions are correct in some circumstances: In cross-cultural studies, self-positivity may emerge only under some circumstances or only on some measures (Cai, Brown, Deng, & Oakes, 2007; Chiu et al., 2011; Hepper, Sedikides, & Cai, 2013; Lafrenière, Sedikides, & Lei, 2016; Oishi, 2002; Su & Oishi, 2011). It remains to future research to explore which of these circumstances will apply to the memory procedure described in the present manuscript.

Disclosure statement

No potential conflict of interest was reported by the authors.

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