Expectancy Maintenance in Context-Based Impression Formation

By

LISA MARIE HUANG

DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

Psychology

in the

OFFICE OF GRADUATE STUDIES

of the

UNIVERSITY OF CALIFORNIA

DAVIS

Approved:

Dr. Jeffrey Sherman, Chair

Dr. Alison Ledgerwood

Dr. Andrew Todd

Committee in Charge

2018

Acknowledgements

I would like to thank the following people for their valuable and critical feedback on this project: my research advisor Jeff Sherman; the members of my dissertation and qualifying exam committees—Alison Ledgerwood, Andy Todd, Cindy Pickett, Paul Eastwick, and Kyle Ratner; and my current and former lab mates—Dario Sacchi, Jimmy Calanchini, Andrew Rivers, Heather Rees, Ryan Hutchings, Jenny Roth, and Juliane Burghardt.

Abstract

People's attempts to maintain consistency in their impressions of others often result in information processing that is biased toward expectancy maintenance. In this research, we examined one process by which people maintain expectancies of an individual when that individual is observed across multiple contexts—by generalizing an expectancy-congruent impression across contexts but contextualizing an expectancy-incongruent impression to the unique context in which expectancy-incongruent behaviors are observed. Across four experiments, we show that people engage in these expectancy maintenance processes when forming impressions of individuals and group members, and we show how these processes differentially affect impression strength across contexts. We also explored whether impressions can be changed if the majority of the target individual's behaviors does not reflect expectancies. We discuss the implications of this research for stereotyping and attitude change.

People seek consistency in their impressions of others. Maintaining consistency is beneficial for accurately understanding and organizing the social world (Cantor & Mischel, 1979). It allows people to interpret and judge others' behaviors (Lichtenstein & Srull, 1987; Srull & Wyer, 1989; Wyer, Srull, & Gordon, 1984), predict future behaviors (Hoffman, Mischel, & Mazze, 1981; Newman, 1996), and plan for social interaction (Cantor & Mischel, 1979). However, people sometimes act in contradiction to expectations, and when they do so, perceivers engage in a number of cognitive strategies to explain these behaviors. Although these cognitive processes allow perceivers to maintain consistency in their impressions of others, they also lead them to maintain impressions that conform to their prior expectations of the social target. This is problematic because expectancies may not accurately reflect the target's true characteristics. In this research, we examined whether expectations about individuals and stereotyped group members lead perceivers to maintain their prior expectations when forming impressions of them across different contexts. We tested the generalization and contextualization of context-based impressions as an expectancy maintenance mechanism and examined how these processes influence relative impression strength and impressions of related group members.

Expectancy Violation

When people act in unexpected ways, perceivers employ various strategies in order to explain these unexpected behaviors. One strategy is to engage in causal reasoning for behaviors that are incongruent with their expectations of a target person (Hamilton & Sherman, 1996; Hastie, 1984). Extensive research has shown that people tend to attribute expectancy-incongruent behaviors to situational rather than dispositional causes, thereby allowing them to dismiss those behaviors as uncharacteristic of the target and to maintain their original impression (Clary & Tesser, 1983; Crocker, Hannah, & Weber, 1983; Kulik, 1983). Research has shown that people

pay more attention to behavior that violates an expectancy than to behavior that is consistent with an expectancy, in part, to try to explain the cause of the unexpected events (Roese & Sherman, 2007; Sherman, Allen, & Sacchi, 2012; Stern, Marrs, Millar, & Cole, 1984).

People engage in similar strategies when a group member violates expectancies based on group stereotypes. Like other social expectancies, they tend to form situational attributions for stereotype-incongruent behaviors but dispositional attributions for stereotype-congruent behaviors, leading them to maintain expectations of future stereotypic behavior (Bodenhausen & Wyer, 1985; Crocker et al., 1983; Deaux & Emswiller, 1974; Feldman-Summers & Kiesler, 1974; Jackson, Sullivan, & Hodge, 1993; Sherman, Stroessner, Conrey, & Azam, 2005; Yee & Eccles, 1988). People also tend to be more critical of stereotype-incongruent behaviors (Lord, Ross, & Lepper, 1979; Macrae, Shepherd, & Milne, 1992). Highly prejudiced people in particular may selectively attend to and scrutinize stereotype-incongruent information in an attempt to explain away that information (Sherman et al., 2012; Sherman, Conrey, & Groom, 2004; Sherman, Lee, Bessenoff, & Frost, 1998; Sherman et al., 2005). Another way people deal with stereotype-incongruent information is by subtyping, or separating, stereotype-disconfirming group members into a subcategory of the group (Richards & Hewstone, 2001; Weber & Crocker, 1983). Subtyping promotes stereotype maintenance because the subtyped group members are seen as unrepresentative of the group, and, as such, their behaviors fail to generalize to impressions of the group as a whole. Although these cognitive processes allow perceivers to maintain coherent group impressions, they are problematic if the group stereotypes do not accurately represent the behaviors of each individual group member.

Impressions in Context

Another way that people make sense of unexpected behavior is by looking to the context in which it occurred as a potential explanation (Gawronski, Ye, Rydell, & De Houwer, 2014). For example, if a perceiver holds an expectation that a target person is intelligent, and they then observe the target acting unintelligently, the perceiver may pay especially close attention to the context in which the unintelligent behavior occurred as a way of understanding it. Research on automatically activated evaluations, conducted by Gawronski and colleagues, lends support to this idea (Gawronski, Hu, Rydell, Vervliet, & De Houwer, 2015; Gawronski, Rydell, Vervliet, & De Houwer, 2010; Rydell & Gawronski, 2009). In their studies, they show that people generalize or contextualize their evaluations, depending on the order in which those evaluations were formed. When a target individual behaves differently across contexts (e.g., positively in the first-learned context and negatively in the second-learned context), perceivers generalize the first-learned evaluation of the target (e.g., the positive evaluation) when he is presented in new contexts, but they contextualize the second-learned evaluation (e.g., a negative evaluation) so that it is elicited only in its original context. The researchers argue that the second-learned evaluation is contextualized because the target's behaviors in the second context violates expectations, so perceivers pay more attention to the context to explain the unexpected behaviors.

Related research by Huang, Sacchi, and Sherman (2017) shows that people capitalize on the context in order to make sense of discrepant trait impressions to maintain consistency in their impressions of a target person. When a target person is encountered in a rarely occurring context, people attend more closely to the unique aspects of that context in order to differentiate personality traits in that context from personality traits in a commonly occurring context. As a

result, people form a stronger context-based impression of the rare trait than of the common trait. By shifting their attention to differentiating features, people can make sense of conflicting information and maintain consistency in their overall impression of the target.

Overview of Current Research

In the current research, we examined a process by which people may maintain their pre-existing impressions of others—by generalizing an expectancy-congruent impression across multiple contexts but contextualizing an expectancy-incongruent impression to a single context. When a target person behaves in an expected manner in one context (i.e., the expectancy-congruent context) but in an unexpected manner in another context (i.e., the expectancy-incongruent context), people may contextualize the expectancy-incongruent impression such that it is elicited only in the expectancy-incongruent context, similarly to how people contextualize second-learned evaluations (Gawronski et al., 2010, 2015; Rydell & Gawronski, 2009). However, they may generalize the expectancy-congruent impression across all other contexts, including the expectancy-congruent context as well as new contexts and contexts in which both expected and unexpected behaviors are observed. These processes would limit the influence of expectancy-incongruent behaviors in changing people's overall impression of the target, thereby allowing them to maintain their original expectations.

One mechanism by which people contextualize an expectancy-incongruent impression is by paying greater attention to the expectancy-incongruent context. In previous research on context-based impression formation, Huang et al. (2017) argue that people differentiate a rarely-occurring trait impression from commonly-occurring trait impression by shifting their attention away from the context that predicts both traits (i.e., the shared context) and toward the context that uniquely predicts the rare trait (i.e., the rare context). Because people pay greater attention to

the rare context when learning the rare trait impression, they form a stronger rare trait impression than common trait impression. Similarly, people should pay closer attention to an expectancy-incongruent context when a target person is observed performing expectancy-incongruent behaviors. As discussed previously, unexpected behaviors tend to capture attention and elicit causal reasoning more so than expected behaviors (Clary & Tesser, 1983). One consequence of observing unexpected behaviors may be to attend to the context for explanation (Gawronski et al., 2014). If people attend more to the expectancy-incongruent context, they should form a stronger expectancy-incongruent impression, in the same way that people form a stronger rare trait impression. Thus, even though an expectancy-incongruent impression may fail to generalize across contexts, its contextualized impression should be especially strong.

We tested these hypotheses across four experiments. In Experiment 1, we examined how trait expectations of an individual influence context-based impression formation and, specifically, whether they lead participants to form impressions in ways that support expectancy maintenance. In Experiments 2 and 3, we examined whether expectancies based on group stereotypes influence context-based impression formation in a similar manner as do individual target expectancies. Also, in Experiment 3, we explored how impressions of an individual group member translate to impressions of another member of the same group and to a member of a different group when they are encountered in the same contexts. Finally, in Experiment 4, we examined whether participants would change their impressions if the frequency of an individual's behaviors do not accurately reflect their initial expectations.

Experiment 1: Overview and Predictions

In Experiment 1, we examined how trait expectations of an individual target person influence context-based impression formation. Specifically, we expected that participants would

form impressions in a manner that supports expectancy maintenance. The experimental procedure was adapted from the inverse base-rate paradigm (Huang et al., 2017; Medin & Edelson, 1988). First, we manipulated trait expectancy by exposing participants to a paragraph describing a target person named Dave as being either intelligent or unintelligent. Participants then completed a learning phase in which they learned about the intelligent and unintelligent behaviors that Dave performed depending on the context. Thus, the behaviors that Dave performed were either congruent or incongruent with their prior expectations. In this experiment, the contexts were represented by people that Dave was with. One context person always predicted the expectancy-congruent behavior (perfect predictor of the congruent behaviors, or P_{con}; e.g., Bob), another context person always predicted the expectancy-incongruent behavior (perfect predictor of the incongruent behaviors, or P_{inc}; e.g., John), and a third context person was present in all cases (shared predictor, or S; e.g., Chris). Across several blocks of trials, participants were presented with Dave and guessed which behavior he performed, either expectancy-congruent or expectancy-incongruent, depending on the people he was with. In each trial, Dave was always with a combination of two people—a perfect predictor and the shared predictor (P_{con} + S or P_{inc} + S). Each type of behavior (congruent, incongruent) occurred with equal frequency. In a subsequent test phase, we assessed participants' impressions of Dave in different contexts. Dave was presented with new combinations of context people, and participants indicated whether he was intelligent or unintelligent depending on the context.

We predicted that participants would generalize the expectancy-congruent impression but would contextualize the expectancy-incongruent impression, as demonstrated by trait selection during the test phase. We also predicted that participants would form a stronger expectancy-incongruent impression, possibly because of greater attention to the context when observing the

incongruent behaviors. More specifically, when Dave is with new context people, participants should be more likely to say that Dave possesses the expectancy-congruent trait than the expectancy-incongruent trait, demonstrating a generalization of the expectancy-congruent impression across new contexts. Second, when Dave is with only the shared context S, they also should be more likely to say that he possesses the expectancy-congruent trait, even though the shared context person is present when Dave performed both types of behaviors. If participants associate the shared context with the congruent impression more than with the incongruent impression, this would indicate that they are disassociating the incongruent impression from that context, thereby isolating—i.e., contextualizing—the incongruent impression into its single, unique perfect predictor context. Lastly, when Dave is with both perfect predictor contexts simultaneously (P_{con} + P_{inc}), participants should be more likely to say that he possesses the incongruent trait than the congruent trait, indicating a stronger context-based incongruent impression. If the incongruent impression is stronger, then it should outweigh the congruent impression when their respective contexts are placed in direct competition with each other, and participants should be more likely to select the incongruent trait. See Figure 1 for a conceptualization of impressions.

Method

Participants

Two hundred fifty-nine undergraduates (229 female, 29 male, 1 other gender) with a mean age of 19.88 (*SD* = 2.46) from the University of California, Davis participated in exchange for partial course credit. Forty-six percent identified as Asian, 22% as Hispanic, 22% as Caucasian, 3% as African American, and 7% as another race or ethnicity. The number of participants was determined based on an a priori power analysis. Given $\alpha = .05$, $1 - \beta = .85$, and

an estimated effect size of $w = 0.10$, the power analysis yielded an estimate of 898 observations. Given that four observations are collected per participant on key outcome measures, this number is equivalent to approximately 225 participants. The estimated effect size was based on effect sizes obtained from similar measures in Huang et al. (2017).

Procedure

Expectancy Manipulation. Participants were randomly assigned to one of two Trait Expectancy conditions. Half of the participants read a paragraph describing a target person named Dave as intelligent (intelligent expectancy condition), and the other half read a paragraph describing Dave as unintelligent (unintelligent expectancy condition, see Appendix A). To ensure that participants actively formed an impression, they wrote a short description summarizing Dave's personality. Afterwards, participants completed a manipulation check by rating Dave's intelligence on a seven-point Likert scale. The manipulation check was included to ensure that the participants formed the correct impression in each condition.

Learning Phase. Next, participants completed a learning phase in which they identified the behaviors Dave performed depending on the people he was with. In each trial, participants read about Dave and two people he was with (e.g., "Dave is with Bob and Chris"). After reading each description, participants guessed whether he performed an intelligent behavior (e.g., "He solves the Sunday morning crossword puzzle") or an unintelligent behavior (e.g., "He fails an easy surprise quiz in math class") by selecting the key corresponding to each of the two behaviors. There was one context person that perfectly predicted an expectancy-congruent behavior (P_{con}, e.g., Bob), one context person that perfectly predicted an expectancy-incongruent behavior (P_{inc}, e.g., Chris), and a shared context person who was present during all behavioral instances (S, e.g., John). In each trial, Dave was always with two people, either P_{con} + S (e.g.,

Bob and John) or P_{inc} + S (e.g., Chris and John). The status of the three people (Bob, Chris, and John) was counterbalanced across participants, with each person sometimes serving as the perfect predictor of the congruent behavior, sometimes serving as the perfect predictor of the incongruent behavior, and sometimes serving as the shared predictor. Following each trial, participants received feedback regarding whether they were correct or incorrect. The feedback was presented on the computer screen for 2000 ms before proceeding to the next trial. Participants completed a total of 10 blocks of trials, with eight trials per block. Within each block, the two perfect predictor context people were presented four times each. The shared predictor person was present in all trials.

Test Phase. Next, participants completed a test phase that measured their impressions of Dave in different contexts. Once again, participants were presented with descriptions of Dave and the people he was with. In this phase, however, Dave was presented with new configurations of people, and participants guessed whether he was intelligent or unintelligent depending on the person or people he was with. There were two trials in which Dave was with only the perfect predictor of the expectancy-congruent behavior (P_{con}), two trials in which he was with only the perfect predictor of the expectancy-incongruent behavior (P_{inc}), four trials in which he was with both perfect predictors (P_{con} + P_{inc}), four trials in which he was with only the shared predictor (S), and four trials in which he was with a new person (N). The names of the new people were Luke, Nick, Tom, and Jim. The names of these new people were presented individually, with one trial per person. Overall, there were a total of 16 trials in the test phase.[1] Participants did not receive any feedback regarding their trait selection.

[1] The test phase in Experiment 1 and all subsequent experiments included four trials in which the target person Dave was with all three context people (P_{con} + P_{inc} + S). However, these trials are not central to our hypotheses and therefore will not be discussed further.

Scale Ratings. To supplement test phase findings, we had participants complete scale ratings of their impressions. After completing the test phase, participants rated Dave's intelligence on a seven-point Likert scale for each context person he was with: P_{con}, P_{inc}, and S. They also rated his overall intelligence (O), absent of context. Ratings were made on a seven-point Likert scale, with one indicating "very unintelligent" and seven indicating "very intelligent".

Results

Manipulation Check

The manipulation check showed that participants in the intelligent expectancy condition rated Dave as more intelligent (M = 4.98, SD = 2.63) than did participants in the unintelligent expectancy condition (M = 3.36, SD = 1.22), $t(257) = 6.40$, $p < .001$, $d = 0.79$, indicating that the manipulation was effective.

Test Phase

Forty-nine participants were excluded from the test phase analysis: sixteen participants for failing the learning criteria (<75% accuracy during the last block of the learning phase), two for missing learning phase data, and thirty-one for missing test phase data due to a programming error. This left a total of 210 participants for analysis. The learning criteria was determined prior to data collection.

The test phase data were analyzed by measuring participants' selection of the trait that the target, Dave, possessed, given each person or people he was with. For each combination of context people (P_{con}, P_{inc}, N, S, P_{con} + P_{inc}), counts for each response option were summed across all participants. Then, trait selection was analyzed using the chi-square goodness-of-fit test and

the chi-square test of independence, or Fisher's exact test when the expected value of at least one of the cells was less than five. Results of all tests are presented in Table 1.

First, results showed that participants successfully learned the perfect predictors associated with each trait. When the target was with P_{con}, participants correctly selected the congruent trait more often (97%) than the incongruent trait (3%), $\chi^2(1, N = 420) = 377.15$, $p < .001$, $w = .95$. There was a marginally significant moderation by Trait Expectancy, $p = .062$. The degree of preference for the congruent trait was greater in the intelligent expectancy condition (99% versus 1%) than in the unintelligent expectancy condition (96% versus 4%), although the preference was strong in each condition. Conversely, when the target was with P_{inc}, they correctly selected the incongruent trait more often (98%) than the congruent trait (2%), $\chi^2(1, N = 420) = 392.47$, $p < .001$, $w = .97$. This effect was not moderated by Trait Expectancy, $p = .281$.

When the target was with new context people (N), participants selected the expectancy-congruent trait significantly more often (62%) than the expectancy-incongruent trait (38%) $\chi^2(1, N = 840) = 44.81$, $p < .001$, $w = .23$. This result indicates that participants had generalized the congruent impression to new contexts, as previously predicted. Contrary to predictions, this effect was moderated by Trait Expectancy, $\chi^2(1, N = 840) = 29.00$, $p < .001$, $w = .19$. In the intelligent expectancy condition, participants selected the congruent trait significantly more often (71%) than the incongruent trait (29%), $\chi^2(1, N = 416) = 71.12$, $p < .001$, $w = .41$, but in the unintelligent expectancy condition, they selected the congruent trait (53%) and the incongruent trait (47%) about equally, $\chi^2(1, N = 424) = 1.14$, $p = .285$, $w = .05$ (see Figure 2a).

When the target was with the shared predictor context (S), they selected the expectancy-congruent trait significantly more often (67%) than the expectancy-incongruent trait (39%), $\chi^2(1, N = 840) = 38.57$, $p < .001$, $w = .21$. Thus, even though the shared context person was present in

all encounters with Dave and had predicted each behavior type equally, participants associated it less strongly with the incongruent impression, suggesting that they had contextualized the incongruent impression to the P_{inc} context by disassociating it from the shared context. However, this effect was moderated by Trait Expectancy, $\chi^2(1, N = 840) = 185.66$, $p < .001$, $w = .47$. In the intelligent expectancy condition, participants selected the congruent trait significantly more often (84%) than the incongruent trait (16%), $\chi^2(1, N = 416) = 191.16$, $p < .001$, $w = .68$, but in the unintelligent expectancy condition, participants selected the incongruent trait significantly more often (62%) than the congruent trait (38%), $\chi^2(1, N = 424) = 24.54$, $p < .001$, $w = .24$. Altogether, participants were more likely to select the intelligent trait, regardless of Trait Expectancy. However, this effect was weaker in the unintelligent expectancy condition, indicating that incongruency still plays a role in contextualization (see Figure 2b).

Last, when the target was with both perfect predictor contexts (P_{con} + P_{inc}), participants selected the expectancy-incongruent trait significantly more often (55%) than the expectancy-congruent trait (45%), $\chi^2(1, N = 840) = 6.88$, $p = .009$, $w = .09$, indicating that they had formed a stronger context-based incongruent impression, as previously predicted. This effect was not moderated by Trait Expectancy, $\chi^2(1, N = 840) = 0.15$, $p = .696$, $w = .01$.

Scale Ratings

Eighteen participants were excluded from analysis of intelligence scale ratings: sixteen for failing the learning criteria and two for missing learning phase data, leaving a total of 241 participants for analysis. These participants also had been excluded from the test phase analyses.

Ratings of the target Dave's intelligence were analyzed by conducting a 2(Trait Expectancy: intelligent, unintelligent) x 4(Context: P_{con}, P_{inc}, S, overall) mixed model ANOVA, with Context as the within-subjects factor. Results are presented in Figure 3.

There was a significant interaction between Trait Expectancy and Context, $F(3, 717) = 263.01$, $p < .001$, $\eta_p^2 = .52$. Further inspection showed that ratings of the target's intelligence in P_{con} were significantly higher in the intelligent expectancy condition ($M = 5.70$, $SD = 2.31$) than in the unintelligent expectancy condition ($M = 1.55$, $SD = 1.10$), $F(1, 239) = 321.60$, $p < .001$, $\eta_p^2 = .57$, but that ratings of his intelligence in P_{inc} were significantly lower in the intelligent expectancy condition ($M = 1.58$, $SD = 1.18$) than in the unintelligent expectancy condition ($M = 5.56$, $SD = 2.33$), $F(1, 239) = 276.53$, $p < .001$, $\eta_p^2 = .54$. These findings simply demonstrate that participants had correctly learned the impressions associated with each perfect predictor context. In the shared context S, intelligence ratings were significantly higher in the intelligent expectancy condition ($M = 4.37$, $SD = 1.48$) than in the unintelligent expectancy condition ($M = 3.94$, $SD = 1.26$), $F(1, 239) = 5.88$, $p = .016$, $\eta_p^2 = .02$, supporting the test phase finding that impressions of the target in the shared context were more in-line with the congruent than the incongruent trait. Finally, ratings of the target's intelligence overall were significantly higher in the intelligent expectancy condition ($M = 5.18$, $SD = 1.23$) than in the unintelligent expectancy condition ($M = 4.59$, $SD = 1.33$), $F(1, 239) = 12.86$, $p < .001$, $\eta_p^2 = .05$, indicating that participants who expected the target to be an intelligent person viewed him as more intelligent overall than participants who expected him to be unintelligent.

Discussion

Overall, the results support the original hypotheses. First, the results show that participants had generalized the expectancy-congruent impression to new contexts. When the target was with new people, participants were more likely to say that he possessed the congruent trait, indicating that their original trait expectancy was maintained across new contexts. Second, participants contextualized the expectancy-incongruent impression into the unique context in

which it was learned. When the target was with the shared context, they were less likely to say that he possessed the incongruent trait compared to the congruent trait. Even though the shared context was present during all encounters with the target, participants had disassociated the incongruent impression from that context, thereby isolating that impression to a single context. Results from the scale ratings support this finding: When the target was with the shared context, participants' intelligence ratings were more consistent with the congruent than the incongruent trait. Overall, the results show that participants had formed contextualized impressions in a way that limited the generalizability of unexpected behaviors and maintained original expectations of the target.

Finally, the results show that participants had formed a stronger expectancy-incongruent impression; participants were more likely to say that the target possessed the expectancy-incongruent trait when he was with both perfect predictor people. Even though the incongruent impression was contextualized to a single context, that impression was especially strong. This finding suggests that participants had attended more to the unique context in which the incongruent behaviors occurred.

Although the results largely support our hypotheses about the effects of expectancies on context-based impression formation, these effects seem to depend on the trait itself. The predicted effects only occurred when the participants held an intelligent expectancy. In this condition, participants generalized the congruent (i.e., intelligent) impression to new contexts and contextualized the incongruent (i.e., unintelligent) impression to its unique context. However, participants who held an unintelligent expectancy showed no dominating trait impression when the target was with new context people, and they contextualized the congruent (i.e., unintelligent) rather than the incongruent (i.e., intelligent) impression when the target was

with the shared context, as observed by trait selection. These results suggest that participants were biased toward selecting the intelligent trait. Although this finding seems to contradict extensive research on negativity bias (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Fiske, 1980; Skowronski & Carlston, 1989), a study by Skowronski & Carlston (1987) shows that people demonstrate positivity bias when judgments are related to ability, such as with the intelligence traits in the current experiment. Regardless, the significant main effects of trait congruency across the intelligent and unintelligent expectancy conditions show that expectancies still influenced participants' impressions of the target.

Experiment 2: Overview and Predictions

Experiment 1 provides evidence that people form context-based impressions in ways that maintain expectations. However, it only examined impressions of an individual target. In Experiment 2, we examined whether expectancies based on group stereotypes influence context-based impression formation in a similar manner as do individual target expectancies. On the one hand, people engage in similar expectancy maintenance processes when they try to make sense of stereotype-incongruent behaviors as they do with individual trait-incongruent behaviors (Heider et al., 2007; Sherman et al., 2012). For example, people tend to make situational attributions for stereotype-disconfirming behaviors but dispositional attributions for stereotype-confirming behaviors (Crocker et al., 1983; Deaux & Emswiller, 1974; Feldman-Summers & Kiesler, 1974; Jackson et al., 1993; Sherman et al., 2005; Yee & Eccles, 1988), leading them to maintain expectations of future stereotypic behaviors (Bodenhausen & Wyer, 1985). They also tend to be more critical of stereotype-disconfirming information than stereotype-confirming information (Macrae et al., 1992). Highly prejudiced individuals, in particular, may scrutinize stereotype-inconsistent information in an attempt to explain it away (Sherman et al., 2005). On

the other hand, stereotypic expectancies may not have the same effects as individual expectancies on impressions because people tend to expect less consistency among behaviors performed by different group members than among behaviors performed by a single individual (Hamilton & Sherman, 1996). Consequently, people may feel less need to resolve behavioral inconsistencies among multiple group members (Stern et al., 1984; Susskind, Maurer, Thakkar, Hamilton, & Sherman, 1999).

We tested these competing hypotheses in Experiment 2. The second experiment was similar to the first, except that expectancies were based on group stereotypes rather than individual trait expectancies.

Method

Participants

Two hundred eighty-six undergraduates (247 female, 37 male, 2 other gender) with a mean age of 19.65 (*SD* = 2.68) from the University of California, Davis participated in exchange for partial course credit. Forty-seven percent identified as Asian, 24% as Hispanic, 20% as Caucasian, 1% as African American, 0.3% as Native American, and 8% as another race or ethnicity. The number of participants was determined based on an a priori power analysis—given $\alpha = .05$, $1 - \beta = .85$, and an estimated effect size of $w = .09$—which yielded an estimate of 1109 observations, equivalent to approximately 278 participants. The estimated effect size was based on the weakest effect size obtained from the test phase in Experiment 1.

Procedure

Stereotype manipulation. Participants were randomly assigned to one of two Stereotype Expectancy conditions. Half of the participants were told that they would learn about a medical doctor named Dave (intelligent stereotype condition), and the other half were told that they

would learn about a fast food worker named Dave (unintelligent stereotype condition; see Appendix B). These occupations were selected based on a pretest in which participants listed occupations that they believed were stereotypically intelligent and stereotypically unintelligent. Doctor and fast food worker were selected because they were listed frequently across participants.[2] After learning Dave's occupation, participants wrote a brief summary of the information provided about Dave to ensure that they remembered his occupation. Unlike the trait manipulation in Experiment 1, a manipulation check of Dave's intelligence was not included so that participants would not be aware that the study was related to stereotyping.

Learning phase. The learning phase was identical to the learning phase in Experiment 1, except that Dave's behaviors were congruent or incongruent with the stereotype associated with Dave's occupation rather than with Dave's personal characteristics. For example, if Dave was a doctor, intelligent behaviors were congruent and unintelligent behaviors were incongruent. If Dave was a fast food worker, unintelligent behaviors were congruent and intelligent behaviors were incongruent.

Test phase. The test phase was identical to the test phase in Experiment 1.

Scale ratings. The scale ratings were identical to those in Experiment 1.

Results

Test phase

Thirty participants were excluded from the test phase analysis: twenty-six participants for failing the learning criteria (<75% accuracy during the last block of the learning phase) and four

[2] The pretest data were collected from a separate sample of 45 participants who were asked to generate a list of occupations that are associated with different traits. Doctor-related occupations were some of the most frequently listed for trait "intelligent" (listed by 32 participants), and fast food-related occupations were some of the most frequently listed for the trait "unintelligent" (listed by 21 participants).

participants for pressing the same button on all the test phase trials. This left a total of 256 participants for analysis.

The test phase data were analyzed in the same manner as in Experiment 1. All results are presented in Table 2. First, participants successfully learned the perfect predictors associated with each trait. When the target was with the perfect predictor of the stereotype-congruent behaviors (P_{con}), participants selected the stereotype-congruent trait significantly more often (94%) than the stereotype-incongruent trait (6%), $\chi^2(1, N = 512) = 402.57$, $p < .001$, $w = .89$. However, a significant moderation by Stereotype Expectancy indicates a bias toward selecting the intelligent trait, $\chi^2(1, N = 512) = 4.07$, $p = .044$, $w = .09$. The degree of preference for the congruent trait was greater in the intelligent stereotype condition in which the congruent trait was intelligent (96% versus 4%) than in the unintelligent stereotype condition in which the congruent trait was unintelligent (92% versus 8%).

When the target was with the perfect predictor of the stereotype-incongruent trait (P_{inc}), participants selected the stereotype-incongruent trait significantly more often (94%) than the stereotype-congruent trait (6%), $\chi^2(1, N = 512) = 402.57$, $p < .001$, $w = .89$. Again, a significant moderation by Stereotype Expectancy showed a bias toward selecting the intelligent trait, $\chi^2(1, N = 512) = 4.80$, $p = .029$, $w = .10$. In both conditions, participants selected the incongruent trait significantly more often than the congruent trait, but this preference was stronger in the unintelligent stereotype condition in which the incongruent trait was intelligent (97% versus 3%) than in the intelligent stereotype condition in which the incongruent trait was unintelligent (92% versus 8%).

When the target was with new context people (N), participants selected the congruent trait (52%) and the incongruent trait (48%) about equally, $\chi^2(1, N = 1024) = 1.13$, $p = .288$, $w =$

.03, suggesting that participants did not generalize the congruent impression over the incongruent impression, as was predicted. However, there was a significant moderation by Stereotype Expectancy, $\chi^2(1, N = 1024) = 59.43$, $p < .001$, $w = .24$, which points to a bias toward holding an intelligent impression of the target. In the intelligent stereotype condition, participants selected the congruent trait significantly more often (64%) than the incongruent trait (36%), $\chi^2(1, N = 504) = 38.89$, $p < .001$, $w = .28$, but in the unintelligent stereotype condition, participants selected the incongruent trait (60%) significantly more often than the congruent trait (40%), $\chi^2(1, N = 520) = 21.61$, $p < .001$, $w = .04$. Participants perceived the target as intelligent in new contexts, regardless of whether that trait was congruent or incongruent with the stereotype.

When the target was with the shared context person (S), participants again selected the congruent trait (52%) and the incongruent trait (48%) about equally, $\chi^2(1, N = 1024) = 2.25$, $p = .134$, $w = .05$, indicating that they had not contextualized the incongruent impression. Again, there was a significant moderation by Stereotype Expectancy, $\chi^2(1, N = 1024) = 105.80$, $p < .001$, $w = .32$, which pointed to a preference for holding an intelligent impression. In the intelligent condition, participants selected the congruent trait (69%) significantly more often than the incongruent trait (31%), $\chi^2(1, N = 504) = 70.13$, $p < .001$, $w = .37$, but in the unintelligent condition, participants selected the incongruent trait (63%) significantly more often than the congruent trait (37%), $\chi^2(1, N = 520) = 37.69$, $p < .001$, $w = .07$. Participants perceived the target as intelligent in the shared context, regardless of whether intelligent was the congruent or the incongruent trait.

Finally, when the target was with both perfect predictor contexts ($P_{con} + P_{inc}$), participants selected the stereotype-incongruent trait (54%) significantly more often than the stereotype-congruent trait (46%), $\chi^2(1, N = 1024) = 8.27$, $p = .004$, $w = .09$, supporting predictions that the

stereotype-incongruent impression is stronger. Once again, however, a significant moderation by Stereotype Expectancy indicated a preference for the intelligent impression. In the unintelligent condition, participants selected the incongruent trait (69%) significantly more often than the congruent trait (31%), $\chi^2(1, N = 520) = 72.38$, $p < .001$, $w = .14$, as was predicted, but in the intelligent condition, participants selected the congruent trait (60%) significantly more often than the incongruent trait (40%), $\chi^2(1, N = 504) = 20.64$, $p < .001$, $w = .20$. In both conditions, participants were more likely to select the intelligent trait, indicating a stronger context-based intelligent impression.

Scale ratings

Twenty-six participants were excluded from analysis of intelligence scale ratings for failing the learning criteria in the last block of the learning phase, leaving a total of 260 participants for analysis. These participants also had been excluded from the test phase analyses. The data were analyzed in the same way as in Experiment 1. Results are presented in Figure 4.

There was a significant interaction between Stereotype Expectancy and Context, $F(3, 774) = 290.08$, $p < .001$, $\eta_p^2 = .53$. Further inspection showed that ratings of the target's intelligence in the P_{con} context were significantly higher in the intelligent stereotype condition ($M = 5.79$, $SD = 2.22$) than in the unintelligent stereotype condition ($M = 1.66$, $SD = 1.34$), $F(1, 258) = 331.38$, $p < .001$, $\eta_p^2 = .56$, but that ratings of his intelligence in P_{inc} were significantly lower in the intelligent condition ($M = 1.50$, $SD = 1.16$) than in the unintelligent condition ($M = 5.53$, $SD = 2.41$), $F(1, 258) = 2982.15$, $p < .001$, $\eta_p^2 = .53$. These results show that participants had learned the correct contextual associations. In the shared context, intelligence ratings did not differ significantly between the intelligent stereotype condition ($M = 4.08$, $SD = 1.11$) and the unintelligent stereotype condition ($M = 4.04$, $SD = 1.24$), $F(1, 258) = 0.07$, $p = .788$, $\eta_p^2 < .01$.

Ratings of the target's overall intelligence also did not differ significantly between the intelligent stereotype condition (M = 4.78, SD = 1.27) and the unintelligent stereotype condition (M = 4.58, SD = 1.23), $F(1, 258) = 1.72$, $p = .191$, $\eta_p^2 < .01$, although results are trending in the expected direction.

Discussion

The results in the current experiment do not fully replicate the results from Experiment 1. When the target was with new context people, participants selected the stereotype-congruent and stereotype-incongruent traits about equally, indicating that they did not generalize the stereotype-congruent impression, as was originally predicted. The same was true when the target was with the shared context person; participants selected the congruent and the incongruent traits about equally, indicating that they did not contextualize the stereotype-incongruent impression into its unique predictor context. Instead, impressions of the target seemed to be driven mostly by the trait itself. When the target was with new contexts or the shared context, they held an intelligent impression of him, regardless of whether it was congruent or incongruent with the group stereotype.

Consistent with predictions, participants formed a stronger context-based incongruent impression, as demonstrated from the trials in which the target was with both perfect predictor contexts. However, this effect was moderated by Stereotype Expectancy; participants held an intelligent impression of the target rather than an unintelligent impression, regardless of the group stereotype. However, this effect was weaker when the congruent trait was intelligent, indicating that stereotypic expectancies still play a role in the strength of context-based impressions.

Experiment 3: Overview and Predictions

The results of Experiment 2 seem to show that stereotypic expectancies do not influence context-based impression formation. It could be the case that people do not maintain stereotypic expectations in the same way that they maintain trait expectations of individuals. However, one reason why the predicted effects were not observed might be that the preference for the intelligent impression—the more desirable trait—overshadowed any effects that otherwise would have been caused by stereotypic expectations. Therefore, we replicated Experiment 2 using different traits. In Experiment 3, participants learned about a target person who was either a member of a stereotypically extraverted group (business people) or a member of a stereotypically introverted group (writers).

Another reason why the predicted results were not observed in Experiment 2 might be that the stereotype manipulation was not very strong. Participants were told either that the target was a doctor (intelligent stereotype) or that he was a fast food worker (unintelligent stereotype). These occupational groups were derived from a pretest in which participants listed stereotypically intelligent and stereotypically unintelligent occupations. In Experiment 2, however, we only told the participants about the target's group membership and not the stereotype associated with the group. Therefore, we could not confirm that the participants had in fact perceived the two occupational groups differently. Therefore, in Experiment 3, we made the stereotypes stronger by providing descriptions of the two occupational groups.

The second goal of Experiment 3 was to explore how impressions of an individual group member translate to impressions of another member of the same group and to a member of a different group, even if those other individuals are not observed performing any relevant behaviors. In other words, we tested how context-based impressions of a stereotyped group

member would influence participants' impressions of a fellow ingroup member and impressions of an outgroup member who are encountered in the same contexts. Would contextual associations transfer to impressions of other individuals, or would impressions depend on the group stereotypes? If impressions of others depend mostly on group stereotypes, then the implication is that a stereotype-incongruent impression of the primary target would be contained to a single group member as well as a single context, further limiting the ability of incongruent behaviors to change stereotypic impressions.

Method

Participants

Three hundred twenty-eight participants (208 female, 119 male, 1 transgender or genderqueer) with a mean age of 40.48 (*SD* = 13.19) were recruited from Amazon Mechanical Turk in exchange for payment. Eighty-one percent identified as White, 7% as Black, 4% as East Asian, 3% as Latinx American, 3% as South Asian, 2% as mixed race or ethnicity, <1% as Middle Eastern, and <1% as Native American Indian. The number of participants was determined based on an a priori power analysis—given $\alpha = .05$, $1 - \beta = .85$, and an estimated effect size of $w = .09$—which yielded an estimate of 1109 observations, equivalent to approximately 278 participants. The estimated effect size was the same as in Experiment 2 and was based on the weakest effect size obtained from the Experiment 1 test phase results.

Procedure

Stereotype manipulation. All participants read about two groups—a sales professionals association and a writing professionals association. The sales professionals association was described with extraversion-related traits, and the writing professionals association was described with introversion-related traits. The two occupations were selected based on a pretest

in which participants listed occupations that were stereotypically extraverted and stereotypically introverted. Salespeople and writers were selected because they were listed frequently across participants.[3] After reading about the two associations, the participants were told that they would learn about a person named Steve who was a member of one of the associations. Half of the participants were told that Steve was a business person who belonged to the sales professionals association (extraverted stereotype condition), and the other half were told that he was a writer who belonged to the writing professionals association (introverted stereotype condition, see Appendix C). Participant were not given any specific trait information about Steve. After learning about the professional associations and Steve's group membership, participants completed an attention check to ensure that they remembered the traits associated with each group and the group to which Steve belonged.

Learning phase. The learning phase was similar to the learning phases in Experiments 1 and 2, except that the target's name was Steve, not Dave, and he performed extraverted and introverted behaviors rather than intelligent and unintelligent behaviors.

Main target test phase. After the learning phase, participants completed a test phase that measured their impressions of the main target Steve. The test phase was similar to the test phases in Experiments 1 and 2, except that participants were asked to indicate whether Steve was introverted or extraverted rather than intelligent or unintelligent for each context person or set of context people that he was with.

[3] The pretest was the same as the one used to select the occupations in Experiment 2. The data were collected from a sample of 45 participants who were asked to generate a list of occupations that are associated with different traits. Sales-related occupations were some of the most frequently listed for trait "extraverted" (listed by 15 participants), and writing-related occupations were some of the most frequently listed for the trait "introverted" (listed by 12 participants).

Main target scale ratings. After the test phase, participants completed scale ratings of Steve's level of extraversion for each context person or context people he was with – P_{con}, P_{inc}, S, P_{con} + P_{inc}, and N, as well as his overall level of extraversion (O). For the rating of Steve with N, the name of the new person was randomly selected from one of the four new context people from the test phase. All ratings were made on a seven-point Likert scale, with one indicating "very introverted" and seven indicating "very extraverted."

Impressions of ingroup and outgroup targets. After completing the scale ratings of Steve, participants completed a second test phase that assessed their impressions of a target who belonged to the same group as Steve (ingroup target) and a target who belonged to the other group (outgroup target). For example, in the extraverted stereotype condition, the ingroup target was a member of the sales group, like Steve, and the outgroup target was a member of the writers group. In the introverted stereotype condition, the ingroup target was a member of the writers group, like Steve, and the outgroup target was a member of the sales group. In both conditions, the name of the target who belonged to the sales group was Samuel, and the name of the target who belonged to the writers group was Walter.

The ingroup and outgroup targets were presented individually with the same context people with whom Steve had appeared during the first test phase, and participants selected which trait each target possessed (the ingroup stereotype or the outgroup stereotype) for each context person or context people they were with. For each target, there were two trials with P_{con}, two trials with P_{inc}, four trials with P_{con} + P_{inc}, four trials S, and four trials with N. Altogether, there was a total of 32 trials. All trials were randomized.

Lastly, participants completed separate scale ratings of the ingroup and outgroup members' overall levels of extraversion and an attention check to ensure that they correctly remembered the groups to which Samuel and Walter belonged.

Results

Main target test phase

Seventy-three participants were excluded from the analyses: two for incomplete data, 30 for failing the stereotype attention check, an additional 40 participants for failing the learning criteria (<75% accuracy during the last block of the learning phase), and one for pressing the same button on all test phase trials. This left a total of 255 participants for analyses.

The test phase data were analyzed in the same manner as in Experiments 1 and 2. All results are presented in Table 3. First, participants successfully learned the perfect predictors associated with each trait. When the main target Steve was with the perfect predictor of the stereotype-congruent behaviors (P_{con}), participants selected the stereotype-congruent trait significantly more often (91%) than the stereotype-incongruent trait (9%), $\chi^2(1, N = 510) = 345.88$, $p < .001$, $w = .82$. This effect was not moderated by Stereotype Expectancy, $\chi^2(1, N = 510) = 0.72$, $p = .396$, $w = .04$. When the target was with the perfect predictor of the stereotype-incongruent trait (P_{inc}), participants selected the stereotype-incongruent trait significantly more often (92%) than the stereotype-congruent trait (8%), $\chi^2(1, N = 510) = 355.84$, $p < .001$, $w = .84$. However, this effect was moderated by Stereotype Expectancy, $\chi^2(1, N = 510) = 3.847$, $p = .050$, $w = .09$. In both conditions, participants selected the incongruent trait significantly more often than the congruent trait, but the preference for the incongruent trait was larger in the extraverted stereotype condition (94% versus 6%) than in the introverted stereotype condition (89% versus 11%).

When the target was with new context people (N), participants selected the stereotype-congruent trait significantly more often (64%) than the stereotype-incongruent trait (36%), $\chi^2(1, N = 1020) = 76.86$, $p < .001$, $w = .27$, suggesting that participants had generalized the stereotype-congruent impression to new contexts, as was originally predicted. This effect was not moderated by Stereotype Expectancy, $\chi^2(1, N = 101) = 0.17$, $p = .681$, $w = .01$.

When the target was with the shared context person (S), participants also selected the stereotype-congruent trait significantly more often (55%) than the stereotype-incongruent trait (45%), $\chi^2(1, N = 1020) = 12.30$, $p < .001$, $w = .11$, indicating that they had contextualized the stereotype-incongruent impression. However, this effect was moderated by Stereotype Expectancy, $\chi^2(1, N = 1020) = 42.18$, $p < .001$, w = .20, such that participants demonstrated a preference for holding an extraverted impression of the target. In the extraverted stereotype condition, participants selected the congruent trait significantly more often (65%) than the incongruent trait (35%), $\chi^2(1, N = 560) = 48.03$, $p < .001$, $w = .29$, in line with predictions, but in the introverted stereotype condition, participants selected the incongruent trait (56%) significantly more often than the congruent trait (44%), $\chi^2(1, N = 460) = 5.88$, $p = .015$, $w = .11$ (see Figure 5). In both conditions, participants were more likely to select the extraverted trait, suggesting that they had contextualized the introverted impression. However, this effect was weaker in the introverted stereotype condition, indicating that expectancies still play a role in contextualization.

Finally, when Steve was with both perfect predictor contexts (P_{con} + P_{inc}), participants selected the stereotype-congruent trait (49%) and the stereotype-incongruent trait (51%) about equally, $\chi^2(1, N = 1020) = 0.25$, $p = .616$, $w = .02$, indicating that the incongruent impression was

not stronger than the congruent impression. This finding was not moderated by Stereotype Expectancy, $\chi^2(1, N = 1020) = 2.52$, $p = .11$, $w = .05$.

Main target scale ratings

The scale ratings of the main target Steve were analyzed in the same way as in Experiments 1 and 2, except that there were an additional two levels of context (N, P_{con} + P_{inc}) that were not measured in the previous experiments. Results are presented in Figure 6.

There was a significant interaction between Stereotype Expectancy and Context, $F(5, 1265) = 171.79$, $p < .001$, $\eta_p^2 = .40$. Further inspection showed that ratings of the target's extraversion in P_{con} was significantly higher in the extraverted stereotype condition ($M = 6.20$, $SD = 1.36$) than in the introverted stereotype condition ($M = 2.14$, $SD = 1.58$), $F(1, 253) = 487.65$, $p < .001$, $\eta_p^2 = .66$, and that ratings of his extraversion in P_{inc} was significantly lower in the extraverted stereotype condition ($M = 1.94$, $SD = 1.42$) than in the introverted stereotype condition ($M = 5.89$, $SD = 1.50$), $F(1, 253) = 460.95$, $p < .001$, $\eta_p^2 = .65$. These findings show that participants had learned the correct contextual associations.

Ratings of the target's extraversion in a new context (N) were significantly higher in the extraverted stereotype condition ($M = 4.53$, $SD = 1.45$) than in the introverted stereotype condition ($M = 3.68$, $SD = 1.38$), $F(1, 253) = 22.74$, $p < .001$, $\eta_p^2 = .08$. Likewise, ratings of the target's extraversion in the shared context (S) were significantly higher in the extraverted stereotype condition ($M = 4.74$, $SD = 1.74$) than in the introverted stereotype condition ($M = 4.08$, $SD = 1.79$), $F(1, 253) = 8.96$, $p = .003$, $\eta_p^2 = .03$. The latter two findings converge with the findings from the test phase showing that participants held a stereotype-congruent impression of the target in the new contexts and the shared context.

Ratings of the target's extraversion in P_{con} + P_{inc} did not differ between the extraverted stereotype condition (M = 3.86, SD = 1.86) and the introverted stereotype condition (M = 3.88, SD = 1.80), $F(1, 253) < 0.01$, $p = .952$, $\eta_p^2 < .01$. This finding converges with the results from the test phase which showed that participants held no predominating impression in that context.

Finally, ratings of the target's overall level of extraversion were higher in the extraverted stereotype condition (M = 5.00, SD = 1.21) than in the introverted stereotype condition (M = 3.68, SD = 1.27), $F(1, 253) = 72.47$, $p < .001$, $\eta_p^2 = .22$, demonstrating that participants held an overall impression of the target that was in line with the stereotype of his group.

Impressions of ingroup and outgroup targets

An additional 60 participants were excluded from analyses of the ingroup and outgroup targets: fifty-eight participants for failing the attention check and two for missing data. This left a total of 195 participants for analyses. Scale rating responses from these remaining participants confirmed that they perceived the sales group target as more extraverted overall (M = 5.49, SD = 1.32) than the writers group target (M = 2.84, SD = 1.61), $t(194) = 14.70$, $p < .001$, $d = 1.05$.

The test phase data were analyzed in the same way as the test phase data of the main target Steve, except that trait selection was counted separately for the ingroup and the outgroup targets. When the ingroup target was P_{con}, participants selected the ingroup stereotype (i.e., the main target's stereotype-congruent trait) significantly more often (88%) than the outgroup stereotype (i.e., the main target's stereotype-incongruent trait; 12%), $\chi^2(1, N = 390) = 230.77$, $p < .001$, $w = .77$. When he was with P_{inc}, they selected the outgroup stereotype significantly more often (57%) than the ingroup stereotype (43%), $\chi^2(1, N = 390) = 6.93$, $p = .008$, $w = .13$.

Impressions of the ingroup target in the remaining contexts were consistent with the ingroup stereotype. Participants selected the ingroup stereotype more often than the outgroup

stereotype when he was with new context people (N; 72% versus 28%), $\chi^2(1, N = 780) = 144.74$, $p < .001$, $w = .43$, with the shared context person (S; 68% versus 32%), $\chi^2(1, N = 780) = 99.08$, $p < .001$, $w = .36$, and with $P_{con} + P_{inc}$ (65% versus 35%), $\chi^2(1, N = 780) = 73.85$, $p < .001$, $w = .31$.[4]

When the outgroup target was with P_{con}, participants selected the ingroup stereotype (46%) and the outgroup stereotype (54%) about equally, $\chi^2(1, N = 390) = 2.96$, $p = .085$, $w = .09$. When he was with P_{inc}, they selected the outgroup stereotype significantly more often (90%) than the ingroup stereotype (10%), $\chi^2(1, N = 390) = 252.81$, $p < .001$, $w = .81$.

Impressions of the outgroup member in the remaining contexts were consistent with the outgroup stereotype. Participants selected the outgroup stereotype significantly more often than the ingroup stereotype when he was with new context people (N; 75% versus 25%), $\chi^2(1, N = 780) = 193.01$, $p < .001$, $w = .50$, with the shared context person (S; 75% versus 25%), $\chi^2(1, N = 780) = 201.05$, $p < .001$, $w = .51$, and with $P_{con} + P_{inc}$ (73% versus 27%), $\chi^2(1, N = 780) = 158.85$, $p < .001$, $w = .45$.[5] Table 4 displays a summary comparing impressions of the main target, the ingroup target, and the outgroup target.

Discussion

Overall, the results show that stereotypic expectancies, like individual trait expectancies, lead perceivers to maintain their original expectations. First, participants had generalized the stereotype-congruent impression of the main target to new contexts in which he had not been

[4] Further analyses showed that Stereotype Expectancy moderated participants' trait selection for the ingroup target in all contexts except for $P_{con} + P_{inc}$. Overall, participants seemed to show a preference for selecting the extraverted trait. However, the direction of the effect was the same in both conditions; participants selected the ingroup stereotype more often than the outgroup stereotype for each context in which the ingroup target was presented.

[5] Further analyses showed that Stereotype Expectancy moderated participants' trait selection for the outgroup target when he was with P_{con} and $P_{con} + P_{inc}$. Overall, participants seemed to show a preference for selecting the introverted trait. In the $P_{con} + P_{inc}$ context, however, the direction of the effect was the same in both conditions; participants selected the outgroup stereotype more often than the ingroup stereotype.

encountered previously. When the target was with new people, they were more likely to say that he possessed the stereotype-congruent trait, indicating that they maintained a stereotypic impression of him across new contexts. Secondly, participants had contextualized the stereotype-incongruent impression into the unique context in which it was formed. Overall, they were less likely to say that he possessed the incongruent trait than the congruent trait when the target was with the shared context, even though the shared context had been present during all behavioral instances. Participants had disassociated the stereotype-incongruent impression from that context, thereby isolating that impression to its unique predictor context and limiting its ability to generalize to other contexts. However, the contextualization effect depended on the group stereotype itself; participants had contextualized the introverted trait, regardless of whether it was the congruent or the incongruent trait. Although we had attempted to eliminate potential trait valence effects by using the extraverted and introverted traits rather than the intelligent and unintelligent traits, participants still may have perceived the extraverted trait as more desirable than the introverted trait. This would explain their bias toward holding an extraverted impression of the target. Regardless, the contextualization of the introverted trait was weaker when it was the stereotype-congruent trait, indicating that expectancy still plays a role in the contextualization of stereotype-incongruent impressions.

The results from the scale ratings provide additional support for the generalization and contextualization effects. When the target was with a new context person or the shared context person, he was rated as being more extraverted when he belonged to the stereotypically extraverted group than when he belonged to the stereotypically introverted group. In other words, ratings of his extraversion in these contexts were consistent with the stereotype of his group.

Finally, although participants had generalized the stereotype-congruent impression and contextualized the stereotype-incongruent impression, they did not form a stronger stereotype-incongruent impression. When the target was with both perfect predictor contexts (P_{con} + P_{inc}), they were equally likely to say that he possessed the congruent and the incongruent traits, suggesting that participants did not preferentially attend to the unique context in which the stereotype-incongruent behaviors occurred.

The results of Experiment 3 support previous research showing that people engage in expectancy maintenance processes when observing stereotype-incongruent behaviors, just as they do when observing individual, trait-incongruent behaviors, in that participants generalized the stereotype-congruent impression but contextualized the stereotype-incongruent impression (Sherman et al., 2012). However, the results showed that participants did not preferentially attend to the unique context of the stereotype-incongruent behaviors. People may maintain prior expectations of others by paying more attention to their unexpected behaviors and scrutinizing those behaviors to make sense of them or explain them away (Sherman et al., 2005; Stern et al., 1984), but this does not appear to be the case here. Although the participants had maintained their initial stereotypic expectations of the target, they did not preferentially attend to either the stereotype-congruent or the stereotype-incongruent behaviors. One explanation may be that people expect less consistency among the behaviors of multiple group members than among behaviors of an independent individual (Susskind et al., 1999; Hamilton & Sherman, 1996). Because the expectancies in the current experiment were based on group stereotypes, participants may not have been as inclined to resolve the stereotype-incongruent behaviors or pay more attention to its context as they would have been if the expectancies were based on a single

individual's traits. Thus, although their impressions were biased toward expectancy-maintenance, they may not have attempted to resolve the stereotype-incongruent behaviors.

The second goal of Experiment 3 was to explore whether context-based impressions transfer to others who are encountered in the same contexts. The results did, in fact, show that context-based impressions transferred to an ingroup and an outgroup member, but only when those individuals were encountered in a counter-stereotypic context. In all other contexts, participants held impressions of the ingroup and outgroup targets that were consistent with the stereotypes of their respective groups. Thus, it appears that they had relied on the group stereotypes in forming their impressions of the targets, but not when they were encountered in a context with a strong, counter-stereotypical association. These findings suggest that counter-stereotypical behaviors do have the potential to change impressions of other group members, but that the counter-stereotypical impressions are contextualized to a single context, just as they are for the main target.

Experiments 4a and 4b: Overview and Predictions

The experiments conducted thus far have shown that people's expectations about others can bias context-based impression formation toward expectancy maintenance. This was true whether the expectations were based on an individual trait or on a group-based stereotype. These findings beg the question – will perceivers change their impressions if a person's behaviors do not accurately reflect their initial expectations? For example, if a perceiver has a positive expectation about an individual, but they then observe that individual acting in a negative manner, will they change their impression, and if so, to what extent? Impression change may depend on the frequency with which a target individual performs different types of behaviors. If the individual performs unexpected behaviors more often than expected behaviors, then the

perceiver should change their impression to more accurately reflect the individual's pattern of behaviors. However, if the individual performs expected behaviors more often than unexpected behaviors, then the perceiver's impression may not change very much because the individual's behavioral pattern confirms the perceiver's initial expectations.

In Experiments 4a and 4b, we examined impression change by manipulating the relative frequencies of a target individual's expected and unexpected behaviors (i.e., their behavioral pattern). To test the generalizability of our findings, we manipulated and measured evaluative impressions rather than trait impressions which were used in all the previous experiments. In Experiment 4a, all participants were given a positive expectancy of a target person named Dave prior to learning about his behaviors in different contexts. Experiment 4b was identical to Experiment 4a, except that all participants were given a negative expectancy of Dave. After forming the expectancy, participants completed a learning phase in which they learned about the good and bad behaviors that Dave performed, depending on the context people he was with. In contrast to the previous experiments, Dave performed each behavior type with different frequencies. Half of the participants in each of the two experiments learned that Dave performed expectancy-congruent behaviors in 75% of all instances and expectancy-incongruent behaviors in the other 25% of instances (matched condition). The other half of participants learned that he performed expectancy-incongruent behaviors in 75% of all instances and expectancy-congruent behaviors in the other 25% of instances (unmatched condition). Thus, in the matched condition, the target's behavioral pattern accurately reflected participants' expectancies because the target performed mostly expectancy-confirming behaviors, whereas in the unmatched condition, the target's behavioral pattern did not accurately reflect participants' expectancies because the target performed mostly expectancy-disconfirming behaviors. If a target's behavioral pattern can

change perceivers' impressions, then expectancy-incongruent behaviors should contribute to impressions of the target across different contexts to a greater degree if they occur more frequently than if they occur less frequently. If so, then participants who observe an unmatched pattern of behaviors would be less likely to generalize the expectancy-congruent impression and less likely to contextualize the expectancy-incongruent impression than would participants who observe a matched pattern of behaviors. Furthermore, participants who observe an unmatched pattern of behaviors may form relatively weaker expectancy-incongruent impressions because frequently occurring impressions tend to be weaker than rarely occurring impressions when those impressions are formed in different contexts (Huang et al., 2017).

Method

Participants

In Experiment 4a, two hundred thirteen undergraduates (163 female, 49 male, 1 another gender) with a mean age of 20.38 (*SD* = 2.05) from the University of California, Davis participated in exchange for partial course credit. Fifty-five percent identified as Asian, 17% as Hispanic, 15% as Caucasian, 3% as African American, and 10% as another race or ethnicity.

In Experiment 4b, two hundred thirty-five undergraduates (190 female, 42 male, 2 another gender, and 1 unreported) with a mean age of 20.67 (SD = 2.88) participated in exchange for partial course credit. Thirty-seven percent identified as Asian, 28% as Hispanic, 23% as Caucasian, 3% as African American, <1% as Native American, 9% as another race or ethnicity, and <1% unreported.

The sample sizes were determined based on an a priori power analysis—given $\alpha = .05$, $1 - \beta = .85$, and a small effect size of $w = .10$—which yielded a target of 898 observations, equivalent to approximately 225 participants per study.

Procedure

Expectancy manipulation. Participants read a paragraph describing a target person named Dave. In Experiment 4a, participants formed a positive expectancy of Dave by reading a paragraph describing him with positive attributes, and in Experiment 4b, they formed a negative expectancy of Dave by reading a paragraph describing him with negative attributes (Appendix D). They then wrote a short description of Dave to ensure that they actively formed an impression. To check the effectiveness of the manipulation, participants rated how good or bad Dave was and how positively or negatively they felt toward him on a seven-point Likert scale, with one indicating "very bad" and "very negatively," respectively, and seven indicating "very good" and "very positively," respectively.

Learning phase. The learning phases were similar to those in the previous experiments. In each trial, participants read a description about Dave and two people he was with. After each description, participants guessed whether he performed a positive behavior (e.g., "He sends flowers to his mother on Mother's Day") or a negative behavior (e.g., "He tells a lie about a good friend") by selecting the key corresponding to each of the two behaviors. As in the previous experiments, there was one perfect predictor of the expectancy-congruent behavior (P_{con}), one perfect predictor of the expectancy-incongruent behavior (P_{inc}), and a shared predictor who occurred during all behaviors (S). In each trial, Dave was always with two people, either P_{con} + S or P_{inc} + S. Following each trial, participants received feedback regarding whether they were correct or incorrect. The feedback was presented on the computer screen for 2000 ms before proceeding to the next trial.

The learning phases consisted of 10 blocks of trials, with eight trials per block. In contrast to the previous experiments, we manipulated the target's behavioral pattern by varying

the frequency with which he performed the expectancy-congruent and expectancy-incongruent behaviors. For half of the participants, Dave performed an expectancy-congruent behavior (positive in Experiment 4a, negative in Experiment 4b) in 75% of trials and an expectancy-incongruent behavior (negative in Experiment 4a, positive in Experiment 4b) in the other 25% of trials (matched condition). For the other half of participants, he performed an expectancy-congruent behavior in only 25% of trials and an expectancy-incongruent behavior in the other 75% of trials (unmatched condition). Thus, in the matched condition, expectancy-congruent behaviors occurred in the majority of instances, but in the unmatched condition, the expectancy-incongruent behaviors occurred in the majority of instances.

Test phase. After the learning phase, participants completed the test phase. They were presented with Dave and the context person or people he was with and guessed whether he was good or bad depending on the context. In each experiment, there were two trials in which Dave was with only P_{con}, two trials in which he was with only P_{inc}, four trials in which he was with P_{con} + P_{inc}, and four trials in which he was with a new person (N). In Experiment 4b, there were an additional four trials in which he was with only the shared predictor (S), but in Experiment 4a, there were only two trials in which he was with the shared predictor due to a programming error. Overall, there were a total of 14 trials in the Experiment 4a test phase and a total of 16 trials in the Experiment 4b test phase. Participants did not receive any feedback after each trial regarding their evaluation of Dave.

Scale ratings. After completing the test phase, participants rated their impressions of Dave with different context people on a seven-point Likert scale. For each context person he was with (P_{con}, P_{inc}, S), they rated their evaluation of Dave, with one indicating “very bad” and seven

indicating “very good.” Also, for each context person, they rated their feelings toward Dave on a 100-point feeling thermometer, with one indicating “very cold” and 100 indicating “very warm.

Experiment 4a Results

Manipulation Check. Participants’ evaluative ratings of Dave and ratings of their feelings toward him were analyzed using a one-sample t-test to compare the mean ratings against $\mu = 4$, the scale mid-point which represents an evaluation of Dave that is “neither good nor bad” and feelings that are “neither positive nor negative,” respectively. Participants’ evaluative ratings of the target ($M = 6.44$, $SD = 0.79$), $t(198) = 43.63$, $p < .001$, $d = 3.09$, and ratings of their feelings toward him ($M = 6.10$, $SD = 0.86$), $t(198) = 34.29$, $p < .001$, $d = 2.43$, were significantly higher than $\mu = 4$, showing that the expectancy manipulation was successful; participants had formed a positive expectancy of Dave.

Test Phase. Thirty-six participants were excluded from the test phase analyses: ten for failing the learning criteria (<75% accuracy during the last block of the learning phase), four for missing learning phase data, an additional two for pressing the same button throughout the test phase, and an additional 20 for missing test phase data due to a computer error. This left a total of 177 participants for analysis of the test phase data.

The test phase data were analyzed by measuring participants’ selection of their evaluation of Dave (i.e., good or bad), given each context person or combination of people that he was with. For each context (P_{con}, P_{inc}, N, S, $P_{con} + P_{inc}$), counts for each response option were summed across all participants. Participants’ selection of the expectancy-congruent and expectancy-incongruent evaluation was analyzed using the chi-square goodness-of-fit test. Moderation by Behavioral Pattern was analyzed using the chi-square test of independence. Results are presented in Table 5.

First, results showed that participants successfully learned the perfect predictors associated with each evaluation. When the target was with the perfect predictor of the expectancy-congruent behavior (P_{con}), participants correctly selected the congruent evaluation (i.e., the positive evaluation) more often (96%) than the incongruent evaluation (i.e., the negative evaluation; 4%), $\chi^2(1, n = 354) = 300.21$, $p < .001$, $w = .92$. This effect was not moderated by Behavioral Pattern, $\chi^2(1, n = 354) = 2.47$, $p = .116$, $w = .08$. Conversely, when the target was with the perfect predictor of the expectancy-incongruent behavior (P_{inc}), they correctly selected the incongruent evaluation significantly more often (92%) than the congruent impression (8%), $\chi^2(1, n = 354) = 247.50$, $p < .001$, $w = .84$. Unexpectedly, this effect was moderated by Behavioral Pattern, $\chi^2(1, n = 354) = 5.86$, $p = .015$, $w = .14$. Selection of the incongruent evaluation was larger in the unmatched condition (96% versus 4%) than in the matched condition (88% versus 12%), although participants in both conditions selected the incongruent evaluation more often than the congruent evaluation.

When the target was with new context people (N), participants selected the expectancy-congruent evaluation significantly more often (80%) than the expectancy-incongruent evaluation (20%), $\chi^2(1, n = 708) = 261.16$, $p < .001$, $w = .61$. More importantly, however, this effect was moderated by Behavioral Pattern, $\chi^2(1, n = 708) = 5.44$, $p = .020$, $w = .09$. Preference for the congruent evaluation was larger in the matched condition (84% versus 16%) than in the unmatched condition (77% to 23%, see Figure 7a). In both conditions, participants had generalized the congruent impression to new contexts, but this effect was slightly weaker in the unmatched condition—the condition in which the target had performed congruent behaviors in only the minority of instances.

When the target was with the shared predictor context (S), participants selected the expectancy-congruent evaluation (69%) significantly more often than the expectancy-incongruent evaluation (31%), $\chi^2(1, n = 354) = 52.25$, $p < .001$, $w = .25$. Importantly, this effect also was moderated by Behavioral Pattern, $\chi^2(1, n = 354) = 32.04$, $p < .001$, $w = .30$. In the matched condition, participants selected the expectancy-congruent evaluation significantly more often (83%) than the expectancy-incongruent evaluation (17%), $\chi^2(1, n = 174) = 77.33$, $p < .001$, $w = .67$, but in the unmatched condition, they selected the congruent evaluation (56%) and the incongruent evaluation (44%) about equally, $\chi^2(1, n = 180) = 2.22$, $p = .136$, $w = .11$ (see Figure 7b). Participants had contextualized the incongruent impression when the target's behaviors matched the expectancy, but this effect was eliminated when the majority of his behaviors did not match the expectancy.

Last, when the target was with both perfect predictor contexts ($P_{con} + P_{inc}$), participants selected the expectancy-incongruent evaluation significantly more often (55%) than the expectancy-congruent evaluation (45%), $\chi^2(1, n = 708) = 5.79$, $p = .016$, $w = .09$, demonstrating greater relative strength of the incongruent impression. Although moderation by Behavioral Pattern did not reach statistical significance, $\chi^2(1, n = 708) = 2.90$, $p = .089$, $w = .06$, further inspection showed that participants in the matched condition selected the incongruent evaluation significantly more often (58%) than the congruent evaluation (42%), $\chi^2(1, n = 348) = 8.38$, $p = .004$, $w = .16$, whereas participants in the unmatched condition selected the congruent evaluation (49%) and the incongruent evaluation (51%) about equally, $\chi^2(1, n = 350) = 0.28$, $p = .598$, $w = .03$ (see Figure 7c). It appears that participants had formed a stronger expectancy-incongruent impression of the target only in the matched condition, although this conclusion should be taken with caution because the moderation of Behavioral Pattern was not statistically significant.

Scale Ratings. Fourteen participants were excluded from analysis of scale ratings: ten participants for failing the learning criteria and four for missing learning phase data, leaving a total of 199 participants for analysis of scale ratings. These participants also had been excluded from the test phase analyses.

The evaluation and feeling thermometer ratings of the target were analyzed by conducting a 2(Behavioral Pattern: matched, unmatched) x 3(Context: P_{con}, P_{inc}, S) mixed ANOVA, with context as the within-subjects factor. Results are presented in Figure 8. On the evaluation ratings, there was a significant main effect of Context, $F(2, 394) = 522.78$, $p < .001$, $\eta_p^2 = .73$, and a significant main effect of Behavioral Pattern, $F(1, 197) = 20.07$, $p < .001$, $\eta_p^2 = .09$, but no significant interaction between Behavioral Pattern and Context, $F(2, 394) = 0.95$, $p = .389$, $\eta_p^2 < .01$. The main effect of Context was examined by conducting a one-way repeated measures ANOVA with post-hoc pairwise comparisons using Bonferroni corrections. All three pairwise comparisons among P_{con} ($M = 6.36$, $SD = 1.32$), P_{inc} ($M = 1.62$, $SD = 1.30$), and S ($M = 4.36$, $SD = 1.49$) were significant, all p-values < .001. As expected, the target was rated as the most good in P_{con}, as the least good in P_{inc}, and in between in S. More importantly, the main effect of Behavioral Pattern showed that the target was rated as more good overall in the matched condition ($M = 4.32$, $SD = 2.36$) than in the unmatched condition ($M = 3.91$, $SD = 2.38$). This difference reflects the relative frequencies of the target's positive and negative behaviors in each condition. Although the original expectancy of the target was positive, participants had lowered their evaluation when the target performed mostly negative behaviors, indicating that they can modify their impressions when behaviors do not match expectations.

On the feeling thermometer ratings, there also was a significant main effect of Behavioral Pattern, $F(1, 197) = 10.69$, $p = .001$, $\eta_p^2 = .05$, and a significant main effect of Context, $F(2, 394)$

= 498.02, $p < .001$, $\eta_p^2 = .72$, but no significant interaction between Behavioral Pattern and Context, $F(2, 394) = 2.33$, $p = .099$, $\eta_p^2 = .01$. The main effect of Context was examined using the same comparison procedure conducted for the evaluation ratings. Again, all three pairwise comparisons among P_{con} ($M = 83.17$, $SD = 20.27$), P_{inc} ($M = 15.52$, $SD = 20.80$), and S ($M = 53.70$, $SD = 21.40$) were significant, all p-values < .001, with the highest ratings of warmth in P_{con} and the lowest ratings of warmth in P_{inc}. Consistent with the evaluation ratings, the main effect of Behavioral Pattern showed that participants reported feeling more warmth toward the target in the matched condition ($M = 53.32$, $SD = 33.69$) than in the unmatched condition ($M = 48.25$, $SD = 35.46$). These ratings again show that participants can change their impressions if the target's behaviors do not match expectations.

Experiment 4b Results

Manipulation Check. As in Experiment 4a, participants' evaluative ratings of Dave and ratings of their feelings toward him were analyzed using a one-sample t-test to compare the mean ratings against $\mu = 4$, the scale mid-point which represents an evaluation of Dave that is "neither good nor bad" and feelings that are "neither positive nor negative," respectively. Participants' evaluative ratings of the target ($M = 2.05$, $SD = 0.99$), $t(214) = -28.95$, $p < .001$, $d = -1.97$, and their feelings toward him ($M = 2.67$, $SD = 1.12$) $t(214) = -17.33$, $p < .001$, $d = -1.18$, were significantly lower than $\mu = 4$, showing that the expectancy manipulation was successful; participants had formed a negative expectancy of the target.

Test Phase. Twenty-two participants were excluded from test phase analysis: seventeen for failing the learning criteria, two for missing learning phase and test phase data, and three for pressing the same button throughout the test phase. This left a total of 213 participants for analysis of the test phase data.

The test phase data were analyzed in the same manner as in Experiment 4a. Results are presented in Table 6. Again, results showed that participants successfully learned the perfect predictors associated with each evaluation. When the target was with the perfect predictor of the expectancy-congruent behavior (P_{con}), participants selected the congruent evaluation (i.e., the negative evaluation) significantly more often (95%) than the incongruent evaluation (i.e., the positive evaluation; 5%), $\chi^2(1, n = 426) = 300.21$, $p < .001$, $w = .89$. This effect was not moderated by Behavioral Pattern, $\chi^2(1, n = 426) = 0.06$, $p = .812$, $w = .01$. When the target was with the perfect predictor of the expectancy-incongruent behavior (P_{inc}), participants selected the incongruent evaluation significantly more often (93%) than the congruent evaluation (7%), $\chi^2(1, n = 426) = 314.45$, $p < .001$, $w = .86$. Unexpectedly, this effect was moderated by Behavioral Pattern, $\chi^2(1, n = 426) = 5.04$, $p = .025$, $w = .11$. As in Experiment 4a, preference for the incongruent evaluation was larger in the unmatched condition (96% to 4%) than in the matched condition (90% to 10%), although participants in both conditions selected the incongruent evaluation more often than the congruent evaluation.

When the target was with new context people (N), participants selected the expectancy-congruent evaluation significantly more often (58%) than the expectancy-incongruent evaluation (42%), $\chi^2(1, n = 852) = 19.84$, $p < .001$, $w = .15$. Importantly, this effect was moderated by Behavioral Pattern, $\chi^2(1, n = 852) = 34.48$, $p < .001$, $w = .20$. In the matched condition, participants selected the congruent evaluation more often (68%) than the incongruent evaluation (32%), $\chi^2(1, n = 428) = 52.57$, $p < .001$, $w = .35$, but in the unmatched condition, they selected the congruent evaluation (48%) and the incongruent evaluation (52%) about equally, $\chi^2(1, n = 424) = 0.94$, $p = .331$, $w = .05$ (see Figure 7a). Participants had generalized the congruent

impression to new contexts when the target's behavioral pattern matched the expectancy, but this effect was eliminated when the majority of the target's behaviors did not match the expectancy.

When the target was with the shared context (S), participants tended to select the expectancy-congruent evaluation more often (53%) than the expectancy-incongruent evaluation (47%), although this result only reached marginal significance, $\chi^2(1, n = 852) = 3.42$, $p = .064$, $w = .06$. More importantly, this effect was moderated by Behavioral Pattern, $\chi^2(1, n = 852) = 96.22$, $p < .001$, $w = .34$. In the matched condition, participants selected the congruent evaluation significantly more often (70%) than the incongruent evaluation (30%), $\chi^2(1, n = 428) = 67.52$, $p < .001$, $w = .40$, but in the unmatched condition, participants selected the incongruent evaluation significantly more often (64%) than the congruent impression (36%), $\chi^2(1, n = 424) = 31.74$, $p < .001$, $w = .27$ (see Figure 7b). Participants had contextualized the incongruent impression when the target performed mostly congruent behaviors, but they contextualized the congruent impression when the target performed mostly incongruent behaviors. In both cases, participants had contextualized the impression that occurred in only the minority of instances.

Last, when the target was with both perfect predictor contexts ($P_{con} + P_{inc}$), participants selected the expectancy-incongruent evaluation (60%) significantly more often than the expectancy-congruent evaluation (40%), $\chi^2(1, n = 852) = 33.13$, $p < .001$, $w = .20$. However, this effect was moderated by Behavior Frequency, $\chi^2(1, n = 852) = 32.53$, $p < .001$, $w = .20$. In the matched condition, participants selected the incongruent evaluation (69%) significantly more often than the congruent evaluation (31%), $\chi^2(1, n = 428) = 64.38$, $p < .001$, $w = .39$, but in the unmatched condition, they selected the congruent evaluation (50%) and incongruent evaluation (50%) about equally, $\chi^2(1, n = 424) = 0.01$, $p = .923$, $w < .01$ (see Figure 7c). As in Experiment

4a, participants had formed a stronger expectancy-incongruent impression, but only when the target's behaviors matched expectations.

Scale Ratings. Twenty participants were excluded from analysis of scale ratings: seventeen for failing the learning criteria, two for missing learning phase data, and one for missing scale ratings data, leaving a total of 215 participants for analysis of scale ratings. Nineteen of these participants also had been excluded from the test phase analyses.

The evaluation and feeling thermometer ratings were analyzed in the same manner as in Experiment 4a. Results are presented in Figure 9. On the evaluation ratings, there was a significant main effect of Behavioral Pattern, $F(1, 213) = 40.06$, $p < .001$, $\eta_p^2 = .16$, and a significant main effect of Context, $F(2, 426) = 883.06$, $p < .001$, $\eta_p^2 = .81$. As expected, the main effect of Context showed that the target was rated as the least good in P_{con} ($M = 1.47$, $SD = 0.97$), as the most good in P_{inc} ($M = 6.36$, $SD = 1.27$), and in between in S ($M = 3.71$, $SD = 1.37$), all p-values < .001. The main effect of Behavioral Pattern showed that the target was rated as less good overall in the matched condition ($M = 3.60$, $SD = 2.29$) than in the unmatched condition ($M = 4.11$, $SD = 2.37$).[6] As in Experiment 4a, this difference reflects the relative frequencies of the target's positive and negative behaviors in each condition. Although the original expectancy of the target was negative, participants had increased the positivity of their evaluation when the target performed mostly positive behaviors. This finding is consistent with the test phase findings

[6] The analysis also revealed a significant interaction between Behavioral Pattern and Context, $F(2, 426) = 17.36$, $p < .001$, $\eta_p^2 = .08$. In P_{inc}, the target was rated as less good in the matched condition ($M = 6.15$, $SD = 1.56$) than in the unmatched condition ($M = 6.59$, $SD = 0.82$), $t(166.52) = -2.64$, $p = .009$, $d = 0.36$. Likewise, in S, the target was rated as less good in the matched condition ($M = 3.11$, $SD = 1.23$) than in the unmatched condition ($M = 4.34$, $SD = 1.22$), $t(212.73) = -7.40$, $p < .001$, $d = 1.01$. However, ratings of the target in P_{con} did not differ between the matched condition ($M = 1.54$, $SD = 0.90$) and the unmatched condition ($M = 1.40$, $SD = 1.03$), $t(205.62) = 1.03$, $p = .303$, $d = -0.14$. It is not clear why differences across contexts would occur.

in that participants can change their impressions if the target's behaviors do not correspond to the expectancy.

On the feeling thermometer ratings, there was a significant main effect of Behavioral Pattern, $F(1, 213) = 31.13$, $p < .001$, $\eta_p^2 = .13$, and a significant main effect of Context, $F(2, 426) = 686.55$, $p < .001$, $\eta_p^2 = .76$. Consistent with the evaluation ratings, the main effect of Context showed that the target was rated with the lowest warmth in P_{con} ($M = 12.32$, $SD = 17.08$), the highest warmth in P_{inc} ($M = 81.59$, $SD = 21.69$), and in between in S ($M = 46.14$, $SD = 21.58$), all p-values < .001. The main effect of Behavioral Pattern showed that the target was rated with less warmth in the matched condition ($M = 42.56$, $SD = 33.71$) than in the unmatched condition ($M = 51.00$, $SD = 35.39$).[7] This finding further supports the idea that perceivers are capable of changing their impressions.

Discussion

Overall, participants did change their impressions—at least to a partial extent—when the target's behavioral pattern did not match their original expectations. As such, they were less likely to generalize the expectancy-congruent impression and less likely to contextualize the expectancy-incongruent impression, demonstrating that impressions are amenable to change. First, when the target's behaviors did match with expectations (i.e., the more frequently occurring behaviors were consistent with expectations), participants generalized the congruent impression to new contexts and contextualized the incongruent impression to its unique predictor

[7] As in the evaluation ratings, there was a significant interaction between Behavioral Pattern and Context, $F(2, 426) = 16.01$, $p < .001$, $\eta_p^2 = .07$. In P_{inc}, ratings of warmth were lower in the matched condition ($M = 76.75$ $SD = 25.32$) than in the unmatched condition ($M = 86.65$, $SD = 15.68$), $t(183.17) = -3.46$, $p = .001$, $d = 0.47$. Likewise, in S, ratings of warmth were lower in the matched condition ($M = 37.24$, $SD = 20.87$) than in the unmatched condition ($M = 55.48$, $SD = 18.15$), $t(211.19) = -6.85$, $p < .001$, $d = 0.93$. However, in P_{con}, ratings did not differ between the matched condition ($M = 13.69$, $SD = 17.43$) and the unmatched condition ($M = 10.88$, $SD = 16.66$), $t(213.00) = 1.21$, $p = .227$, $d = -0.17$.

context, as demonstrated in the previous experiments. However, when the target's behavioral pattern did not match expectations (i.e., the more frequently occurring behaviors were not consistent with expectations), these effects were weakened or reversed to be more in line with the target's behaviors. Interestingly, participants showed a preference for a holding a positive impression, overall. Although this preference was not confirmed statistically, inspection of the response patterns across Experiments 4a and 4b seem to show that participants changed their impressions more so when the original expectancy of the target was negative but the majority of his behaviors were positive.[8] This finding is consistent with the results from Experiment 1 in which participants were biased toward perceiving the target as intelligent, the more favorable trait, but it is inconsistent with past research suggesting that people change their impressions to a greater extent after a target performs a negative behavior than a positive behavior (Reeder & Coovert, 1986).

These experiments also showed that participants held a stronger expectancy-incongruent impression, but only when the target's behaviors matched the expectancy. When the target's behaviors did not match the expectancy, participants did not hold any predominating impression. However, our prior research on context-based impression formation showed that perceivers form stronger context-based impressions of rarely-occurring traits as compared to commonly-occurring traits, possibly because they attend more to the unique context of the rare trait as a means of differentiating that impression from the common impression (Huang et al., 2017). In the current study, the incongruent behaviors occurred more frequently than the congruent behaviors in the unmatched condition, so although incongruent behaviors tend to draw more

[8] Valence differences were not tested statistically because the data were collected across separate experiments.

attention and lead to stronger impressions, this tendency may have been offset by a tendency to attend to the less frequently occurring congruent behaviors.

Experiments 4a and 4b provide preliminary evidence that perceivers can update their impressions if their original expectations do not accurately reflect the target's behaviors. However, the participants did not fully adjust their impressions away from original expectancies, so it is not clear if the effects of expectancies can be eliminated entirely. Research on anchoring and adjustment (Epley & Gilovich, 2006; Kruglanski & Freund, 1983) and group expectancies (Ottati, Claypool, and Gingrich, 2005) show that people anchor their impressions onto their initial expectancies and may not fully adjust away from those expectancies when learning new information about an impression target. However, in the current experiment, all expectancy-disconfirming behaviors occurred within a single context. Changing impressions may be more effective when a target is observed performing expectancy-incongruent behaviors across multiple contexts because impressions could be generalized broadly across contexts.

General Discussion

In these studies, we examined the effects of social expectancies on context-based impression formation and, more specifically, on expectancy maintenance during impression formation. We showed that perceivers can use context as a means for maintaining their original expectancies, regardless of whether those expectancies are based on traits (Experiment 1), stereotypes (Experiment 3), or evaluations (Experiments 4a & 4b). In Experiment 1, participants had generalized an expectancy-congruent trait impression across multiple contexts, whereas they had contextualized an expectancy-incongruent trait impression to the unique context in which it was formed, thereby limiting its influence in changing overall impressions of the target. They also had formed a stronger expectancy-incongruent impression (compared to an expectancy-

congruent impression), even though that impression was contextualized to a single context. The differential strength of these two impressions suggests that participants had attended more to the incongruent behaviors and its unique predictor context when forming that impression in context.

In Experiments 2 and 3, we examined whether participants would engage in the same expectancy maintenance processes when expectancies are based on group stereotypes rather than individual trait expectancies. In Experiment 2, we did not observe the predicted findings, possibly because the stereotype manipulation was too weak. However, with a stronger manipulation in Experiment 3, we replicated the same generalization and contextualization effects that were observed in Experiment 1, showing that the same expectancy maintenance processes can occur when expectancies are based on group stereotypes. Interestingly, participants did not form a stronger stereotype-incongruent impression. Past research shows that perceivers expect more consistency among behaviors performed by an individual person than among behaviors performed by multiple group members, so the group member's counter-stereotypic behaviors may not have drawn more attention from the participants.

In Experiment 3, we also explored how context-based impressions of an individual group member transfer to an ingroup and an outgroup member who are encountered in the same contexts. We found that impressions of the main target transferred to impressions of an ingroup and an outgroup member, but only when those individuals were encountered in a context that already held a strong, counter-stereotypical association. In all other contexts, participants held impressions of the ingroup and outgroup members that were consistent with the stereotypes of their respective groups. These findings suggest that an individual group member's behavior can change stereotypic impressions of other group members, but only in contexts that have become associated with a certain type of behavior.

Finally, in Experiments 4a and 4b, we showed that people can change their impressions if an individual's pattern of behaviors does not match their original expectations. When a target acts in a mostly counter-expectational manner, perceivers are less likely to generalize the expectancy-congruent impression and less likely to contextualize the expectancy-incongruent impression. However, they may not fully adjust away from the expectancy, so the effects of expectancies may not be eliminated entirely.

Implications for Stereotype Change

Our research has important implications for stereotype change. Based on the results of the current studies, one strategy for changing stereotypic impressions is to expose perceivers to more counter-stereotypic behaviors. In Experiments 4a and 4b, we showed that participants changed their impressions of an individual target when that target was observed performing more expectancy-incongruent behaviors than expectancy-congruent behaviors. Although the expectancies were based on individual expectancies rather than group stereotypes, we still might expect the same outcome if the target was a member of a stereotyped group. Some research has, in fact, shown that individuating information about a group target reduces or eliminates stereotyping during impression formation (Rubinstein, Jussim, & Stevens, 2018), so people likely would change their stereotypic impressions to some extent if a group member acts in a mostly counter-stereotypic manner. For the most part, however, the relationship between individuation and stereotyping is complex, so we would expect both individuating behaviors and stereotypes to play a role in impression formation (Brewer, 1988; Fiske & Neuberg, 1990; Kunda & Sherman-Williams, 1993; Kunda & Thagard, 1996).

Although perceivers may change their impressions of an individual group member when that individual proves not to conform to the group stereotype, they may not necessarily change

their impressions of the entire group. Instead, perceivers might engage in subtyping. Subtyping is a stereotype maintenance mechanism whereby perceivers separate, or subtype, stereotype-disconfirming group members into a subcategory of a group (Richards & Hewstone, 2001; Weber & Crocker, 1983). Even if a perceiver changes their impression of a group member who acts in a mostly counter-stereotypical manner, they might not change their impression of the entire group if they subtype the stereotype-disconfirming group member. However, the subtyping process draws many parallels to contextualization, so it can provide insight into impression change. Extensive evidence shows that subtyping is less likely to occur when stereotype-incongruent traits are dispersed across many group members rather than concentrated within a few group members (Hewstone, Macrae, Griffiths, & Milne, 1994; Johnston & Hewstone, 1992; Johnston, Hewstone, Pendry, & Frankish, 1994; Weber & Crocker, 1983). When an incongruent trait is dispersed, it is harder for perceivers to dismiss that trait as an exception to the group, and they are less likely view the group stereotypically. Similarly, if an individual group member is observed performing stereotype-incongruent behaviors across multiple contexts rather than in a single unique context, perceivers might be less likely to contextualize those behaviors and more likely to integrate those behaviors into their overall impression of the individual.

One factor that might increase resistance to stereotype change is biased recall. Research shows that people are better at remembering specific instances of incongruent behaviors than congruent behaviors, but they tend to recall expectancy-congruent behaviors in a biased fashion; they respond as if they had previously observed a congruent behavior when in actuality the behavior had never really occurred (Rojahn and Pettigrew, 1992; Stangor & McMillan, 1992). This bias may be explained in part by people's tendency to form abstract mental representations

from expectancy-congruent behaviors, which in turn makes congruent impressions even more difficult to change (Sherman, 1996; Sherman et al., 2012). In addition, biased recall of congruent behaviors may make these behavioral instances appear more numerous than they really are. All these factors may increase the likelihood that perceivers will generalize stereotype-congruent impressions and contextualize stereotype-incongruent impressions. If perceivers can reduce biased recall of stereotype-congruent behaviors, they may be less likely to engage in stereotype maintenance processes. This might be difficult to do because reducing memory bias may require perceivers to change how they encode the stereotypic information in the first place (Hastie, 1984; Stangor & McMillan, 1992; von Hippel, Sekaquaptewa, & Vargas, 1995). However, one study has found that participants who mentally re-created the original context in which information was learned reduced the biasing effects of expectancies during memory retrieval (Hirt, 1990). This strategy might strengthen the association between expectancy-congruent behaviors and the contexts in which they occurred, which subsequently could reduce the likelihood that perceivers generalize the congruent impression across multiple contexts.

Implications for Attitude Change

Our research also has important implications for attitude change. Consider the following case. In our society, attitudes toward racial minorities, particularly African Americans, are predominantly negative. However, research shows that automatically activated attitudes toward African Americans change as a function of the context (Allen, Sherman, & Klauer, 2010; Barden, Maddux, Petty, & Brewer, 2004; Maddux, Barden, Brewer, & Petty, 2005; Wittenbrink, Judd, & Park, 2001). In one study, participants expressed anti-Black bias when targets were presented in a negative context (e.g., a ghetto street corner), but no bias whatsoever when they were presented in a positive context (e.g., a church interior; Wittenbrink et al., 2001).

Considering that standard, context-free measures of implicit bias have consistently demonstrated anti-Black bias (e.g., Devine, Plant, Amodio, Harmon-Jones, & Vance, 2002; Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Fazio, Jackson, Dunton, & Williams, 1995; Greenwald, McGhee, & Schwartz, 1998; Monteith, Voils, & Ashburn-Nardo, 2001), people seem to hold a generalized negative attitude toward African Americans but a contextualized positive attitude that appears only when Black targets are presented in positive contexts. One possible explanation for discrepancies, based on the current research, is that people tend to hold a negative expectancy of Black people—via negative stereotypes, prejudicial attitudes, or both—which leads to the contextualization Black people's positive behaviors. The challenge here is to determine how people can "de-contextualize" the positive attitude (i.e., form a context-free representation of the positive impression) in order to override the predominant, generalized negative attitude (for further review of contextualized attitude change, see Gawronski et al., 2018). Our research suggests one means for doing so. In our research, we showed that perceivers may pay particularly close attention to the context in which a target is performing counter-expectational behaviors. As a result, they hold this impression more strongly than impressions drawn from expected behaviors. One important implication is that, if the counter-expectational impression (e.g., a positive impression of a Black target) can be introduced across multiple contexts, it may undermine or even overwhelm the expected impression (e.g., a negative impression of a Black target). One of the best ways to form a generalized positive impression is, perhaps, to increase contact with negatively stereotyped group members in multiple contexts but to do so only in those contexts in which positive experiences are most likely to occur (Pettigrew & Tropp, 2006, 2008).

Limitations

One limitation of the current research is that the cognitive mechanisms underlying the observed effects are not entirely clear. We proposed an attentional process whereby perceivers attend more to the context in which a target performs expectancy-incongruent behaviors. As a result, they contextualize the incongruent impression while also forming a stronger impression of the target in that context. However, the evidence we have supporting an attentional process is indirect. Although we can infer greater attention via the relative strength of impressions, we did not directly measure participants' attention while they were forming impressions. Previous research on expectancies and stereotyping in impression formation does support the proposed attentional mechanism in that perceivers tend to pay more attention to behaviors that violate expectations (Hilton et al., 1991; Roese & Sherman, 2007). Based on this research, it would be reasonable to conclude that participants in the current studies paid more attention to expectancy-incongruent behaviors and its context. However, the cause of the attentional preference is not clear. Participants may have paid more attention to the incongruent context, not only because unexpected information captures attention, but also because they were trying to differentiate the incongruent impression from the congruent impression, or because they were thinking more about the incongruent behaviors in order to make sense of them (Hastie, 1984; Roese & Sherman, 2007). It also could be argued that the participants engaged in attributional processing during impression formation. Participants could have formed a stronger impression of the expectancy-incongruent behaviors because they made a contextual rather than a dispositional attribution for those behaviors. For example, if participants held an intelligent expectancy of the target, they may have attributed his unintelligent behaviors to the context in which they occurred rather than to the target's own disposition.

Another limitation of the research is that the expectancies were so overt that the same effects might not hold for expectancies that are based on more subtle factors. In the current studies, participants were given a direct description of the targets before observing those targets performing any behaviors. It could be argued that these descriptions are a valid source of information about the target, and therefore, it would not be surprising that the participants would have used this information to form their impressions. Only when the expectancy was not made overt (as in the stereotype manipulation of Experiment 2) did we not observe the predicted expectancy maintenance effects. However, people often hold expectancies based on factors that are not necessarily an accurate source of information about the target's traits or behaviors but nevertheless lead to important judgments and outcomes. For example, physical features such as attractiveness (Eagly, Ashmore, Makhijani, & Longo, 1991), emotional appearance (Montepare & Dobish, 2003), babyfacedness (Berry & McArthur, 1985), and Afrocentricity (Blair, Judd, & Fallman, 2004) influence trait judgments and lead to many consequential outcomes, such as the quality of interpersonal interactions (Snyder, Tanke, & Berscheid, 1977), election results (Todorov, Mandisodza, Goren, & Hall, 2005), and even the severity of criminal sentencing (Blair, Judd, & Chapleau, 2004). In addition, group stereotypes frequently influence perceptions of group members, even when those stereotypes are not made explicit to the perceiver (Banaji & Greenwald, 1994; Macrae, Milne, & Bodenhausen, 1994). It is less clear how resistant these factors are to impression change. Some researchers might argue that they would not be resistant to change because the relevant individuating characteristics would predominate (Rubinstein et al., 2018). However, if perceivers are unaware of their biases in the first place, they might not be able to correct for them (Lepore & Brown, 2002).

Future Directions

In future research, it would be worth exploring other factors that influence the degree to which perceivers engage in expectancy maintenance processes. For example, further research could examine whether perceivers still engage in expectancy maintenance when expectancies are based on less overt cues or on cues such as physical features that are not necessarily diagnostic of the trait in question, as discussed above. Expectancy maintenance also may be driven by motivational factors such as ingroup bias (Hewstone, 1990; Pettigrew, 1979). To the extent that people are motivated to perceive their ingroup as better than the outgroup, they would be more likely to maintain a positive impression of their ingroup by contextualizing negative behaviors performed by an ingroup member and positive behaviors performed by an outgroup member. Another factor that could influence the extent of stereotype maintenance are individual differences in stereotype endorsement (Bastian & Haslam, 2006). To the degree that perceivers hold stronger stereotypic beliefs, the more likely they may be to generalize stereotype-congruent impressions but to contextualize stereotype-incongruent impressions. Other individual differences that may moderate expectancy maintenance are prejudicial attitudes (Sherman et al., 2005) and beliefs in the fixedness of human attributes (Levy, Stroessner, & Dweck, 1998).

In this research, we showed how people engage in stereotype maintenance, but it also would be interesting to study how people form stereotypes in the first place. We showed that perceivers use stereotypes to shape their impressions of an individual group member, but they also may use behavioral observations of an individual group member to inform their impression of the entire group. Whereas stereotype maintenance follows a deductive reasoning process (i.e., by drawing inferences about an individual from a generalized group impression), stereotype formation follows an inductive reasoning process (i.e., by forming a generalized group

impression from specific individual behaviors). We touched on the latter process by exploring how context-based impressions of an individual group member translate to impressions of other individual group members, but in this case, the group stereotypes already had been established. Research on illusory correlation has shown that stereotypes tend to form around numerical minority group members and rarely-occurring traits, even when there are no true differences between the majority and minority groups, because the minority group and the rare traits are both distinct (Hamilton & Gifford, 1976; Hamilton & Rose, 1980; Mullen & Johnson, 1990; Sherman et al., 2009). Thus, if an individual is observed behaving in an unusual way, and that individual happens to be a minority group member, people likely would generalize that individual's behavior to a stereotypic impression of the entire minority group. This effect is consistent with the idea of tokenism—that a single minority group member is representative of the entire group. People also might be more likely to form stereotypes when the group is perceived to be more entitative (Crawford, Sherman, & Hamilton, 2002) or when the group member being observed has extreme characteristics (Rothbart, Fulero, Jensen, Howard, & Birrell, 1978). In summary, perceivers' interpretations of individual behaviors have important consequences for stereotype formation as well as stereotype maintenance.

References

Allen, T. J., Sherman, J. W. & Klauer, K. C. (2010). Social context and the self-regulation of implicit bias. *Group Processes and Intergroup Relations, 13*(2), 137–149.

Banaji, M. R. & Greenwald, A. G. (1994). Implicit stereotyping and prejudice. In M. P. Zanna & J. M. Olson (Eds.), *The psychology of prejudice: The Ontario Symposium* (Vol. 7). Hillsdale, NJ: Lawrence Erlbaum Associates.

Barden, J., Maddux, W. W., Petty, R. E., & Brewer, M. B. (2004). Contextual moderation of racial bias: The impact of social roles on controlled and automatically activated attitudes. *Journal of Personality and Social Psychology, 87*(1) 5–22.

Bastian, B. & Haslam, N. (2006). Psychological essentialism and stereotype endorsement. *Journal of Experimental Social Psychology, 42*(2), 228–235.

Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology, 5*(4), 323–370.

Berry, D. S., & McArthur, L. Z. (1985). Some components and consequences of a babyface. *Journal of Personality and Social Psychology, 48*(2), 312–323.

Blair, I. V., Judd, C. M., & Chapleau, K. M. (2004). The influence of Afrocentric facial features in criminal sentencing. *Psychological Science, 15*(10), 674–679.

Blair, I. V., Judd, C. M., & Fallman, J. L. (2004). The automaticity of face and Afrocentric facial features in social judgments. *Journal of Personality and Social Psychology, 87*(6), 763–778.

Bodenhausen, G. V. & Wyer, R. S. (1985). Effects of stereotypes on decision making and information-processing strategies. *Journal of Personality and Social Psychology, 48*(2), 267–282.

Brewer, M. B. (1988). A dual process model of impression formation. In T. K. Srull & R. S. Wyer, Jr. (Eds.), Advances in social cognition, Vol. 1. (pp. 1–36). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cantor, N. & Mischel, W. (1979). Prototypes in person perception. *Advances in Experimental Social Psychology, 12*, 3–52.

Clary, E. G. & Tesser, A. (1983). Reactions to unexpected events: The naïve scientist and interpretive activity. *Personality and Social Psychology Bulletin, 9*(4), 609–620.

Crawford, M. T., Sherman, S. J., & Hamilton, D. L. (2002). Perceived entitativity, stereotype formation, and the interchangeability of group members. *Journal of Personality and Social Psychology, 83*(5), 1076–1094.

Crocker, J., Hannah, D. B., & Weber, R. (1983). Person memory and causal attributions. *Journal of Personality and Social Psychology, 44*(1), 55–66.

Deaux, K. & Emswiller, T. (1974). Explanations of successful performance on sex-linked tasks: What is skill for the male is luck for the female. *Journal of Personality and Social Psychology, 29*(1), 80–85.

Devine, P. G., Plant, E. A., Amodio, D. M., Harmon-Jones, E., & Vance, S. L. (2002). The regulation of explicit and implicit race bias: The role of motivations to respond without prejudice. *Journal of Personality and Social Psychology, 82*(5), 835–848.

Dickter, C. & Gyurovski, I. (2012). The effects of expectancy violations on early attention to race in an impression-formation paradigm. *Social Neuroscience, 7*(3), 240–251.

Dovidio, J. F., Kawakami, K., Johnson, C., Johnson, B., & Howard, A. (1997). On the nature of prejudice: Automatic and controlled processes. *Journal of Experimental Social Psychology, 33*(5), 510–540.

Eagly, A. H., Ashmore, R., D., Makhijani, M. G., & Longo, L. C. (1991). What is beautiful is good, but…: A meta-analytic review of research on the physical attractiveness stereotype. *Psychological Bulletin, 110*(1), 109–128.

Epley, N. & Gilovich, T. (2006). The anchoring-and-adjustment heuristic: Why the adjustments are insufficient. *Psychological Science, 17*(4), 311–318.

Fazio, R. H., Jackson, J. R., Dunton, B. C., & Williams, C. J. (1995). Variability in automatic activation as an unobtrusive measure of racial attitudes: A bona fide pipeline? *Journal of Personality and Social Psychology, 69*(6), 1013–1027.

Feldman-Summers, S. & Kiesler, S. B. (1974). Those who are number two try harder: The effect of sex on attributions of causality. *Journal of Personality and Social Psychology, 30*(6), 846–855.

Fiske, S. T. (1980). Attention and weight in person perception: The impact of negative and extreme behavior. *Journal of Personality and Social Psychology, 38*(6), 889–906.

Fiske, S. T. & Neuberg, S. L. (1990). A continuum of impression formation, from category-based to individuating processes: Influences of information and motivation on attention and interpretation. *Advances in Experimental Social Psychology, 23*, 1–74.

Gawronski, B., Hu, X., Rydell, R. J., Vervliet, B., & De Houwer, J. (2015). Generalization versus contextualization in automatic evaluation revisited: A meta-analysis of successful and failed replications. *Journal of Experimental Psychology: General, 144*(4), e50–e64.

Gawronski, B., Rydell, R. J., De Houwer, J., Brannon, S. M., Ye, Y., Vervliet, B., & Hu, X. (2018). Contextualized attitude change. *Advances in Experimental Social Psychology, 56*, 1–79.

Gawronski, B., Rydell, R. J., Vervliet, B., & De Houwer, J. (2010). Generalization versus contextualization in automatic evaluation. *Journal of Experimental Psychology: General, 139*(4), 683–701.

Gawronski, B., Ye, Y., Rydell, R. J., & De Houwer, J. (2014). Formation, representation, and activation of contextualized attitudes. *Journal of Experimental Social Psychology, 54*, 188–203.

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology, 74*(6), 1464–1480.

Hamilton, D. L. & Gifford, R. K. (1976). Illusory correlation in interpersonal perception: A cognitive basis of stereotypic judgments. *Journal of Experimental Social Psychology, 12*(4), 392–407.

Hamilton, D. L. & Rose, T. L. (1980). Illusory correlation and the maintenance of stereotypic beliefs. *Journal of Personality and Social Psychology, 39*(5), 832–845.

Hamilton, D. L., & Sherman, J. W. (1996). Perceiving persons and groups. *Psychological Review, 103*(2), 336–355.

Hastie, R. (1984). Causes and effects of causal attribution. *Journal of Personality and Social Psychology, 46*(1), 45–56.

Heider, J. D., Scherer, C. R., Skowronski, J. J., Wood, S. E., Edlund, J. E., & Hartnett, J. L. (2007). Trait expectancies and stereotype expectancies have the same effect on person memory. *Journal of Experimental Social Psychology, 43*(2), 265–272.

Hewstone, M. (1990). The 'ultimate attribution error'? A review of the literature on intergroup causal attribution. *European Journal of Social Psychology, 20*(4), 311–335.

Hewstone, M., Macrae, C. N., Griffiths, R., & Milne, A. B. (1994). Cognitive models of stereotype change: 5. Measurement, development, and consequences of subtyping. *Journal of Experimental Social Psychology, 30*(6), 505–526.

Hilton, J. L., Klein, J. G., & von Hippel, W. (1991). Attention allocation and impression formation. *Personality and Social Psychology Bulletin, 17*(5), 548–559.

Hirt, E. R. (1990). Do I see only what I expect? Evidence for an expectancy-guided retrieval model. *Journal of Personality and Social Psychology, 58*(6), 937–951.

Hoffman, C., Mischel, W., & Mazze, K. (1981). The role of purpose in the organization of information about behavior: Trait-based versus goal-based categories in person cognition. *Journal of Personality and Social Psychology, 40*(2), 211–225.

Huang, L. M., Sacchi, D. L. M., & Sherman, J. W. (2017). On the formation of context-based person impressions. *Journal of Experimental Social Psychology, 68*, 146–156.

Jackson, L. A., Sullivan, L. A., Hodge, C. N. (1993). Stereotype effects of attributions, predictions, and evaluations: No two social judgments are quite alike. *Journal of Personality and Social Psychology, 65*(1), 69–84.

Johnston, L. & Hewstone, M. (1992). Cognitive models of stereotype change: 3. Subtyping and the perceived typicality of disconfirming group members. *Journal of Experimental Social Psychology, 28*(4), 360–386.

Johnston, L., Hewstone, M., Pendry, L., & Frankish, C. (1994). Cognitive models of stereotype change: 4. Motivational and cognitive influences. *European Journal of Social Psychology, 24*(2), 237–265.

Kruglanski, A. W. & Freund, T. (1983). The freezing and unfreezing of lay-inferences: Effects on impressional primacy, ethnic stereotyping, and numerical anchoring. *Journal of Experimental Social Psychology, 19*(5), 448–468.

Kruschke, J. K. (1996). Base rates in category learning. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 22,* 3–26.

Kruschke, J. K. (2003). Attention in learning. *Current Directions in Psychological Science, 12*(5), 171–175.

Kulik, J. A. (1983). Confirmatory attribution and the perpetuation of social beliefs. *Journal of Personality and Social Psychology, 44*(6), 1171–1181.

Kunda, Z. & Sherman-Williams, B. (1993). Stereotypes and the construal of individuating information. *Personality and Social Psychology Bulletin, 19*(1), 90–99.

Kunda, Z. & Thagard, P. (1996). Forming impressions from stereotypes, traits, and behaviors: A parallel-constraint-satisfaction theory. *Psychological Review, 103*(2), 284–308.

Lepore, L. & Brown, R. (2002). The role of awareness: Divergent automatic stereotype activation and implicit judgment correction. *Social Cognition, 20*(4), 321–351.

Levy, S. R., Stroessner, S. J., & Dweck, C. S. (1998). Stereotype formation and endorsement: The role of implicit theories. *Journal of Personality and Social Psychology, 74*(6), 1421–1436.

Lichtenstein, M. & Srull, T. K. (1987). Processing objectives as a determinant of the relationship between recall and judgment. *Journal of Experimental Social Psychology, 23*(2), 93–118.

Lord, C. G., Ross, L., & Lepper, M. R. (1979). Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology, 37*(11), 2098–2109.

Macrae, C. N., Milne, A. B., & Bodenhausen, G. V. (1994). Stereotypes as energy-saving devices: A peek inside the cognitive toolbox. *Journal of Personality and Social Psychology, 66*(1), 37–47.

Macrae, C. N., Shepherd, J. W., & Milne, A. B. (1992). The effects of source credibility on the dilution of stereotype-based judgments. *Personality and Social Psychology Bulletin, 18*(6), 765–775.

Maddux, W. W., Barden, J., Brewer, M. B., & Petty, R. E. (2005). Saying no to negativity: The effects of context and motivation to control prejudice on automatic evaluative responses. *Journal of Experimental Social Psychology, 41*, 19–35.

Medin, D. L., & Edelson, S. M. (1988). Problem structure and the use of base-rate information from experience. *Journal of Experimental Psychology: General, 117,* 68–85.

Monteith, M. J., Voils, C. I., & Ashburn-Nardo, L. (2001). Taking a look underground: Detecting, interpreting, and reacting to implicit racial biases. *Social Cognition, 19*(4), 395–417.

Montepare, J. M. & Dobish, H. (2003). The contribution of emotion perceptions and their overgeneralizations to trait impressions. *Journal of Nonverbal Behavior, 27*(4), 237–254.

Mullen, B. & Johnson, C. (1990). Distinctiveness-based illusory correlations and stereotyping: A meta-analytic integration. *British Journal of Social Psychology, 29*(1), 11–28.

Newman, L. S. (1996). Trait impressions as heuristics for predicting future behavior. *Personality and Social Psychology Bulletin, 22*(4), 395–411.

Ottati, V., Claypool, H. M., and Gingrich, B. (2005). Effects of a group stereotype on memory for behaviors performed by a group member. *European Journal of Social Psychology, 35*(6), 797–808.

Pettigrew, T. F. (1979). The ultimate attribution error: Extending Allport's cognitive analysis of prejudice. *Personality and Social Psychology Bulletin, 5*(4), 461–476.

Pettigrew, T. F. and L. R. Tropp (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90*(5), 751–783.

Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators. *European Journal of Social Psychology, 38*, 922–934.

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

Richards, Z., & Hewstone, M. (2001). Subtyping and subgrouping: Processes for the prevention and promotion of stereotype change. *Personality and Social Psychology Review, 5*, 52–73.

Roese, N. J. & Sherman, J. W. (2007). Expectancy. In A. W. Kruglanski & E. T. Higgins (Eds.) *Social psychology: Handbook of basic principles* (pp. 91–115). New York: Guilford.

Rojahn, K. & Pettigrew, T. F. (1992). Memory for schema-relevant information: A meta-analytic resolution. *British Journal of Social Psychology, 31*(2), 81–109.

Rothbart, M., Fulero, S., Jensen, C., Howard, J., & Birrell, P. (1978). From individual to group impressions: Availability heuristics in stereotype formation. *Journal of Experimental Social Psychology, 14*(3), 237–255.

Rubinstein, R. S., Jussim, L., & Stevens, S. T. (2018). Reliance on individuating information and stereotypes in implicit and explicit person perception. *Journal of Experimental Social Psychology, 75*, 54–70.

Rydell, R. J, & Gawronski, B. (2009). I like you, I like you not: Understanding the formation of context-dependent automatic attitudes. *Cognition and Emotion, 23*(6), 1118–1152.

Sherman, J. W. (1996). Development and mental representation of stereotypes. *Journal of Personality and Social Psychology, 70*(6), 1126–1141.

Sherman, J. W., Allen, T. J., & Sacchi, D. L. M. (2012). Stereotype confirmation and disconfirmation. In B. Gawronski & F. Strack (Eds.), *Cognitive consistency* (pp. 390–423). New York: Guildford.

Sherman, J. W., Conrey, F. R., & Groom, C. J. (2004). Encoding flexibility revisited: Evidence for enhanced encoding of stereotype-inconsistent information under cognitive load. *Social Cognition, 22*(2), 214–232.

Sherman, J. W., Kruschke, J. K., Sherman, S. J., Percy, E. J., Petrocelli, J. V. & Conrey, F. R. (2009). Attentional processes in stereotype formation: A common model for category accentuation and illusory correlation. *Journal of Personality and Social Psychology, 96*(2), 305–323.

Sherman, J. W., Lee, A. Y., Bessenoff, G. R., & Frost, L. A. (1998). Stereotype efficiency reconsidered: Encoding flexibility under cognitive load. *Journal of Personality and Social Psychology, 75*(3), 589–606.

Sherman, J. W., Stroessner, S. J., Conrey, F. R., & Azam, O. A. (2005). Prejudice and stereotype maintenance processes: Attention, attribution, and individuation. *Journal of Personality and Social Psychology, 89*(4), 607–622.

Skowronski, J. J., & Carlston, D. E. (1987). Social judgment and social memory: The role of cue diagnosticity in negativity, positivity, and extremity biases. *Journal of Personality and Social Psychology, 52*(4), 689–699.

Skowronski, J. J., & Carlston, D. E. (1989). Negativity and extremity biases in impression formation: A review of explanations. *Psychological Bulletin, 105*(1), 131–142.

Snyder, M., Tanke, E. D., & Berscheid, E. (1977). Social perception and interpersonal behaviors: On the self-fulfilling nature of social stereotypes. *Journal of Personality and Social Psychology, 35*(9), 656–666.

Srull, T. K. & Wyer, R. S. (1989). Person memory and judgment. *Psychological Review, 96*(1), 58–83.

Stangor, C. & McMillan, D. (1992). Memory for expectancy-congruent and expectancy-incongruent information: A review of the social and social developmental literatures. *Psychological Bulletin, 111*(1), 42–61.

Stern, L. D., Marrs, S., Millar, M. G., & Cole, E. (1984). Processing time and the recall of inconsistent and consistent behaviors of individuals and groups. *Journal of Personality and Social Psychology, 47*(2), 253–262.

Susskind, J., Maurer, K., Thakkar, V., Hamilton, D. L., & Sherman, J. W. (1999). Perceiving individuals and groups: Expectancies, dispositional inferences, and causal attributions. *Journal of Personality and Social Psychology, 76*(2), 181–191.

Todorov, A., Mandisodza, A. N., Goren, A. & Hall, C. C. (2005). Inferences of competence from faces predicts election outcomes. *Science, 308*(5728), 1623–1626.

von Hippel, W., Sekaquaptewa, D., & Vargas, P. (1995). On the role of encoding processes in stereotype maintenance. *Advances in Experimental Social Psychology, 27*, 177–254.

Weber R. & Crocker, J. (1983). Cognitive processes in the revision of stereotypic beliefs. *Journal of Personality and Social Psychology, 45*(5), 961–977.

Wittenbrink, B., Judd, C. M., & Park, B. (2001). Spontaneous prejudice in context: Variability in automatically activated attitudes. *Journal of Personality and Social Psychology, 81*(5), 815–827.

Wyer, R. S., Srull, T. K., & Gordon, S. (1984). The effects of predicting a person's behavior on subsequent trait judgment. *Journal of Experimental Social Psychology, 20*(1), 29–46.

Yee, D. K. & Eccles, J. S. (1988). Parent perceptions and attributions for children's math achievement. *Sex Roles, 19*(5), 317–333.

Appendix A

Experiment 1 intelligent expectancy manipulation

Dave is a student who is in his last year of college. He works part time to make extra money. Dave's family and friends describe him as smart, hard-working, knowledgeable, and capable of doing anything he puts his mind to. He is a member of the academic honor society and is in the top 10% of his college class. His professors think highly of his ability and believe he will become successful in the future.

Experiment 1 unintelligent expectancy manipulation

Dave is a student who is in his last year of college. He works part time to make extra money. Dave's family and friends describe him as stupid, lazy, slow, ignorant, and incapable of doing the simplest tasks. He has poor grades and faces the risk of being kicked out of college before he graduates. His professors think poorly of his ability and believe he will be unsuccessful in the future.

Appendix B

Experiment 2 intelligent stereotype manipulation

In this experiment, you will learn about a doctor named Dave. Dave is a 40-year-old doctor who works at a hospital in Northern California. He is a member of the American Medical Association (AMA).

Experiment 2 unintelligent stereotype manipulation

In this experiment, you will learn about a fast food worker named Dave. Dave is a 40-year-old fast food worker who works at a burger joint in Northern California. He is a member of the American Fast Food Association (AFFA).

Appendix C

Experiment 3 extraverted stereotype manipulation

In this experiment, you will learn about an individual who is a member of one of two professional organizations. One of the organizations is an association of sales professionals. This group has a reputation in their city as being outgoing, friendly, and loud. They like to attend large social events around town and meet new people. The other organization is an association of writing professionals. This group has a reputation in their city as being shy, reserved, and quiet. They do not attend many social events around town and prefer to keep to the company of a few people. In this experiment, you will learn about an individual named Steve, a business person who is a member of the sales professionals association.

Experiment 3 introverted stereotype manipulation

In this experiment, you will learn about an individual who is a member of one of two professional organizations. One of the organizations is an association of writing professionals. This group has a reputation in their city as being shy, reserved, and quiet. They do not attend many social events around town and prefer to keep the company of only a few people. The other organization is an association of sales professionals. This group has a reputation in their city as being outgoing, friendly, and loud. They like to attend large social events around town and meet new people. In this experiment, you will learn about an individual named Steve, a writer who is a member of the writing professionals association.

Appendix D

Positive expectancy manipulation (Experiment 4a)

Dave is a student who is in his last year of college. He works part time to make extra money. Dave's family and friends describe him as being kind, thoughtful, agreeable, responsible, and honest. He gets along well with others, is considerate toward his friends, and works hard at work and school. He also volunteers at several community organizations, and he helps his family and neighbors when they are in need. His family and friends think very well of him.

Negative expectancy manipulation (Experiment 4b)

Dave is a student who is in his last year of college. He works part time to make extra money. Dave's family and friends describe him as being mean, selfish, argumentative, irresponsible, and dishonest. He gets along poorly with others, is inconsiderate toward his friends, and is lazy at work and school. He also fights with his co-workers, steals money from his friends, and refuses to help his family when they are in need. His family and friends think very poorly of him.

Table 1. Proportion of each trait selected for each given predictor context(s) (Experiment 1).

	Trait chosen	
Predictor(s)	Congruent	Incongruent
P_{con}**	0.97	0.03
P_{inc}**	0.02	0.98
N**	0.62	0.38
S**	0.61	0.39
P_{con} + P_{inc}*	0.62	0.38

Note. P_{con} = context that perfectly predicts the expectancy-congruent behaviors, P_{inc} = context that perfectly predicts the expectancy-incongruent behaviors, N = new contexts, and S = shared predictor context.

*$p < .01$. **$p < .001$.

Table 2. Proportion of each trait selected for each given predictor context(s) (Experiment 2).

	Trait chosen	
Predictor(s)	Congruent	Incongruent
P_{con}**	0.94	0.06
P_{inc}**	0.06	0.94
N	0.52	0.48
S	0.52	0.48
P_{con} + P_{inc}*	0.46	0.54

Note. P_{con} = context that perfectly predicts the stereotype-congruent behaviors, P_{inc} = context that perfectly predicts the stereotype-incongruent behaviors, S = shared predictor context, and N = new contexts.

*$p < .01$. **$p < .001$.

Table 3. Proportion of each trait selected for each given predictor context(s) (Experiment 3).

	Trait chosen	
Predictor(s)	Congruent	Incongruent
P_{con}*	0.91	0.09
P_{inc}*	0.08	0.92
N*	0.64	0.36
S*	0.55	0.45
P_{con} + P_{inc}	0.49	0.51

Note. P_{con} = context that perfectly predicts the stereotype-congruent behaviors, P_{inc} = context that perfectly predicts the stereotype-incongruent behaviors, N = new contexts, and S = shared predictor context.

*$p < .001$.

Table 4. Impressions of the main target, ingroup target, and outgroup target within each given context (Experiment 3).

	Impression Target		
Context	Main Target (Steve)	Ingroup Member	Outgroup Member
P_{con}	■	■	═
P_{inc}	◊	◊	◊
N	■	■	◊
S	■	■	◊
P_{con} + P_{inc}	═	■	◊

Note. P_{con} = context that perfectly predicts stereotypic ingroup behaviors, P_{inc} = context that perfectly predicts stereotypic outgroup behaviors, S = shared context, and N = new contexts. The square (■) represents greater selection of the ingroup stereotype, the diamond (◊) represents greater selection of the outgroup stereotype, and the equal sign (═) represents equal selection of each trait.

Table 5. Proportion of each evaluation selected for each given predictor context(s), (Experiment 4a). Results are separated by Behavioral Pattern condition.

		Evaluation Chosen	
Context	**Behavioral Pattern**	**Congruent (positive)**	**Incongruent (negative)**
P_{con}	Matched	0.98	0.02
	Unmatched	0.94	0.06
P_{inc}*	Matched	0.12	0.88
	Unmatched	0.04	0.96
N*	Matched	0.84	0.16
	Unmatched	0.77	0.23
S**	Matched	0.83	0.17
	Unmatched	0.56	0.44
P_{con} + P_{inc}	Matched	0.42	0.58
	Unmatched	0.49	0.51

Note. P_{con} = context that perfectly predicts the expectancy-congruent behaviors, P_{inc} = context that perfectly predicts the expectancy-incongruent behaviors, N = new contexts, and S = shared predictor context. Significance values indicate a significant moderation of Behavioral Pattern on evaluation selection in the given context.

*$p < .05$. **$p < .001$.

Table 6. Proportion of each evaluation selected for each given predictor context(s), (Experiment 4b). Results are separated by Behavioral Pattern.

		Evaluation Chosen	
Context	**Behavioral Pattern**	**Congruent (negative)**	**Incongruent (positive)**
P_{con}	Matched	0.95	0.05
	Unmatched	0.94	0.06
P_{inc}*	Matched	0.10	0.90
	Unmatched	0.04	0.96
N**	Matched	0.68	0.32
	Unmatched	0.48	0.52
S**	Matched	0.70	0.30
	Unmatched	0.36	0.64
P_{con} + P_{inc}**	Matched	0.31	0.69
	Unmatched	0.50	0.50

Note. P_{con} = context that perfectly predicts the expectancy-congruent behaviors, P_{inc} = context that perfectly predicts the expectancy-incongruent behaviors, N = new contexts, and S = shared predictor context. Significance values indicate a significant moderation of Behavioral Pattern on evaluation selection in the given context.

*$p < .05$. **$p < .001$.

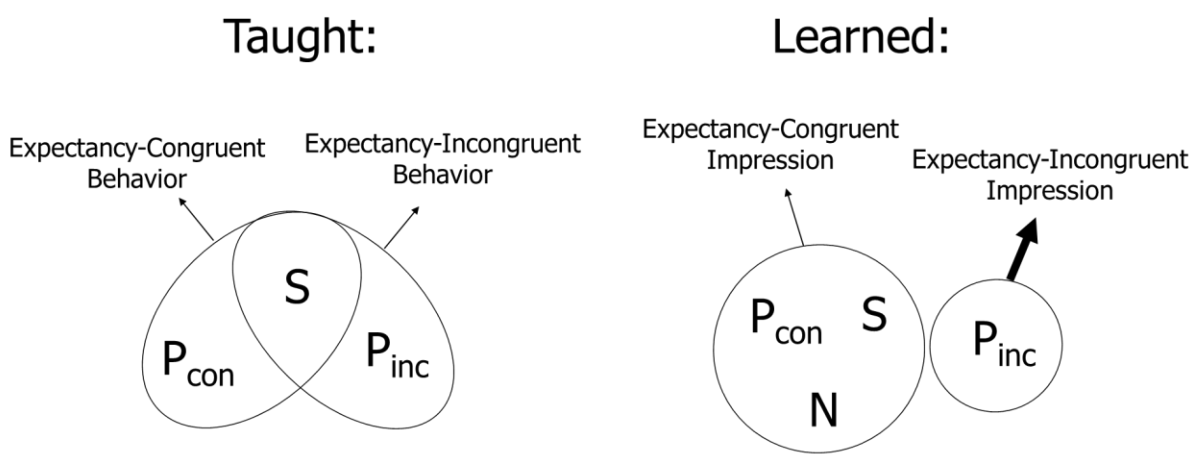
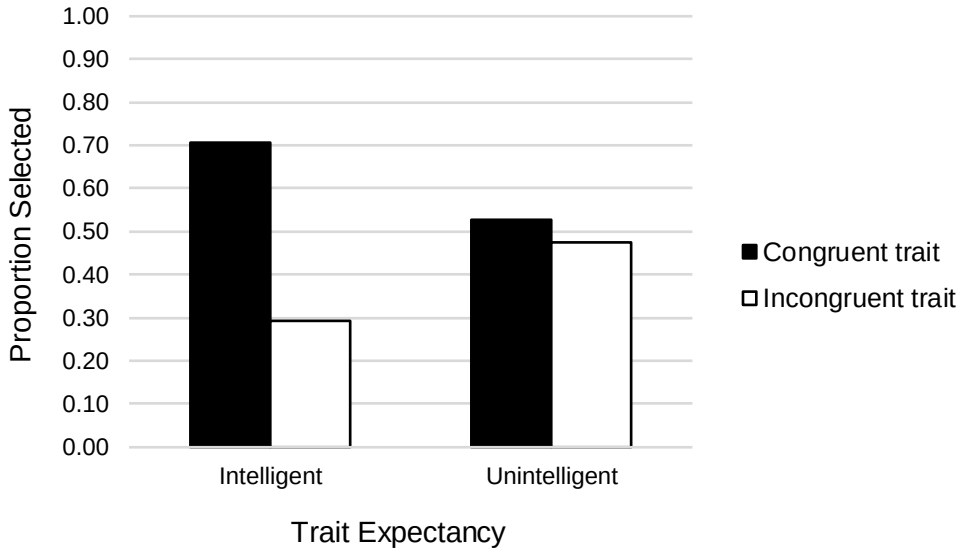


Figure 1. Conceptualization of expectancy-congruent and expectancy-incongruent impressions, adapted from the inverse base-rate design and Attention Theory of Category Learning (Huang et al., 2017; Kruschke 1996, 2003; Sherman et al., 2009). Left: Depiction of the target's behaviors that participants are taught during the learning phase. P_{con} is the context that perfectly predicts the expectancy-congruent behavior, P_{inc} is the context that perfectly predicts the expectancy-incongruent behavior, and S is the shared predictor context that occurs during all behavioral instances. Right: Depiction of learned impressions. N represents new contexts in which the target is encountered. Participants should form a stronger expectancy-incongruent impression of the target when he is with the P_{inc} context, but they should form an expectancy-congruent impression in all other contexts, including P_{con}, I, and N.

(a) New context trials



(b) Shared context trials

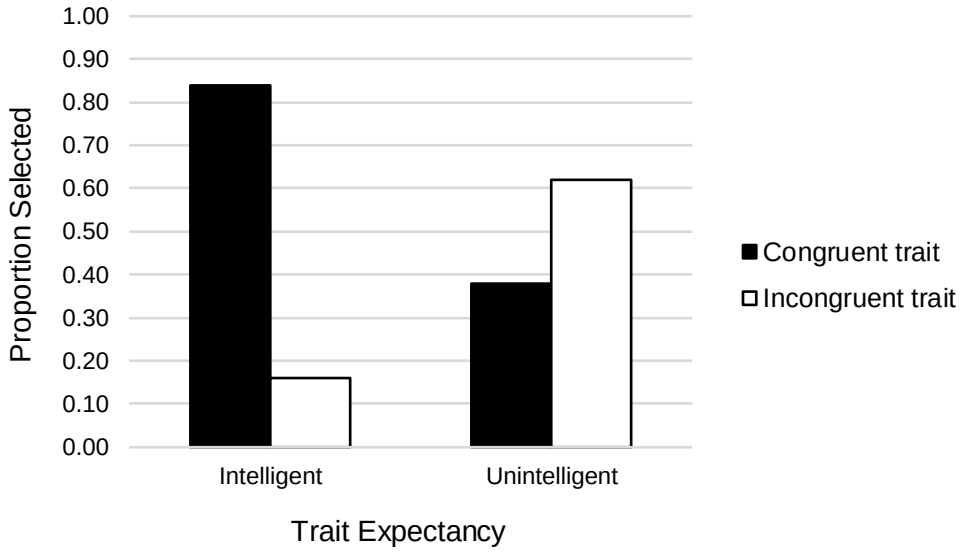


Figure 2a–b. Trait selection when the target was with a) new context people and b) the shared context person (Experiment 1). In the intelligent expectancy condition, participants selected the expectancy-congruent trait significantly more often than the expectancy-incongruent trait, but this effect was weakened or reversed in the unintelligent expectancy condition.

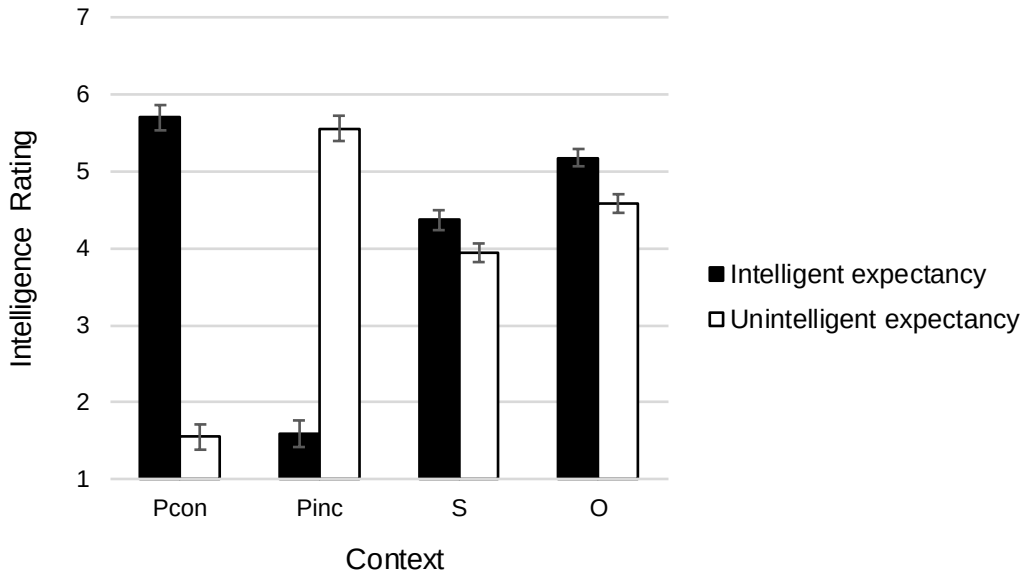


Figure 3. Ratings of the target's intelligence in different contexts (Experiment 1). Higher values indicate more intelligent. P_{con} = perfect predictor context of the expectancy-congruent behaviors, P_{inc} = perfect predictor context of the expectancy-incongruent behaviors, S = shared predictor context, and O = overall rating of intelligence. Error bars indicate standard errors.

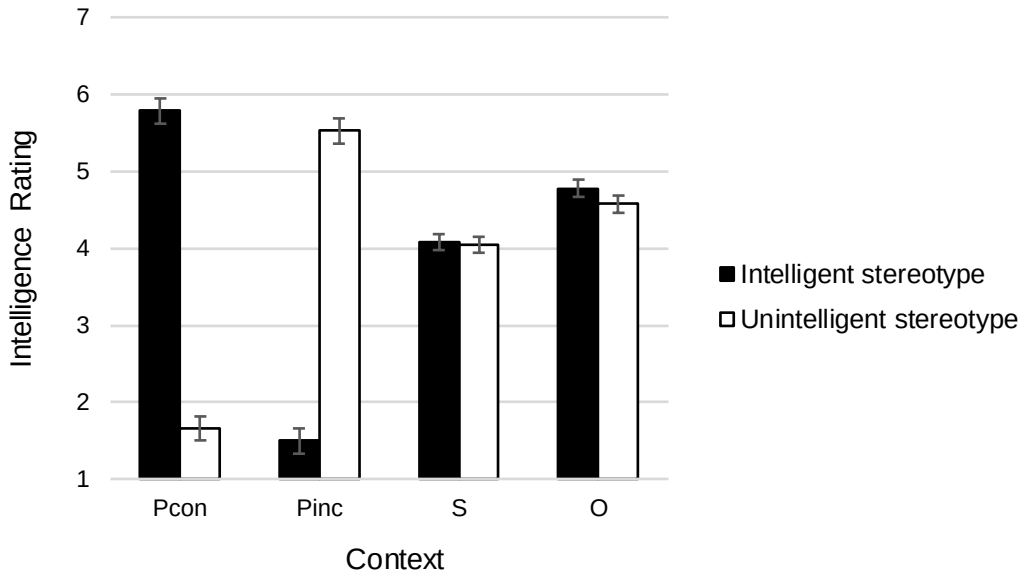


Figure 4. Ratings of the target's intelligence in different contexts (Experiment 2). Higher values indicate more intelligent. P_{con} = perfect predictor context of the stereotype-congruent behaviors, P_{inc} = perfect predictor context of the stereotype-incongruent behaviors, S = shared predictor context, and O = overall rating of intelligence. Error bars indicate standard errors.

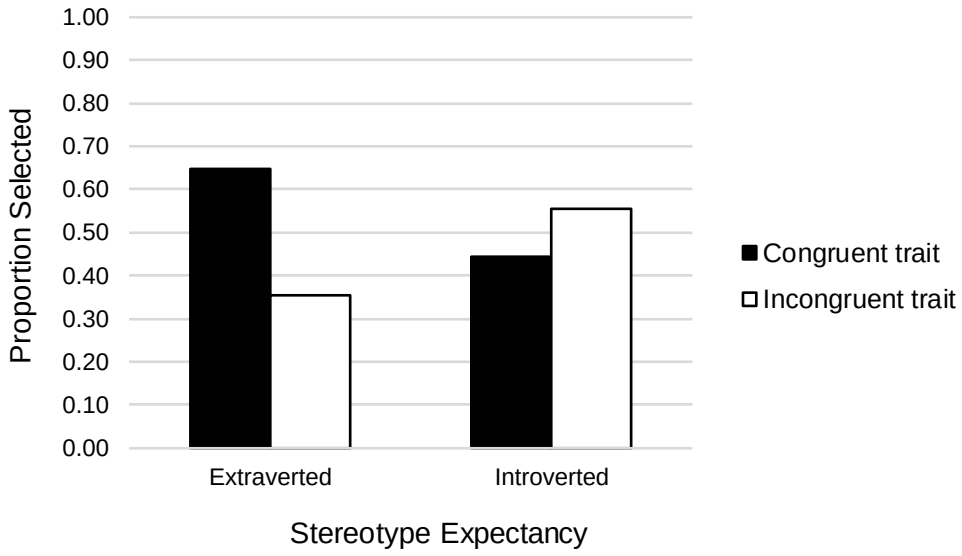


Figure 5. Trait selection when the target was with the shared context person (Experiment 3). In the extraverted stereotype condition, participants selected the stereotype-congruent trait significantly more often than the stereotype-incongruent trait, but this effect was reversed in the introverted stereotype condition.

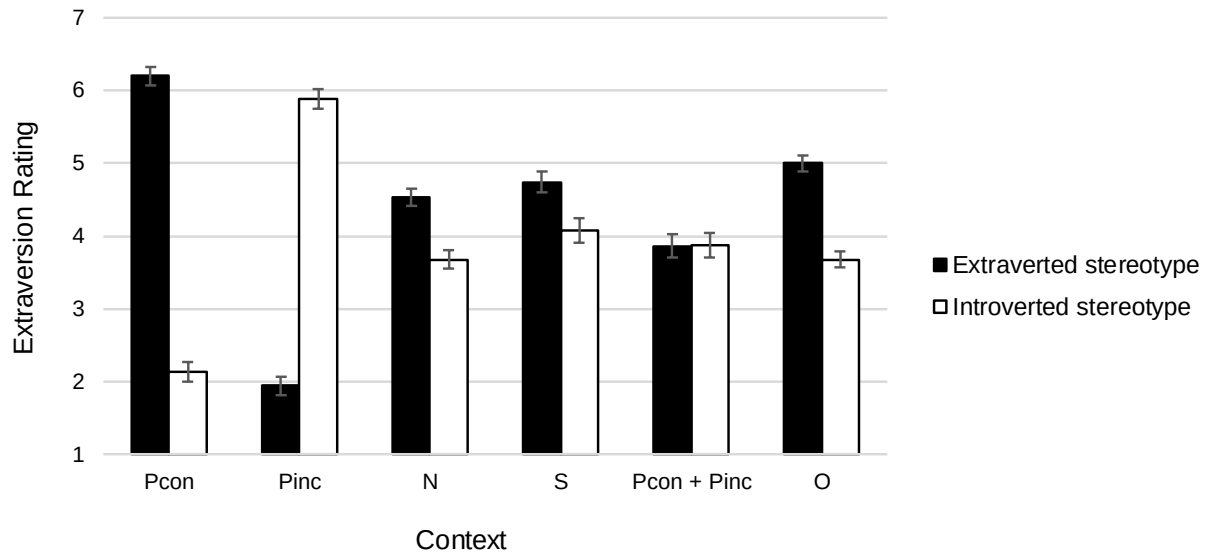
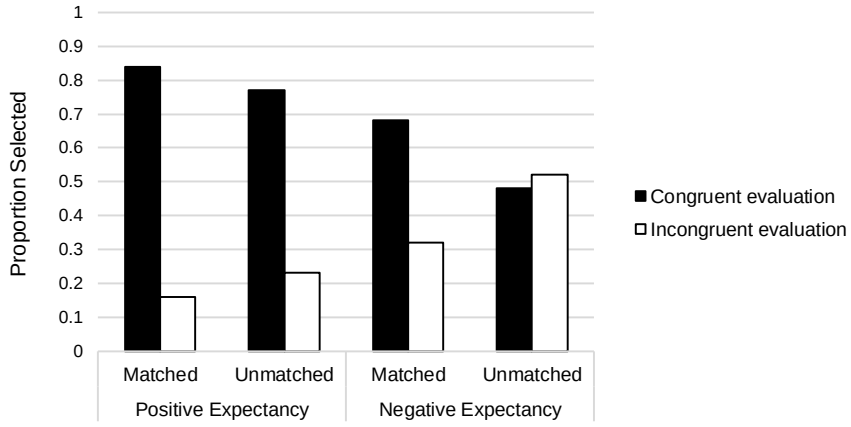
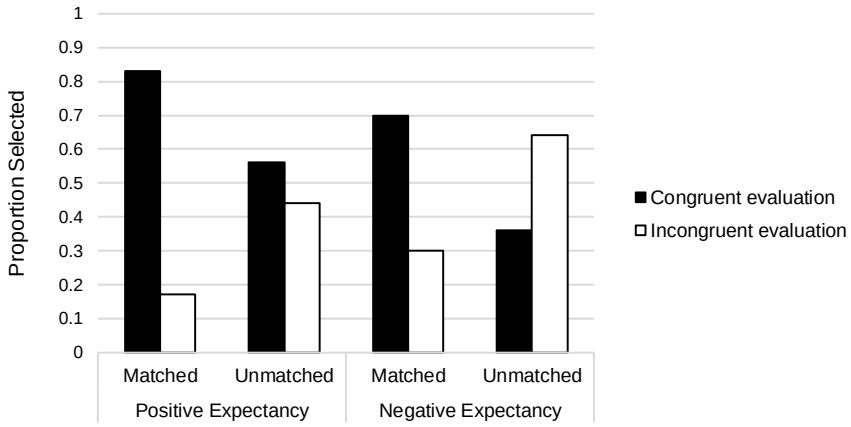


Figure 6. Ratings of the main target's extraversion in different contexts (Experiment 3). Higher values indicate more extraverted, while lower values indicate more introverted. P_{con} = perfect predictor context of the stereotype-congruent behaviors, P_{inc} = perfect predictor context of the stereotype-incongruent behaviors, N = new context, S = shared predictor context, and O = overall rating of extraversion. Error bars indicate standard errors.

(a) New context trials



(b) Shared context trials



(c) P_{con} + P_{inc} trials

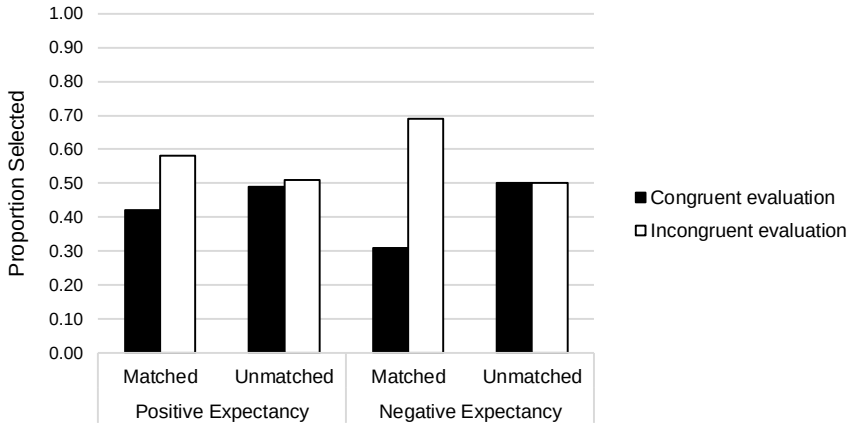
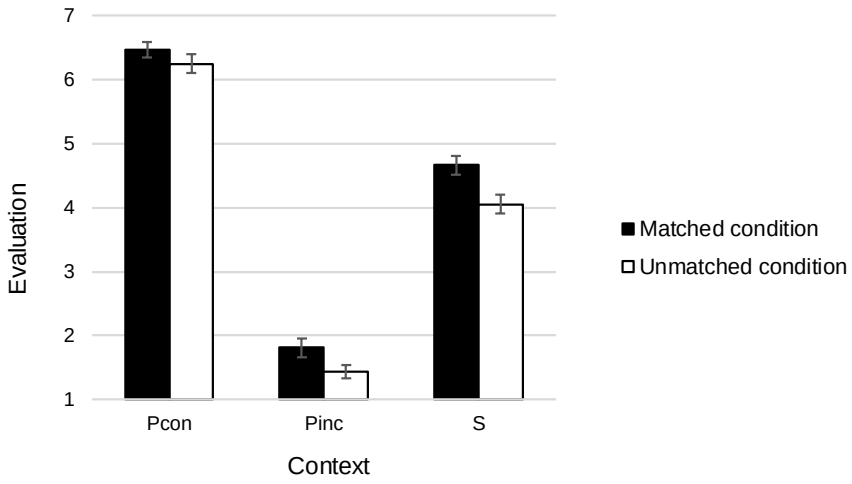


Figure 7a–c. Evaluation selection when the target was with a) new context people, b) the shared context person, and c) P_{con} + P_{inc} (Experiments 4a & 4b). The four bars on the left side of each graph represent data collected in Experiment 4a (positive expectancy), and the four bars on the right side of each graph represent data collected in Experiment 5a (negative expectancy). In the new context and shared context trials, participants selected the expectancy-congruent evaluation significantly more often than the expectancy-incongruent evaluation when the target's behavioral pattern matched the expectancy. This effect was weakened or reversed when the target's behavioral pattern did not match the expectancy. In the P_{con} + P_{inc} trials, participants selected the incongruent evaluation more often than the congruent evaluation when the behavioral pattern matched the expectancy, but they selected each evaluation about equally when the behavioral pattern did not match the expectancy.

(a) Evaluation ratings



(a) Feeling thermometer ratings

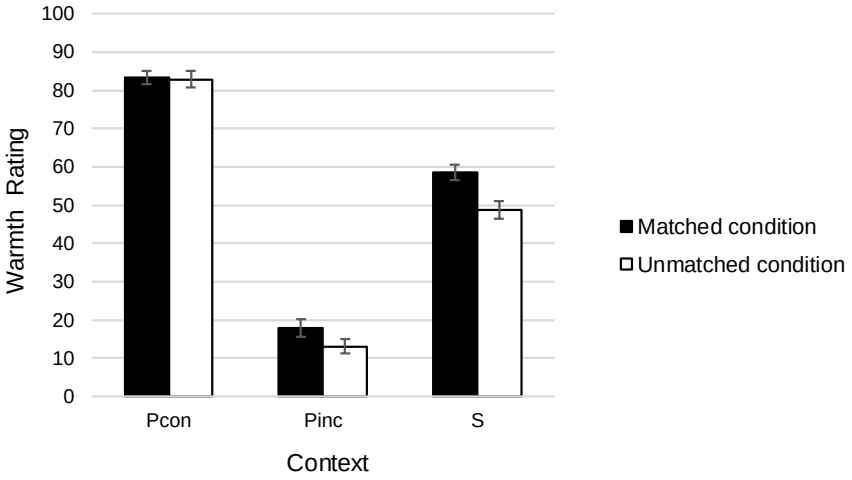
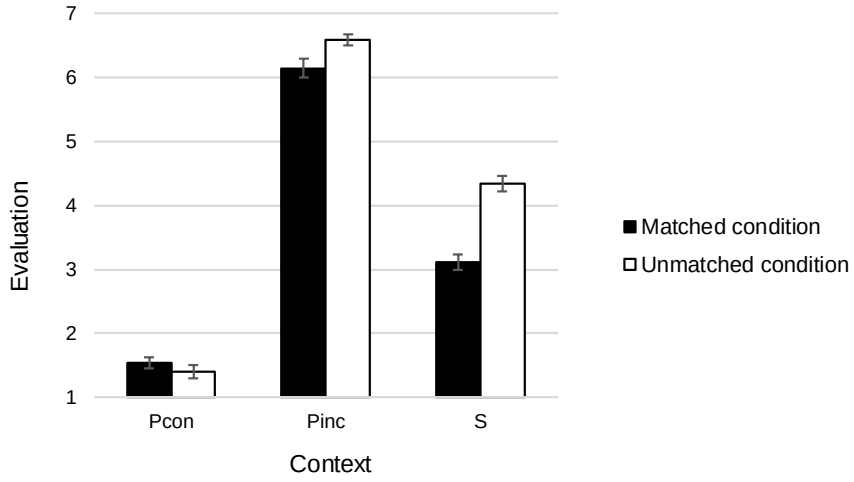


Figure 8a–b. Evaluation ratings (a) and feeling thermometer ratings (b) of the target (Experiment 4a). P_{con} = perfect predictor context of the expectancy-congruent behaviors (i.e., positive behaviors), P_{inc} = perfect predictor context of the expectancy-incongruent behaviors (i.e., negative behaviors), N = new context, and S = shared predictor context. Error bars indicate standard errors. Higher values indicate more positive ratings and greater warmth ratings, respectively.

(a) Evaluation ratings



(b) Feeling thermometer ratings

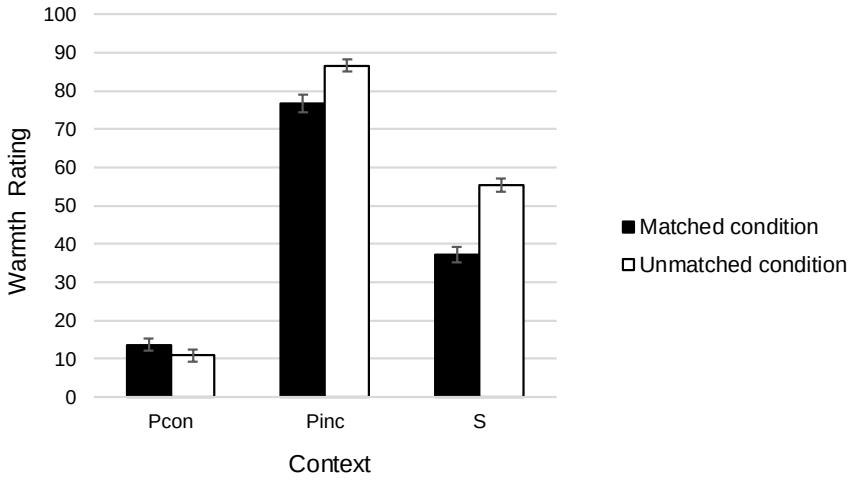


Figure 9a–b. Evaluation ratings (a) and feeling thermometer ratings (b) of the target (Experiment 4b). P_{con} = perfect predictor context of the expectancy-congruent behaviors (i.e., negative behaviors), P_{inc} = perfect predictor context of the expectancy-incongruent behaviors (i.e., positive behaviors), N = new context, and S = shared predictor context. Error bars indicate standard errors. Higher values indicate more positive ratings and greater warmth ratings, respectively.