Running head: Negativity in secondhand impressions

When the dirt sticks:

Negativity in secondhand impressions

Daniel R. Ames and Lara K. Kammrath

Columbia University

Direct correspondence to: Daniel Ames
Columbia Business School
707 Uris Hall, MC 9109
3022 Broadway
New York, NY 10027

da358@columbia.edu
(212) 854-0784

Abstract

What happens when impressions are passed from person to person? Prior work has identified extremity effects: bad impressions become worse while good ones become better. In contrast, we predict that negativity effects often emerge, with both bad and good initial impressions becoming worse as they are passed along. We draw on research examining negativity biases and social transmission to hypothesize that negative information will often be transmitted disproportionately as impressions are communicated. Four studies using real-world and experimentally-controlled initial impressions show that secondhand perceivers frequently have worse impressions of targets, regardless of whether targets were seen positively or negatively by firsthand perceivers. We reconcile our results with prior work, identify boundary conditions, and highlight new directions for secondhand impression research.

Keywords: secondhand, impression, negativity, extremity, transmission

When the dirt sticks: Negativity in secondhand impressions

At ev'ry word a reputation dies. – Alexander Pope

Many of the people we meet for the first time have heard something about us before—and we have often heard a thing or two about them. When reputations precede us, they can affect how these initial interactions unfold. A first date, for instance, might be derailed when a partner does not seem as enchanting as we had been led to believe. Sometimes, face-to-face meetings never occur and important decisions are based solely on secondhand impressions. Such is the case when a manager passes over a job candidate she has heard disconcerting things about or a college student avoids a course after hearing that the instructor was temperamental or tedious.

Surely impressions change as they are handed from person to person, but does transmission simply introduce noise or do impressions change in systematic ways? Gilovich (1987) sparked attention in the topic when he argued that secondhand impressions become exaggerated: As they are passed along, impressions become simpler, sharpened, and polarized. Gilovich's account of secondhand *extremity effects* highlighted the role of causal attribution and suggested that situational information was de-emphasized or "masked" by tellers while internal attributions for behaviors were strengthened. Situational impetuses for good deeds and mitigating excuses for bad behavior fade from firsthand observers' accounts, leaving listeners to trace bad and good acts directly to correspondent traits in a target's personality. As a result, to secondhand observers, bad actors seem worse while good ones seem better.

Inman, Baron, and colleagues (e.g., Baron, David, Brunsman, & Inman, 1997; Inman, McDonald, & Ruch, 2004) have explored other mechanisms for extremity effects

in secondhand impressions. Their initial work (Inman, Reichl, & Baron, 1993) concluded that, at least for negative impressions, extremity effects were "due more to the deficient encoding of listeners than … to the selective transmission of information by tellers" (p. 547). Baron et al. (1997) found that secondhand listeners showed more marked polarization under cognitive load. They advocated a "clarity-capacity" mechanism, claiming that when teller accounts were unclear and/or listeners had limited processing capacity, situational information that would temper trait inferences was less likely to be integrated into impressions (cf Gilbert, Pelham, & Krull, 1988).

While prior work has identified different mechanisms, it has focused on extremity effects for both positive and negative impressions. Yet questions remain about how widely this pattern extends. While we believe extremity effects can emerge, we suspect that secondhand impressions often show a different pattern, attributable to an altogether different mechanism. In this paper, we argue that in many cases, impressions—whether initially bad or good—become worse as they are passed along. Our results indicate these *negativity effects* happen in part because "dirt sticks," with perceivers being more likely to transmit negative than positive information about a target. Extremity and negativity mechanisms would both predict that bad impressions should worsen as they are passed along; our account differs from prior work specifically in predicting that good impressions may often worsen as well. In the rest of this paper, we outline reasons for why a different pattern emerges in our results and also identify potential boundary conditions.

To the extent that secondhand impressions shape everyday judgments and interactions, our account has potentially important implications for both perceivers and

the perceived. More generally, we join other scholars of secondhand impressions in arguing that the social life of impressions is an important topic that deserves to be better understood.

Positive and negative information

Negative information—observations and input that signal bad and unwanted things—appears to play a substantially greater role than positive information in our psychological lives (for reviews, see Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Rozin & Royzman, 2001). In domains ranging from decision-making to learning, people pay closer attention to negative information, process it more carefully, and show greater resistance to its disconfirmation. One noteworthy research tradition supporting these effects revolves around the role of negative information in (firsthand) impression formation. Even without awareness, perceivers attend more readily to negative than positive information (e.g., Pratto & John, 1991) and many impressions are swayed more by negative than positive information (e.g., Reeder & Coovert, 1986; Skowronski & Carlston, 1989). Perceivers also appear to more readily recall a target's unfavorable (vs. favorable) behaviors as described by a third party (Wyer, Budesheim, Lambert, & Swan, 1994). In sum, there appears to be widespread evidence for negativity effects both in general and in the specific domain of impression formation.

Some work suggests that negative information may also be more likely to be transmitted from one individual to another. Given that conversational partners often strive to be relevant, informative, and perhaps entertaining, it is no surprise that they would tend to dwell on negative information. Heath (1999), for instance, found that in certain domains, such as crime stories, people reported greater intentions to retell bad news than

good news. Research on gossip reveals that a substantial share of daily conversations, perhaps sixty percent or more, involves discussion about people who are not present and that the majority of such gossip is negative (e.g., Wert & Salovey, 2004). Marketing scholars have noted that word-of-mouth discussions and product/company rumors tend to feature negative information (e.g., Kamins, Folkes, & Perner, 1997). Media and communications researchers, meanwhile, have shown that negative news stories tend to dominate coverage, be followed more closely by viewers, and be better remembered than positive news stories (see, e.g., Glassner, 1999; Grabe, Lang & Zhao, 2003; Newhagen & Reeves, 1992; Pew Research Center, 1997).

Negative information, then, appears to be particularly important in perceiving the social world. Compared to positive information, people seem more likely to seek negative information out, attend to and remember it, weigh it heavily in judgments, and pass it along. Such effects may emerge because negative information about others is more diagnostic, better serves our social vigilance, yields flattering social comparisons, or is simply more titillating and fun to ruminate and discuss (e.g., Baumeister et al., 2001; Wert & Salovey, 2004; Dunbar, 2004; Guerin, 2003). While research indicates these effects are often quite powerful, no prior studies appear to have invoked negativity (in transmission, attention, and so forth) as a mechanism in secondhand impressions.

Our account

We believe that the negative information effects discussed above will often apply to secondhand and subsequent impressions. If negative information is disproportionately likely to be passed along, both good and bad initial impressions that contain some share

of negative detail will become increasingly dominated by "bad" items, leading second- and n^{th}-hand observers to have more negative impressions of a target.

But why have these effects not been found in previous studies, a handful of which have shown that good impressions get better rather than worse? Much of the prior work on secondhand impressions has focused on single, or sometimes a pair of, ambiguous episodes of behavior with mitigating situational factors (Gilovich, 1987 – Studies 1 and 2; Inman et al., 1993 – Studies 1 and 2; Baron et al., 1997 – Studies 1 and 2). For instance, some of Inman and colleagues' research (1993, Studies 1 and 2) revolved around a college student target's description of a time when he abruptly ended his relationship with a girlfriend, including mitigating factors such as bad advice from his friends and the failure of the girlfriend to discern his prior hints to end the relationship. Evidence suggests that such situational information "drops out" as impressions are passed from firsthand teller to secondhand listener, leading to impression polarization.

We agree with prior researchers that situational information is likely to be lost as impressions are transmitted. In the case of single ambiguous episodes with mitigating factors, polarization may well occur due to situational masking on behalf of the teller and/or clarity-capacity effects on behalf of the listener. Nevertheless, when firsthand evidence affords it, we predict a *selective transmission effect* such that negative behavioral information would be more likely to be passed on than positive behavioral information. For impressions that feature multiple episodes and observations, including a mix of positive and negative items, this could lead to both positive and negative initial impressions becoming more negative as they are transmitted and increasingly dominated by negative information. In short, we expect that when a range of potential episodes and

attributes are available for selection or omission, the "dirt" will be more likely to stick as impressions travel from person to person.

We also expect that secondhand perceivers and their sources would be largely unaware of this negative drift. That is, impression tellers are likely not consciously trying to lead listeners to hold more negative impressions than they themselves hold of a target; likewise, secondhand perceivers would generally be unaware of the extent to which their impressions of a target are more negative than their sources'. As such, we predict that secondhand perceivers' confidence in their impressions of a target would be unrelated to how far this impression departs from the firsthand observer's impression.

We tested our predictions in four studies. In the first, participants told a partner about a real person they knew from their prior experience but their partner did not. In the second study, firsthand observers similarly described a real person they knew from prior experience; in this case, impressions were passed along a chain to fourth-hand perceivers. In our third study, participants received an experimentally manipulated profile of a target and drafted an email to a partner describing the target, allowing us to capture and code their transmissions for both selective transmission and situation masking effects. In the fourth study, firsthand participants were given experimentally manipulated profiles of targets. These profiles varied the ratio of bad to good information at four levels ranging from 1:4 to 4:1. All four studies let us test whether final impressions were more negative than firsthand impressions. Studies 3 and 4 yielded transmission and recall data, allowing us to test whether negative information was disproportionately likely to be transmitted.

If our account is validated, it would reveal a new pattern of results, a new mechanism, and potential new boundaries in secondhand impression effects. We return to how our account and results reconcile with prior work in the general discussion.

Study 1

To begin, we focused on positive initial impressions, where our account diverges from prior work on extremity effects. We expected that these impressions would worsen as they were passed along; prior research on extremity effects suggests these impressions would improve. Participants (MBA students) were paired up in an in-class exercise and asked to identify someone they knew from their work life before graduate school. Participants recorded firsthand impressions of these targets and then described the target to their partners, who recorded secondhand impressions. We expected secondhand impressions would be less positive than firsthand impressions.

Method

Participants. Sixty-six Masters of Business Administration (MBA) students at an East Coast university completed the materials as a part of an in-class exercise. Seventeen participants were female; mean age was 28.4 (2.7). The were no significant main effects or interaction effects of participant gender in any of the analyses reported below.

Procedure. Participants were randomly paired with classmates and given survey materials. Participants were orally instructed to identify someone from their prior work experience that they knew well and felt at least somewhat positively about. Participants rated their targets and then (in random order indicated in the survey materials) had one minute to describe their target to their partner. Participants were told to describe their target as best they could to give their partner the most accurate possible impression of the

target. After the time elapsed, tellers were asked to remain silent while listeners privately recorded their secondhand impression of the teller's target. The teller and listener roles were then reversed and the process was repeated.

Impression questionnaires. Participants rated both their firsthand and secondhand targets on seven traits, including intelligent, friendly, trustworthy, mean, generous, kind, and outgoing. Items took the form "S/he is intelligent" and were rated on 13-point scales ranging from "Strongly disagree" (-6) to "Strongly agree" (6). These ratings were averaged to create a composite trait score (after reverse-scoring the "mean" trait ratings). Cronbach's alpha for the seven-item trait scale was .85 for the firsthand raters and .84 for secondhand raters.

Results

As expected, trait ratings dropped over impression generation, dropping from an average of 3.7 (1.72) for firsthand raters to 3.4 (1.87) for secondhand raters. A paired *t*-test confirmed that the drop was significant ($t(65) = -2.00$, $p = .05$). The average within-pair difference in impressions was negative ($X = -.33$, $SD = 1.32$). Fifty-nine percent (39/66) of targets had lower secondhand ratings, while six percent (4/66) had the same level and 35 percent (23/66) had increased secondhand ratings.

Discussion

Study 1 provided initial evidence for negativity effects in initial positive impressions of real-world targets. On average, secondhand impressions were modestly less positive than firsthand impressions. The majority of impressions (59 percent) showed a drop in ratings.

Study 2

The results of Study 1 support our negativity account and run contrary to what would be predicted by an extremity account. However, Study 1 focused only on positive impressions, thus leaving open the question of whether both positive and negative initial impressions would show drops in ratings in the same design. In Study 2, we asked some firsthand observer participants to describe positive targets and others to describe negative targets.

Study 1 also relied on a sample of graduate students (MBAs) who might be seen as overly cynical or otherwise unusually likely show negativity effects. To address this, Study 2 used a sample of MBA students as well as undergraduate students from a women's college.

Finally, Study 1 relied on pairs of participants for firsthand and secondhand ratings. In Study 2, we adopted a serial reproduction design in which participants worked in groups of four, following a tradition of work on serial transmission and interpersonal communication (e.g., Lyons & Kashima, 2003). Thus, we contrasted firsthand impressions with fourth-hand impressions, expecting that the transmission effects we posit would emerge with greater clarity. We predicted that these fourth-hand impressions would be more negative than the first-hand impressions for both positive and negative targets. We also measured fourth-hand perceivers' confidence in the impression, predicting that this would be unrelated to how far their impression had drifted from the firsthand perceivers' ratings.

Method

Participants. Eighty-eight students participated in this study as a part of an in-class exercise. The students were drawn from two samples: 32 female undergraduates

from an East Coast women's college and 56 MBA students (14 female) from an East Coast university. There were no significant main effects or interaction effects of sample or gender in any of the analyses reported below.

Procedure. In each class, students were organized into groups of four. Groups sat in a circle and each person was assigned a role. Two students in each group were designated as "tellers" who provided the two first-hand impressions that would be passed around the group. The remaining two students were designated as "recorders" who would record their fourth-hand impressions at the end of the exercise. Roles were assigned in clockwise order: teller A, recorder B, teller B, and recorder A.

Teller A was instructed to think of someone he/she knew well from outside school that he/she felt "at least somewhat positively about." Teller B was instructed to think of someone he/she knew well from outside school that he/she felt "at least somewhat negatively about." Both tellers filled out an impression questionnaire about their chosen targets. When the exercise began, each teller was given two minutes to communicate his/her impression as accurately as possible to the person immediately to his/her right. This was repeated two additional times, with impressions passing counter-clockwise around the circle. After the final iteration, recorder A and recorder B filled out a questionnaire about their fourth-hand impressions (of targets A and B, respectively). Altogether, each group produced a first- and fourth-hand impression about one positive and one negative target. In total, information about 22 positive targets and 21 negative targets was collected (one fourth-hand survey for a negative target was not completed).

Impression questionnaires. Firsthand observers (tellers) rated the target on eight traits (warm, intelligent, helpful, trustworthy, outgoing, mean, selfish, and unreliable).

Items took the form "S/he is warm" and were rated on 11-point scales ranging from "Strongly disagree" (-5) to "Strongly agree" (5). These ratings were averaged to create a composite trait score (after reverse-scoring the three negative trait ratings). Cronbach's alpha for the eight-item trait scale was .90 for the first-hand raters and .91 for fourth-hand raters. Participants were also asked to rate their confidence in their impression, using an 11-point scale ranging from "Not at all" (1) to "Very confident" (11).

Results

Trait evaluations. As shown in Figure 1, trait ratings of the targets dropped from generation 1 to generation 4, for both positive and negative targets. Trait evaluation scores for each target were analyzed using a repeated-measures ANOVA with 2 (impression generation, first vs. fourth) within-subject and 2 (target valence, positive vs. negative) between-subject independent variables. The results indicated a main effect of impression generation ($F(1,41) = 23.4$, $p < .001$) and a main effect of target valence ($F(1, 41) = 67.3$, $p < .001$). The interaction between impression generation and target valence was not significant.

For positive targets, impression ratings dropped from 3.71 to 2.72 ($t(21) = 3.2$, $p < .01$). For negative targets, impression ratings dropped from -0.12 to -1.45 ($t(20) = 3.6$, $p < .01$). Eighty-one percent (17/21) of positive targets received lower secondhand ratings while 72 percent (16/22) of negative targets received lower secondhand ratings.

Confidence ratings. Fourth-hand perceivers were less confident than firsthand perceivers in their impressions. Average confidence for firsthand impressions was 10.1 (on a scale from 1 to 11) while average confidence for fourth-hand impressions was 6.0 (paired-$t(39) = 7.6$, $p < .001$). Nonetheless, as expected, fourth-hand participants'

confidence was not calibrated with the extent to which their impression had drifted from the firsthand impression. This measure of drift was computed by summing the absolute value of the differences between first-hand trait scores and fourth-hand trait scores on all eight traits. The correlation between confidence and this measure of absolute drift was r = .11, *ns*.

Discussion

Study 2 revealed the expected negativity effects: for both positive and negative real-world impressions, fourth-hand perceivers had significantly more negative trait ratings of targets than firsthand perceivers. Eighty-one percent of initially positive impressions dropped; 72 percent of initially negative impressions dropped. In addition, fourth-hand perceivers' confidence in their impression was unrelated to how far their ratings of the target had drifted from the firsthand perceivers' ratings.

Study 3

Studies 1 and 2 showed the expected negativity effects with real-world impressions. However, these studies lacked experimental control of firsthand impression content and did not allow us to gauge transmission effects (i.e., was negative information more likely to be passed along than positive information?). In Study 3, we experimentally manipulated the initial profiles of targets. We also captured transmissions by having participants write messages to their partner to convey their impressions.

A central motivation in Study 3 was to capture evidence of selective transmission—that negative behaviors would be disproportionately likely to be passed along in descriptions of the target. We also sought evidence for the mechanism highlighted in prior work on secondhand impressions, situation masking. One boundary

between these effects is the information afforded in the exposure to the target by the firsthand perceiver. If a mix of good and bad behaviors is present, selective transmission can emerge (i.e., the proportion of negative information can increase). If a mix of behaviors and situational caveats is present, situation masking can emerge (i.e., external attributions can be diminished).

To examine this, Study 3 featured two sets of initial profiles that featured different informational affordances. Because our negativity predictions depart from prior extremity accounts in the case of positive initial impressions, but not negative ones, we designed both profiles to be initially positive. One condition, Positive + Negative, featured several positive behaviors as well as a negative behavior. Following our negativity account, we predicted that the negative information would be disproportionately likely to be transmitted. Another condition, Positive + Caveats, featured several positive behaviors as well as situational caveats that provided an alternative (external) explanation for two of the behaviors. Following work on situational masking (Gilovich, 1987), we predicted that situational information would be disproportionately *unlikely* to be transmitted. We anticipated, therefore, that the Positive + Negative targets would show greater negative changes in impression ratings, due to selective transmission of negative behavioral information. Conversely, we expected the Positive + Caveats target ratings to show more diminished declines, or perhaps even increases, in impression ratings, as a result of situation masking.

Method

Participants. Sixty-eight MBA students (23 female) from an East Coast university participated in this study as part of an in-class exercise. There were no main effects or interaction effects of participant gender in any of the analyses reported below.

Procedure. In groups of two, participants generated firsthand impressions of a target and passed them to their partners, who formed secondhand impressions. Each participant was given scripted information about a target to read, interpret, and pass on. Firsthand perceivers read information about a fictional target (target conditions described below), rated the target's traits, and wrote an "email" to their partner describing the target (while participants were asked to act as if they were composing an electronic mail message, they actually wrote the message out by hand on paper). The order of the rating and writing tasks was counterbalanced across participants within target conditions. Participants then exchanged emails and read them (they did not discuss the targets verbally). Secondhand perceivers rated the traits of the target and wrote a final email describing this person to a third party; the rating and writing tasks were again counterbalanced across participants within conditions. Altogether, each pair produced first- and second-hand ratings and emails about two targets. In total, we collected between 30 and 35 sets of first- and second-hand impressions in each of the two target conditions.

Targets. Two target conditions were featured, with two versions (one male, one female) per target condition. In both target conditions, the target displayed five behaviors, three of which were positive. In Positive + Caveats target condition, the target profiles featured two neutral behaviors and three positive behaviors, two of which ended with situational caveats. A sample neutral behavior was:

> Tim was an active member of the office renovation committee that was responsible for choosing materials and designs for an overhaul of the firm's lobby and offices. Tim attended the meetings and shared ideas about which designs he thought looked best and would work best.

A sample positive behavior was:

> Recently, Tim volunteered to join a recruiting visit to a nearby university. He spent the entire day doing first round on-campus interviews, screening for promising applicants to invite for further interviews. He did a terrific job selling the firm to the promising applicants, talking about how interesting he thought his colleagues were and how challenging the work was. Of those invited for second round interviews, an unusual number of Tim's applicants accepted the invitation and were very enthusiastic about the company.

The caveat that accompanied the positive behavior described above was:

> Afterwards, Tim mentioned that he hadn't originally planned to help with the recruiting visit, but he came along just to get out of what was supposed to be "mandatory" training about conflict of interest rules in client engagements.

In the Positive + Negative target condition, the same three positive behaviors were presented (without caveats) along with one neutral behavior and one negative behavior. A sample negative behavior was:

> Tim was leading a major presentation to a client when a senior executive asked him a question about their research. Before Tim could answer, one of the junior analysts on the team spoke up and responded, partially answering the question. After the presentation was over and the clients were gone, Tim slammed his hand down on the table and asked the analyst, "What the hell do you think you were doing?" He threw a folder across the room and kicked a chair, and ranted for a few minutes about how important it was that the team speak with one voice. The analyst was terrified.

Different behaviors were used for the male and female versions of the target conditions. No significant male/female version differences were found within target condition.

Tellers were instructed to read the items and form an impression of the target. They were given approximately two minutes to study the information before being asked

to turn over their sheets and begin writing and rating. Participants were instructed to not refer back to the original information sheet when making their ratings and writing their emails (direct observation of participants suggested no evidence of anyone returning to the original materials).

Impression ratings. First- and second-hand perceivers rated the targets on seven traits (intelligent, warm, helpful, trustworthy, ethical, selfish, and unreliable) on the same scale described in Study 2. These ratings (alpha = .71) were reversed as needed and then combined to form a single positive impression score.

Transmission task. Participants were instructed to draft an email for their partner describing the target:

> Write your email in the space provided below. Try to communicate your impression in such a way that your friend has a clear and complete picture of your opinion about Tim and what he's like as a person. Feel free to pass along stories about Tim you think are relevant. Please write legibly.

Firsthand perceivers were asked to imagine they were corresponding with a friend from another company that was considering hiring the target. Secondhand perceivers were instructed to pass along their acquired impression to a boss who was making the hiring decision.

Confidence and perceived drift measures. Participants also responded to questions about the impressions they transmitted and received. As transmitters, after writing their email, participants indicated their confidence that they "successfully transmitted" their impression in their email on a 12-point scale ranging from "Not at all confident" to "Very confident." As receivers, after completing their ratings of the target described in their partner's email to them, participants indicated their confidence in "successfully decoding" their partner's impression on a 12-point scale ranging from "Not at all

confident" to "Very confident." Participants also indicated how they thought their impression compared with their partner's impression on an 11-point scale ranging from -5 ("Mine is more negative") to 0 ("Same") to +5 ("Mine is more positive").

Results

Coding of transmissions. The firsthand and secondhand emails were content analyzed to test the predictions that negative behavior information would be more likely to be passed along than positive behavior information (selective transmission) and that situational information would be less likely to be passed along than behavioral information (situation masking). Two raters coded the emails for mention of the positive behaviors, the neutral behaviors, the negative behavior, and the situational caveats. If an email comment clearly came from one particular story in the target profile, the comment was counted as transmission of that story. For example "is a good recruiter for the company with new employees" and "has been known to lose his temper with subordinates," were counted as transmission of Tim's positive and negative stories, whereas "is a team player" and "is an asshole" were not. Emails were also broken into the smallest possible meaningful phrases, which were then coded for being positive/neutral/negative, yielding a count of positive and negative remarks (regardless of correspondence to the initial profile). The coders agreed on 94.4 percent of all ratings (92.8 percent on behaviors and caveats; 99.1 percent on positive/negative remarks). Disagreements were resolved through discussion among the coders.

Transmission content. Table 1 summarizes the percent of original behavior and situation information that was transmitted by firsthand and secondhand perceivers in the two conditions. A given positive behavior had a 55 percent likelihood of being

transmitted in the Positive + Caveats condition and a 51 percent likelihood in the Positive + Negative condition. Consistent with our selective transmission prediction, negative behaviors had a 91 percent chance of being passed along in the Positive + Negative condition, significantly higher than the likelihood of positive behavior transmission in the condition ($t(31) = -4.6$, $p < .001$). In addition, bad behaviors remained "sticky" even through secondhand transmission. Transmission likelihoods dropped to 0-17 percent in secondhand emails for all information types except bad behaviors, which remained at 72 percent.

Another test of negativity effects comes from codings of positive and negative comments, not just specific behaviors. The mean numbers of positive and negative comments in firsthand and secondhand emails, shown in Table 2, also suggest selective transmission of negative information. Not surprisingly, negative comments were generally more prevalent in the Positive + Negative condition than in the Positive + Caveats condition ($F(1,65) = 6.0$, $p < .05$). Nevertheless, in *both* conditions the average number of negative comments dropped only slightly from firsthand to secondhand transmissions while the number of positive comments dropped substantially. This Comment-valence X Impression-hand interaction was highly significant ($F(1,65) = 23.0$, $p < .001$).

The transmission results also indicate a situation masking effect. Situational caveats had only a 23 percent change of being transmitted in the Positive + Caveats condition, substantially lower than the 55 percent likelihood of positive behavior transmission in that condition ($t(34) = 4.8$, $p < .001$) and markedly lower than the 91

percent transmission likelihood for negative behaviors (see Table 1). The likelihood of a caveat being transmitted by the secondhand participant was only 9 percent.

Impression change across generations. On average, impression ratings of both targets became more negative from firsthand to secondhand ($F(1,65) = 20.8$, $p < .001$), but the extent of this change according to target condition ($F(1,65) = 4.0$, $p = .05$; see Figure 2). Impression ratings dropped, on average, 1.05 points in the Positive + Negative condition ($t(31) = -4.4$, $p < .001$) but only .31 points in the Positive + Caveats condition ($t(34) = -1.9$, $p = .07$). Seventy-five percent of impressions dropped in the Positive + Negative condition, compared with 60 percent in the Positive + Caveats condition.

Confidence and perceived drift. Firsthand raters were highly confident in their impression transmission ($X = 7.91$). Secondhand raters were less confident in their decoding ($X = 6.58$; paired-$t(66)=3.6$, $p < .001$). Neither firsthand confidence in transmission ($r = -.10$, *ns*) nor secondhand confidence in decoding ($r = .05$, *ns*) were correlated with impression accuracy (operationalized as absolute impression drift). On the perceived impression change item, secondhand perceivers on average suspected their impressions were more negative ($X = -.71$, $SE = .19$). Unlike prior studies, secondhand perceptions of negative drift were modestly associated with actual negative drift ($r = .28$, $p < .05$). Nevertheless, secondhand perceivers miscalibrated the size of the drop in ratings: When actual drift was regressed on perceived drift, the results indicated an intercept of -.55 ($SE = .16$), indicating that, on average, when perceivers thought their impressions were equally as positive as their partner's, they were still drawing more negative impressions than their partner.

Discussion

Study 3 provided transmission evidence for both negativity and situation masking mechanisms. When a *negative behavior* was present in the profile read by firsthand participants, it was passed along almost ubiquitously (91 percent of the time, compared to 51 percent for positive behaviors), and continued to be readily passed along by secondhand transmitters (72 percent of the time). In contrast, *situational caveats* were far less likely to be passed along by firsthand and secondhand observers (23 and 9 percent, respectively).

Trait ratings were consistent with these effects. When firsthand perceivers viewed a mix of positive and negative information, secondhand impressions of the target were considerably lower, consistent with a selective transmission effect. When firsthand perceivers viewed a mix of positive information and situational caveats, however, secondhand impressions of the target were less likely to decline, consistent with a situational masking effect.

Study 4

Study 3 revealed evidence consistent with selective transmission: Negative behaviors were highly likely to be passed along by firsthand perceivers, more so than positive and neutral behaviors and more so than situational caveats. However, Study 3 featured only positive initial impression profiles in order to focus on the contrast between negativity and extremity effects. As a result, negative behavior information was not only valenced, but also distinctive (i.e., in the minority). Accordingly, selective transmission might have been a function not of negativity but distinctiveness. Given the considerable evidence reviewed earlier pointing toward powerful negativity effects, we doubt that distinctiveness explains all or even much of the effect. (It bears noting that situational

caveat information was also arguably distinctive in Study 3, even though caveats were comparatively infrequently passed along)

To address this issue, and to examine whether selective transmission of negative behaviors emerges when negative behaviors are in the majority as well as in the minority, Study 4 featured initial target profiles ranging from very positive to very negative. Profiles containing 10 descriptive items and the ratio of negative to positive information was manipulated from extremely negative (8 negative items, 2 positive) to extremely positive (8 positive items, 2 negative). As in Study 2, participants worked in groups of four, passing these impressions from person to person. We measured impressions of both firsthand and fourth-hand perceivers and also measured the fourth-hand perceivers' recognition for the positive and negative items. We predicted that, for both positive and negative initial impressions, fourth-hand impressions would be more negative and that negative information would be disproportionately recognized by fourth-hand perceivers.

Method

Participants. 120 MBA students (27 female) from an East Coast niversity participated in this study as a part of an in-class exercise. There were no main effects or interaction effects of participant gender in any of the analyses reported below.

Procedure. In groups of four, students engaged in the same impression passing task described in Study 2 (i.e., two tellers and two recorders generating first- through fourth-hand impressions in a clock-wise passing sequence). Four targets were created for this task: one extremely positive, one mildly positive, one mildly negative, and one extremely negative (described in more detail below). Teller A was given information about one of the two positive targets and teller B was given information about one of the

two negative targets. Altogether, each group produced a first- and fourth-hand impression about one positive and one negative target. In total, we collected 15 sets of first- and fourth-hand impressions in each of the four target conditions.

Targets. Using free response descriptions of real targets provided by the MBA participants in Study 2, we identified a range of positive and negative workplace behaviors and attributes. Drawing on these behaviors and attributes, each target in Study 4 was described with 10 items, in different positive-to-negative ratios according to target condition: 8:2 (extremely positive target), 6:4 (mildly positive target), 4:6 (mildly negative target) and 2:8 (extremely negative target). For illustration, items for the mildly negative target are shown in the Appendix. Pilot testing confirmed that the negative items were not seen as significantly more evaluatively extreme or vivid/concrete than positive items[1].

For the extreme positive and negative targets, the item valence order (where C = consistent with overall valence, I = inconsistent) was CCCICCICCC. For the mild targets, the item valence order was CCIICCIICC. The positive and negative items for targets within a participant group did not overlap (i.e., each target was described with a unique set of positive/negative items).

Tellers were instructed to read the items and form an impression of the target. They were given approximately three minutes to study the information before being asked to turn over their sheets and continue the exercise. Participants were instructed to not refer back to the original information sheet when relaying their impression.

Impression questionnaires. First-hand raters filled out the same impression questionnaire described in Study 2, rating the target on eight traits and indicating their

confidence in their impression. In addition, fourth-hand raters indicated whether they thought their impression was more negative or positive than the original impression, on an 11-point scale ranging from -5 (“Mine is more negative”) to 0 (“Same”) to +5 (“Mine is more positive”).

The questionnaires given to fourth-hand raters contained an additional item recognition task. Fourth-hand raters were given a list of 12 items, including the 10 from the original target profile. The two additional items, one positive and one negative, were not in the original profile and were used to test for false recognition rates. Fourth-hand raters were asked to check those items that they explicitly remembered hearing about the target. False recognition rates for items not in the original target list were low in all target conditions.

Results

Trait evaluations. As shown in Figure 3, trait evaluations of the targets generally dropped from firsthand to fourth-hand. Trait evaluation scores for each target were analyzed using a repeated-measures ANOVA with 2 (impression generation, first vs. fourth) within-subject and 4 (target condition, extremely negative to extremely positive) between-subject independent variables. Replicating our prior findings, the results indicated a main effect of impression generation ($F(1,56) = 11.9$, $p < .001$) and a main effect of target valence ($F(2, 56) = 29.3$, $p < .001$). No significant interaction between impression generation and target valence was present ($F(3,56) = 1.8$, $p = .20$). Overall, 65 percent (39/60) of impression ratings dropped.

Fourth-hand item recognition. False recognition rates were low. The positive filler item was falsely recognized in 3 percent of cases (1 person in the extremely positive

target condition and 1 person in the extremely negative target condition displayed a false recognition of this item). The negative filler item was not falsely recognized in any cases (i.e., no participant mistakenly indicated hearing the negative filler item).

As shown in Table 3, of the original behaviors presented, the proportion of negative items recognized by fourth-hand raters was consistently higher than the corresponding proportion of positive items. Similarly, in all target conditions, the ratio of negative to positive items increased dramatically over impression generations (see Table 3).

Across all 60 targets, 300 negative items and 300 positive items were presented to firsthand observers (50 percent negative). In total, fourth-hand observers recognized 50 negative items and 28 positive items (64 percent negative), a significant shift, as predicted, toward the proportion of negative items ($\chi 2 = 6.2$, $p < .05$).

The transmission (or non-transmission) of information about positive and negative items had a significant impact on trait evaluation ratings. Among fourth-hand raters, the correlation between number of positive items recognized and trait evaluation rating was .53 ($p < .001$). The correlation between number of negative items recognized and trait evaluation rating was -.31 ($p < .05$).

Aside from this fourth-hand "snapshot" analysis (i.e., fourth-hand raters who recognized more negative items had more negative impressions), we analyzed how *changes* in percent negativity (negative items as a share of all items) predicted *changes* in impressions. We computed the change in percent negativity by taking the share of negative items in each fourth-hand rater's recalled items and subtracting the share of negative items in the original profile read by the firsthand participant (which was

experimentally manipulated to be either 20, 40, 60, or 80 percent). We computed the change in impressions by subtracting the fourth-hand rater's overall impression score from the firsthand participant's overall impression score. As expected, change in share of negative items was correlated with change in impression ($r = .30$, $p < .05$). In other words, as the share of negative items about a target grew, the worse the impression of the target became.

Confidence and perceived drift. First-hand raters were more confident in their impressions ($X = 7.65$) than fourth-hand raters ($X = 4.47$; paired-$t(59) = 8.8$, $p < .001$). However, as in prior studies, confidence was not calibrated with impression accuracy. The correlation between fourth-hand confidence and absolute impression drift (see Study 2 for a discussion of this measure) was -.17 (*ns*). Fourth-hand raters indicated, on average, that their impressions were slightly more negative than the original ones (-0.50, $SE = .23$), but this perceived drop was uncorrelated with the extent to which impressions actually had shifted downward ($r = .16$, *ns*). For example, on average, participants in the Extremely Positive target condition believed that, if anything, their impressions had become slightly more positive ($X = .27$, $SE = .49$) when their impressions showed some of the largest average drops.

Discussion

As expected, fourth-hand perceivers in Study 4 rated targets more negatively than the corresponding firsthand perceivers. Sixty-five percent of impression ratings dropped from initial to final perceivers. Our results suggest this effect was at least partly due to preferential transmission of negative items: Regardless of the initial share of negative items in a target's profile, negative items were disproportionately more likely to be

recognized by fourth-hand participants. This pattern of results casts doubt on an interpretation of Study 3's selective transmission results as stemming from distinctiveness rather than negative valence. Moreover, changes in the proportion of negative items known about a target in Study 4 were related to lowered impression ratings, consistent with the idea that selective transmission was responsible for impression change.

General discussion

In contrast to prior work showing extremity effects in secondhand impressions (bad impressions get worse but good impressions get better as they are passed along), the present results confirm our expectations about negativity effects in impression transmission—a different pattern attributable to a different mechanism. In four studies, using firsthand impressions of actual acquaintances as well as experimentally-manipulated profiles, we found that both good and bad initial impressions generally became more negative as they traveled from person to person. Depending on study and condition, some 60 to 80 percent of targets received more negative impression ratings from final raters than firsthand ones.

Studies 3 and 4 suggested that this was due at least in part to preferential transmission of negative compared to positive information. Regardless of whether very few or most of the initial items in an impression were negative, negative items were substantially more likely to be recognized by or transmitted to subsequent perceivers than positive items. Roughly speaking, negative items appeared to be nearly twice as likely to be passed along. In short, with indirect acquaintances, we may frequently be known out

of proportion for the worst things we have done rather than the most praiseworthy or banal. When it comes to secondhand impressions, it appears that the dirt often sticks.

Are the transmitters or recipients of secondhand impressions aware of how impressions are changing? Our initial results cast doubt on the notion that listeners are consciously and deliberately adjusting their impressions away from what they assume tellers' impressions to be, or that tellers are purposefully leading listeners to draw impressions that differ from their own. Across our studies, the correlations between secondhand (or fourth-hand) impression confidence and actual drift from firsthand impressions were modest to non-significant. Moreover, secondhand perceiver assumptions about whether their impressions were more or less negative than firsthand impressions showed poor calibration and tended to underestimate the extent to which impressions had become more negative.

In additional to support for our selective transmission account, we found evidence for another mechanism proposed to guide secondhand impressions, situation masking. Consistent with Gilovich's (1987) account, situational caveats presented to firsthand perceivers were transmitted to secondhand perceivers far less frequently than negative or positive behaviors in Study 3. Thus, when situational information is present for firsthand perceivers, it may well be masked in transmission and when negative information is present for firsthand perceivers, it may well endure.

Boundaries

Our work indicates that multiple mechanisms are likely at work in secondhand impressions. With only a handful of published papers addressing secondhand impressions, the present paper makes a distinct contribution in singling out negativity in

selective transmission as an important process. We do not think the question of "*which mechanism* governs secondhand impressions" is a fruitful way forward. Rather, we think future work could continue to examine boundary and mediation questions of "*when and how* do certain mechanisms affect secondhand impressions."

Our findings imply that the information afforded in initial observations has an important role. When meaningful situational information is present for initial observers, masking could strongly shape how the impression changes as it passes along. When a mix of positive and negative information is available, selective transmission of negative information could substantially skew impressions in later generations.

Informational boundaries are not the only moderators of these effects, of course. One potentially important dimension concerns the relationship between the teller and listener. Although Gilovich did not stress this dimension, we think the closeness of the teller and listener in one of his studies (1987, Study 3) might have been an important factor in yielding a positivity effect (in contrast to our results, liked targets were seen even more positively by the secondhand rater than the firsthand acquaintance). Whereas our work relied on randomly paired casual acquaintances, Gilovich's research used friends. We interpret this as suggesting that listener and teller motivations and relational goals may play a meaningful role, something long recognized by scholars of gossip and rumor (e.g., Bordia & DiFonzo, 2005). When a close friend describes a third-party to us, we as listeners may be highly motivated to share their evaluation in order to maintain or strengthen the relationship (i.e., the friend of my friend is my friend). Moreover, as tellers describing a third-party to a friend, we may be motivated to project or "sell" our evaluations in order to keep our social networks balanced (cf Krackhardt & Kilduff,

1999). Among casual acquaintances, motivations may often be different. We suspect that acquaintances may be more motivated to entertain conversational partners, which could perhaps be accomplished by sharing the most salacious, provocative, and negative items known about a third-party (see Guerin, 2003).

Implications

The negativity effects noted here have implications for perceivers, for the perceived, and for scholars. Our results suggest that perceivers may not be well-calibrated in their confidence about secondhand impressions, a pattern of limited metacognition about social judgment that echoes results found elsewhere (e.g., Ames & Kammrath, 2004; Kruger & Dunning, 1999). Thus, in our secondhand impressions, we may often be not only unduly negative, but unaware of that our impressions depart from firsthand impressions. Before making important judgments on potentially-skewed secondhand impressions, perceivers may be well-served to work against such creeping distortions and probe more deeply—inquiring about situational factors, soliciting information on positive behaviors, and seeking input from multiple firsthand observers.

For the perceived, the phrase "I've heard a lot about you" may rightfully create anxiety. When confronted with a new acquaintance who has already formed a secondhand impression of them, perceivers may need to tread lightly and uncover the basis of the impression. Impression management tactics might be warranted, including some forms of account-giving (stressing mitigating factors for negative behaviors) and self-promotion (stressing positive attributes and behaviors that may have not been transmitted).

For scholars, our results suggest new effects and mechanisms in secondhand impressions. When initial impressions contain a mix of positive and negative information and are passed from acquaintance to acquaintance, they may often worsen as negative information is disproportionately transmitted. We have described some potential boundaries for these effects and suggested conditions under which other effects (e.g., extremity) might emerge. While further evidence for these boundaries awaits us, we are certain of one thing: The scholarly account of impression formation will not be complete until we have understood not only the mechanisms of firsthand perception, but also the life of impressions as they are passed from person to person. In at least some of these secondhand impressions, the dirt sticks.

References

Ames, D. R., & Kammrath, L. K. (2004). Mind-reading and metacognition: Narcissism, not actual competence, predicts self-estimated ability. *Journal of Nonverbal Behavior, 28*, 187-209.

Baron, R. S., David, J. P., Brunsman, B. M, & Inman, M. L. (1997). Why listeners hear less than they are told: Attentional load and the teller-listener extremity effect. *Journal of Personality & Social Psychology*, *72*, 826-838.

Baumeister, R., Bratslavsky, E., Finkenauer, C., & Vohs, K. (2001). Bad is stronger than good. *Review of General Psychology*, *5*, 323-370.

Bordia, P., & DiFonzo, N. (2005). Psychological motivations in rumor spread. In G.A. Fine,V. Campion-Vincent, & C. Heath (Eds.), *Rumor mills: The social impact of rumor and legend* (pp. 87-101). New York: Aldine.

Dunbar, R. (2001). Gossip in Evolutionary Perspective. *Review of General Psychology*, *8*, 100-110.

Gilbert, D. T., Pelham, B. W., & Krull, D. S. (1988). On cognitive busyness: When person perceivers meet persons perceived. *Journal of Personality & Social Psychology*, *54*, 733-740.

Gilovich, T. (1987) Secondhand information and social judgment. *Journal of Experimental Social Psychology*, *23*, 59-74.

Glassner, B. (1999). T*he Culture of Fear: Why Americans Are Afraid of the Wrong Things.* New York: Basic Books.

Grabe, M. E., Lang, A., & Zhao, X. (2003). New content and form: Implications for memory and audience evaluations. *Communication Research, 30*, 387-413.

Guerin, B. (2003). Language use as social strategy: A review and analytic framework for the social sciences. *Review of General Psychology, 7*, 251-298.

Heath, C. (1996). Do people prefer to pass along good or bad news? Valence and relevance of news as predictors of transmission propensity. *Organizational Behavior and Human Decision Processes*, *68*, 79-94.

Inman, M. L., McDonald, N., & Ruch, A. (2004). Boasting and Firsthand and Secondhand Impressions: A New Explanation for the Positive Teller-Listener Extremity Effect. *Basic & Applied Social Psychology, 26*, 59-75.

Inman, M. L., Reichl, A. J., & Baron, R. S. (1993). Do we tell less than we know or hear less than we are told? Exploring the teller-listener extremity effect. *Journal of Experimental Social Psychology, 29*, 528-550.

Kamins, M. A., Folkes, V. S., & Perner, L. (1997). Consumer responses to rumors: Good news, bad news. *Journal of Consumer Psychology, 6*, 165-187.

Krackhardt, D. & Kilduff, M. (1999). Whether close or far: Social distance effects on perceived balance in friendship networks. *Journal of Personality & Social Psychology, 76*, 70-782.

Kruger, J. & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality & Social Psychology, 77*, 1121-1134.

Lyons, A. & Kashima, Y. (2003). How are stereotypes maintained through communication? The influence of stereotype sharedness. *Journal of Personality & Social Psychology, 85*, 989-1005.

Newhagen, J. E. & Reeves, B. (1992). The evening's bad news: Effects of compelling negative television news on memory. *Journal of Communication, 42*, 25-41.

Pew Research Center (1997). *Ten Years of the Pew News Interest Index.* New York: Pew Research Center for the People & the Press.

Pratto, F. & John, O. P. (1991). Automatic vigilance: The attention-grabbing power of negative social information. *Journal of Personality & Social Psychology, 61*, 380-391

Reeder, G. D. & Coovert, M. D. (1986). Revising an impression of morality. *Social Cognition, 4*, 1-17.

Rozin, P. & Royzman, E. B. (2001). Negativity bias, negativity dominance, and contagion. *Personality and Social Psychology Review, 5*, 296-320.

Skowronski, J. J. & Carlston, D. E. (1989). Negativity and extremity biases in impression formation: A review of explanation. *Psychological Review*, *105*, 131-142.

Wert, S. R. & Salovey, P. (2004). A Social Comparison Account of Gossip. *Review of General Psychology, 8,* 122-137.

Wyer, R. S. & Budesheim, T. L., Lambert, A. J., & Swan, S. (1994). Person memory and judgment: Pragmatic influences on impressions formed in a social context. *Journal of Personality & Social Psychology, 66*, 254-267.

Wyer, R. S., Swan, S., & Gruenfeld, D. H. (1995). Impression formation in informal conversations. *Social Cognition, 13*, 243-272.

Author Note

Daniel R. Ames and Lara K. Kammrath, Columbia Business School, Columbia University.

Correspondence should be addressed to Daniel Ames, Columbia Business School, 3022 Broadway Ave., New York, NY 10027. E-mail may be sent to da358@columbia.edu.

Footnotes

[1] Eleven pilot subjects rated all positive and negative items on seven-point scales for valence, vividness, and interestingness. Negative items were not perceived as more extreme (absolute departure from the midpoint on the valence scale; paired $t(10) = 1.1$, *ns*), vivid (paired $t(10) = 1.2$, *ns*), or interesting (paired $t(10) = .7$, *ns*) than positive items. They were, however, judged to be significantly more negative (paired $t(10) = 16.7$, $p <$ .001

Table 1

Behavior and situation transmission in firsthand and secondhand emails (Study 3)

Target Condition	Positive Behaviors		Caveats		Neutral Behaviors		Negative Behaviors	
	1sthand	2ndhand	1sthand	2ndhand	1sthand	2ndhand	1sthand	2ndhand
Positive + Caveats	.55	.17	.23	.09	.16	.08	-	-
Positive + Negative	.51	.09	-	-	.16	.00	.91	.72

Note. Values represent the average percent of original information transmitted.

Table 2

Valenced comments in firsthand and secondhand emails (Study 3)

Target Condition	Positive Comments		Negative Comments	
	1sthand	2ndhand	1sthand	2ndhand
Positive + Caveats	5.71	3.86	1.29	.97
Positive + Negative	5.40	3.25	2.50	2.16

Note. Values represent the average number of valenced comments per email in each condition.

Table 3

Item recognition by fourth-hand perceivers (Study 4)

	Negative item recognition			Positive item recognition			Negative : positive ratio	
Target	Original	No. recognized	Percent recognized	Original	No. recognized	Percent recognized	Original	Fourth-hand
Extremely positive	2	.400	.200	8	1.000	.125	.25	.40
Mildly positive	4	.533	.133	6	.400	.067	.67	1.33
Mildly negative	6	.600	.100	4	.200	.050	1.50	3.00
Extremely negative	8	1.800	.225	2	.267	.134	4.00	6.74

Figure 1

Impression ratings by firsthand and fourth-hand perceivers (Study 2)

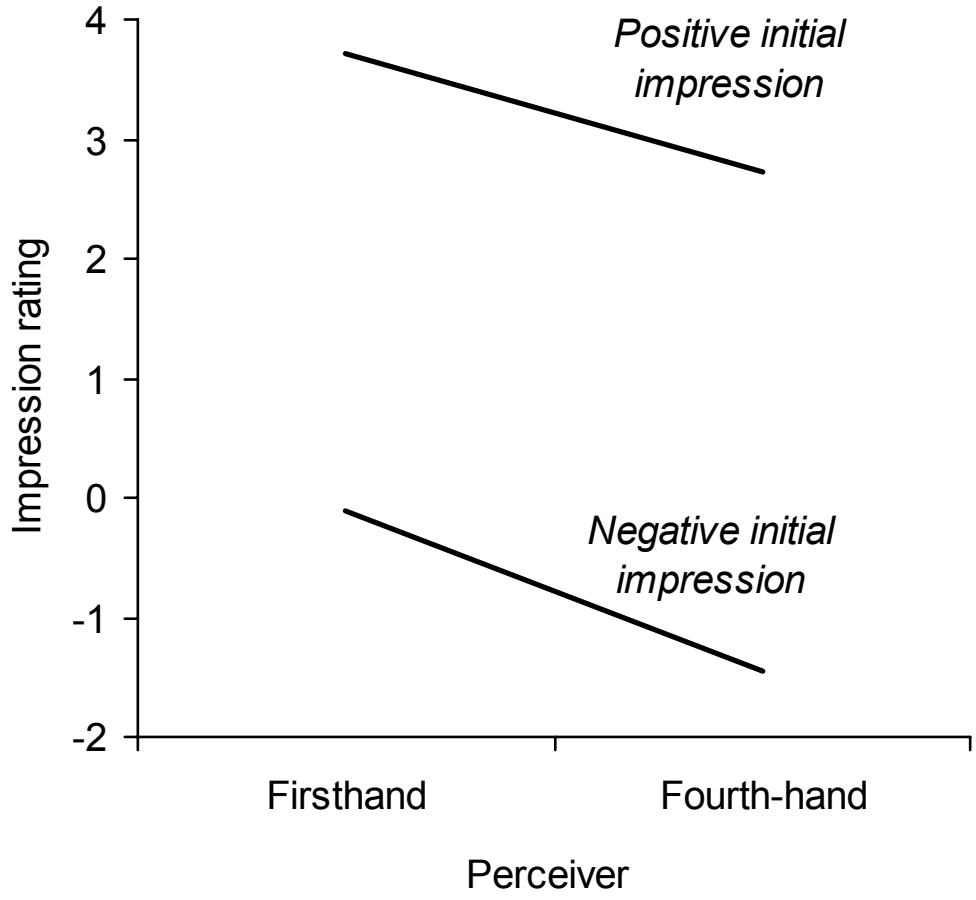


Figure 2

Impression ratings by firsthand and secondhand perceivers (Study 3)

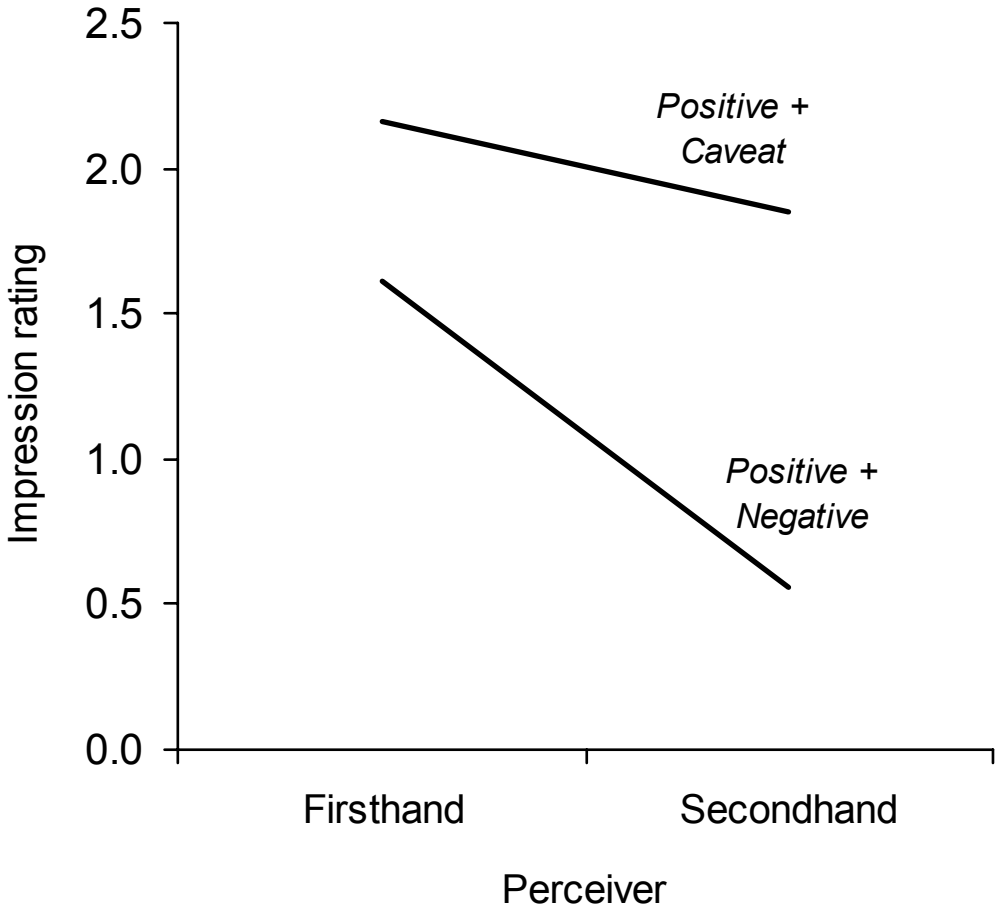
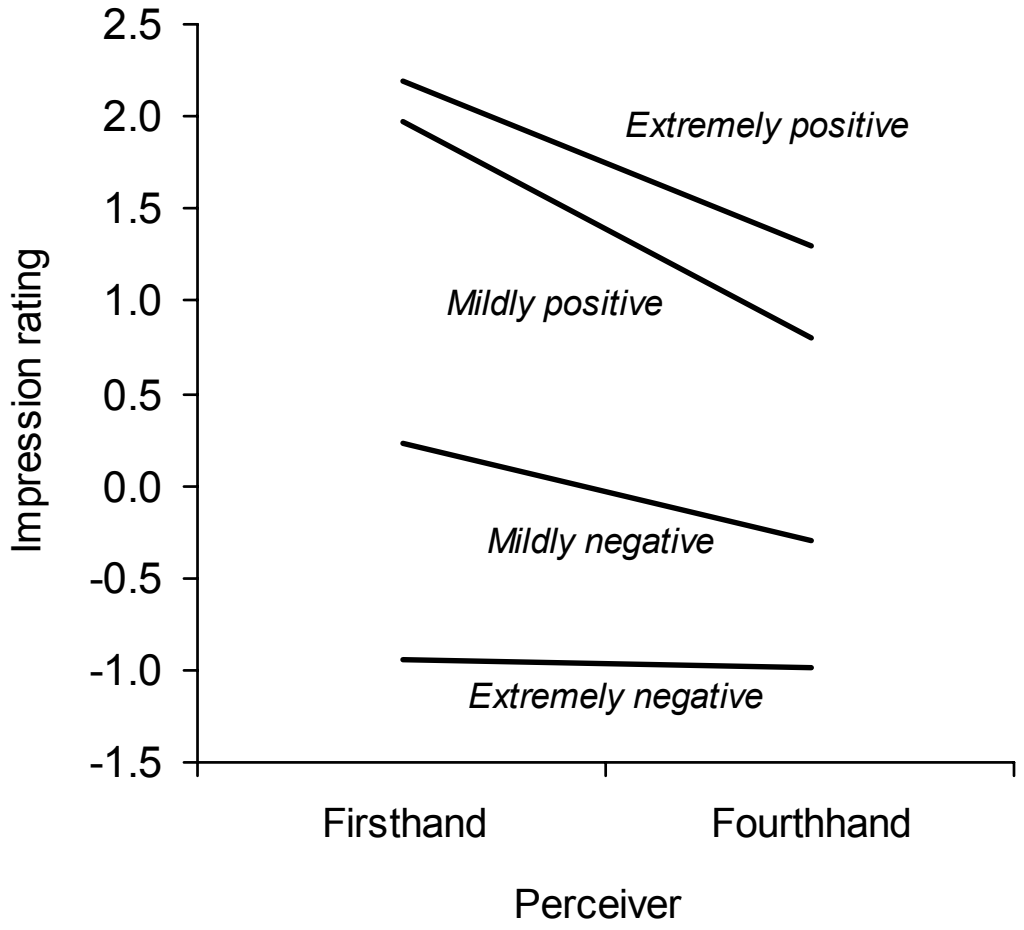


Figure 3

Impression ratings by firsthand and fourth-hand perceivers (Study 4)



Appendix

Description and recall items for "Fred Blum," mildly-negative target in Study 4.

Fred lacks a strong work ethic. He tends to arrive late, take long lunches, and pass most work onto his subordinates. [negative]

Fred always chooses the assignments that would make him look good and not the ones that are best for the company. He is not available for many thankless tasks that need doing, but when something high profile comes up, he will get involved. [negative]

Fred can establish a good rapport with almost anyone. He knows how to laugh and have fun, despite deadlines and pressure from above. [positive]

Fred has sharp intellect and an unbelievable memory. The guy doesn't forget anything. [positive]

Fred is a person who thinks he is always right. He will let his personal opinion override any suggestion, no matter how pertinent, that differs from his. [negative]

Fred is easy-going in most situations but shows a very aggressive behavior when under pressure. Competitiveness seems to be the major driver of his aggression, since outside work he is a very pleasant person. [negative]

People like to work for Fred because they learn and feel challenged by him. He'll give a junior employee a tough assignment, but he always takes the time to explain things in detail. [positive]

Fred supports independent decision-making. He doesn't micro-manage or call too many unnecessary meetings. [positive]

Fred tends to have an 'in-group' that he works well with, but he has some issues with others who do not show him the same respect. [negative]

Fred is a double-speaker. He tells you privately that you will get certain rewards or that you are doing well, but acts publicly different. When it comes to negotiations or bonuses, he tries to screw you. [negative]

Fred's lack of trust sometimes causes him to spend endless hours double-checking other people's work. [recall test item—not in firsthand profile]

Fred does not feel the need to publicize his keen and vast knowledge. He doesn't talk first or loudest. [recall test item—not in firsthand profile]