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Perceiving Individuals and Groups: Expectancies, Dispositional Inferences, and Causal Attributions

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Two experiments investigated differences in forming impressions of individual and group targets. Experiment 1 showed that when forming an impression of an individual, perceivers made more extreme trait judgments, made those judgments more quickly and with greater confidence, and recalled more information than when the impression target was a group. Experiment 2 showed that when participants were forming an impression of an individual, expectancy-inconsistent behaviors spontaneously triggered causal attributions to resolve the inconsistency; this was not the case when the impression target was a group. Results are interpreted as reflecting perceivers' a priori assumptions of unity and coherence in individual versus group targets.

Research on how perceivers form impressions of individuals has traditionally been conducted independently from research on how perceivers form conceptions of groups. These separate lines of research may imply that the processes underlying the formation of impressions of individuals and of groups are fundamentally distinct. Moreover, several studies comparing information processing for individual and group targets have shown differences in how information about these targets is processed (see Hamilton & Sherman, 1996, for a review). However, given that impression formation in both cases is based on how people learn, integrate, and use information they acquire about others, the distinction between these areas of research may be more artificial than real.

Recently, Hamilton and Sherman (1996) proposed that, although the same mechanisms underlie impression formation in all cases, the degree to which a social target is perceived to be a unified, coherent entity fundamentally affects the way people process information about that target. Moreover, they argued, perceivers expect that individuals are more unified and coherent entities than are groups. As a consequence, the cognitive processes that are engaged and the outcomes of those processes may differ for individual and group targets. Thus, these between-target differences are driven by perceivers' differing expectancies about individual and group targets rather than by the individual–group distinction per se.

Perceivers view an individual as a psychological unit, as a coherent personality; therefore, they attempt to form an integrated impression of the individual's personality (Asch, 1946). Based on the impression formation literature, Hamilton and Sherman (1996) derived four principles of information processing in impression formation. First, perceivers infer dispositional properties that constitute the core of a person's personality. These inferences are made on-line, as the initial information is being processed (Hastie & Park, 1986; Lichtenstein & Srull, 1987). Consequently, when perceivers are subsequently asked to make a judgment about the target person, they do not need to retrieve episodic information to form the judgment and can simply retrieve the previously formed inference. Therefore, they should respond faster than if they have to form the judgment at that time.

Second, perceivers expect that the individual has a stable personality and, therefore, that the individual's behaviors should be consistent across situations and time. Perceivers use their expectancies about an individual to guide their predictions about the person's future behavior (Hirt, Erickson, & McDonald, 1993).

Third, perceivers develop organized impressions of others. Items of episodic knowledge acquired about the individual become associated with one another in this integrated impression, which then facilitates later recall of the information (Hamilton, Driscoll,

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& Worth, 1989; Hamilton, Katz, & Leirer, 1980; Wyer & Srull, 1989).

Finally, perceivers strive to resolve inconsistencies. When an individual engages in expectancy-violating behaviors, the perceiver attempts to determine why these behaviors occurred and searches for their causes. People spend more time processing impression-inconsistent information than impression-consistent information (Bargh & Thein, 1985; Stern, Marrs, Millar, & Cole, 1984), and this extra processing time is used to form causal attributions (Hamilton, 1988; Hastie, 1984). These impression formation processes follow from the perceptions of the target as a coherent, unified entity.

Hamilton and Sherman (1996; see also Hamilton, Sherman, & Lickel, 1998; Hamilton, Sherman, & Maddox, in press) proposed that this assumption of unity does not necessarily hold for group targets. Drawing on Campbell (1958), they proposed that "entitativity," or the perceived unity of social targets, reflects a continuum in which, under most conditions, individuals are seen as more coherent, unified, entitative targets than are groups. Moreover, Hamilton and Sherman argued that this difference in expectations for perceived unity can affect the impression formation process and produce differences in this process for individual and group targets. Thus, perceivers are more likely to form impressions of a social target on-line (Manis & Paskewitz, 1987; McConnell, Sherman, & Hamilton, 1994; Sanbonmatsu, Sherman, & Hamilton, 1987), to expect greater consistency in the target's behaviors (Weisz & Jones, 1993), to recall more behavioral information about the target (McConnell et al., 1994; Wyer, Bodenhausen, & Srull, 1984), and to spend more time encoding information inconsistent with their impression of the target (Stern et al., 1984) when the target is an individual than when it is a group.

In this article, we report two experiments that directly investigated aspects of the impression formation process for individual and group targets. Experiment 1 examined whether the perceived entitativity of a social target influences (a) the strength of the perceiver's dispositional inferences about the target, (b) the ease and confidence with which those inferences are made, and (c) the amount of information recalled about the target. Experiment 2 investigated differences in attributional reasoning, as a function of expectancy violations, for individual and group targets. If perceivers expect less consistency in the behaviors performed by group members than by an individual, they should be less likely to spontaneously generate causal explanations for inconsistent behaviors when they are performed by group members than when they are performed by an individual.

Experiment 1

Hamilton and Sherman (1996) proposed that perceivers should be less likely to spontaneously make dispositional inferences when the impression formation target is a group than an individual. Some previous findings are consistent with this premise. For example, Manis and Paskewitz (1987) found a primacy effect in evaluative judgments when the target was an individual but a recency effect when the target was a group, a pattern consistent with making on-line judgments about individual targets but memory-based judgments about group targets. Also, research on distinctiveness-based illusory correlations has found that perceivers form illusory correlations with group targets but not with individual targets (McConnell et al., 1994; Sanbonmatsu et al., 1987). Distinctiveness-based illusory correlations have been interpreted as reflecting primarily memory-based judgment processes (Hamilton, Dugan, & Trolier, 1985; Stroessner, Hamilton, & Mackie, 1992). If so, then these target-based differences imply that perceivers are more likely to form social judgments on-line when the social target is an individual than when it is a group. One goal of Experiment 1 was to more directly investigate whether perceivers make stronger, more spontaneous dispositional inferences about individual than about group targets. Moreover, we sought to determine the extent to which those differences, if indeed found, were mediated by perceptions of target entitativity.

The present analysis also suggests differences in recall of information about individual and group targets, for several reasons. For example, recall is facilitated if items of information are associated with one another in memory. Moreover, trait themes spontaneously inferred as information is acquired would serve as useful retrieval cues for recalling items of information. We would expect both of these processes to occur to a greater extent when people are processing information about an individual than a group target, and both should enhance recall performance. Consistent with this rationale, research has shown that when people learn the same behavioral information about an individual and a group, they recall more about the individual than about the group (McConnell et al., 1994; McConnell, Sherman, & Hamilton, 1997; Wyer et al., 1984). Experiment 1 also compared the amount of information recalled for individual and group targets.

In Experiment 1, impressions of three types of social targets were compared: an individual, a group of close-knit friends who all attended the same university, and an aggregate of people randomly chosen from the same university. The targets were assumed to differ such that the individual had the most perceived unity and the aggregate had the least. We predicted that perceivers would make stronger dispositional inferences—and thus more extreme trait ratings—for the individual target than for the group and aggregate targets. Because these dispositional inferences should be more likely to be formed on-line when the perceivers were learning about an individual than about a group or aggregate of persons, we also predicted that participants in the individual target condition would respond faster to the trait judgment questions than the participants in the group or aggregate conditions. Furthermore, perceivers in the individual condition were expected to be more confident in their judgments than participants in the group condition. Finally, we predicted that participants in the individual target condition would recall more of the stimulus behaviors than participants in the group and aggregate target conditions.

A secondary goal of Experiment 1 was to investigate whether a cognitive load would differentially affect the impression formation process for these types of social targets. Decreasing a perceiver's cognitive capacity interferes with elaborations during encoding and disrupts the formation of an integrated impression in memory (e.g., Srull, 1981, Experiment 4). Because people are expected to engage in these cognitive processes to a greater extent when forming impressions of individual targets than of group targets, the presence of a cognitive load may have a greater disruptive effect on the impression formation process for individual than for group targets.

Method

Overview

Participants read a list of statements describing behaviors performed by an individual, members of a group, or an aggregate of persons. The behaviors were designed to correspond to four distinct trait themes. As a means of manipulating cognitive load, half of the participants were asked to repeat each behavior out loud twice as it was presented. All participants then had to recall the behaviors and rate the target on the trait themes reflected in the behaviors. They also rated their confidence in their judgments. Finally, they responded to two questions assessing their perceptions of target entitativity.

Participants

One hundred forty-one University of California at Santa Barbara (UCSB) students participated in the experiment in partial fulfillment of a course requirement. Participants were randomly assigned to one of three target conditions and to one of two cognitive load conditions. They participated in the experiment in groups of 1 to 6. All participants in the same session were in the same target and load condition. Eleven participants were removed from the experiment because they failed to follow directions for the cognitive load induction (described later). Three additional participants were removed because of equipment failure.

Stimulus Materials

The behavior sentences used in this study were selected to reflect four trait-related themes: athleticism, sociability, political activism, and intelligence. Four behavior sentences were presented for each theme. Examples of behaviors for each theme are as follows: for athleticism, "did 100 sit-ups and 50 push-ups before bed"; for sociability, "attended two parties with friends over the weekend"; for political activism, "wrote a letter to his congressman about the pending bill"; for intelligence, "won a chess tournament against strong competition." The behavior statements were arranged into four blocks of four behaviors. Each block had one behavior from each theme, and the order of the behaviors within each block was randomized. For the individual condition, each behavior was preceded by the same male name; in the group and aggregate conditions, each behavior was preceded by a different male name.

Procedure

Upon arrival, the participants were informed that the purpose of the study was to examine how people form first impressions. They were asked to form an impression of one of three social targets: an individual, a tightly knit group of friends who know each other well and do a lot of things together, or persons who were randomly selected from different dorms at a large state university. The participants were then told that they would be reading a series of statements that describe behaviors performed by their target. The participants in the group and aggregate conditions were informed that each behavior was performed by a different individual.

The behavior statements were presented one at a time on a computer screen. Each behavior was displayed for 6 s. After the presentation of the behavior statements, the participants completed a 3-min filler task. Dependent measures were then assessed.

Cognitive Load Manipulation

Half of the participants in each target condition were given a cognitive load induction. Before presentation of the stimuli, the participants in the cognitive load condition were instructed to repeat each behavior statement out loud twice after it was presented, a procedure used by Srull (1981). A tape recorder was turned on during this procedure to verify that participants complied with this instruction. Data from 11 participants who failed to repeat each behavior twice were eliminated. The participants in the no load condition were told only that they would be asked to speak out loud later in the experiment.

Dependent Measures

Participants completed three dependent measure tasks: a trait judgment task, a recall task, and judgments of the target's perceived unity. The order of the first two tasks was counterbalanced.

Trait judgment task. A series of questions was presented on the computer screen, and participants were asked to respond on 7-point Likert scales by pressing the appropriate key on the keyboard. As a means of familiarizing participants with this procedure, six filler questions were presented at the beginning of the judgment task. The relevant questions assessed both the extent to which the participants thought the target possessed the thematic traits and their confidence in their judgments. Four questionnaire replications were designed, with the presentation order of the trait questions on each replication assigned by a Latin square design. Assignment to the questionnaire replications was counterbalanced across conditions. An example of a trait question was "How intelligent do you think (this individual is, the members of this group are, these persons are)?" In the group and aggregate conditions, the questions began "On average, how . . ." A 7-point rating scale was provided with 1 labeled *not at all,* 4 labeled *moderately,* and 7 labeled *very much so.* The participants were then asked, "How confident are you in how intelligent (this individual is, the members of this group are, these persons are)?" The same rating scale was used for these questions. Both the rating scores and the response latencies were recorded.

Recall task. In the recall task, participants were asked to recall the behavior statements that they had previously read. The participants' responses were recorded on audiotape and were later analyzed for the number of behaviors recalled.

Perceived entitativity measures. After the participants completed these tasks, they were asked two questions to assess the perceived entitativity of the target. The first question was "To what extent do you think the behaviors shown by (this individual, the members of this group, these persons) fit a coherent pattern?" A 7-point rating scale was provided, with 1 labeled *not at all coherent,* 4 labeled *moderately coherent,* and 7 labeled *very coherent.* The second question was "To what extent do you view (this individual, the members of this group, these persons) as an organized, integrated unit?" A 7-point rating scale was provided, with 1 labeled *not at all organized,* 4 labeled *moderately organized,* and 7 labeled *very organized.*

Results

Perceived Organization of the Target's Behaviors

The underlying premise of the study was that perceivers assume that the personalities of individuals are unified and coherent, but that they are less likely to expect the same extent of entitativity in a group. We asked the participants two questions directly relevant to this premise. Responses to each question were analyzed in a 3 (individual, group, or aggregate target) × 2 (load or no load) analysis of variance (ANOVA).

One question assessed the extent to which participants believed the behaviors performed by their target reflected a coherent pattern. If perceivers expect more unity and coherence in an individual than in a group or an aggregate of persons, they should be more likely to attempt to integrate the behaviors into a meaningful pattern when they are performed by an individual rather than a group or an aggregate. Therefore, we expected that, even though

all three targets performed the same behaviors, participants reading about the individual would view these behaviors as more coherent than would those in the group or the aggregate condition. Similarly, if a group is perceived as a more coherent entity than an aggregate, these conditions should also differ.

The results supported our hypothesis; the main effect for target type was highly significant, $F(2, 92) = 12.61$, $p < .001$. Post hoc comparisons revealed that participants in the individual target condition judged the behaviors to fit a more coherent pattern ($M = 5.66$) than did the participants in the group target ($M = 4.43$) and aggregate target ($M = 4.10$) conditions; the latter two conditions, however, did not differ significantly. Neither the main effect for cognitive load nor the interaction between target type and cognitive load reached significance.

Perceived Unity of the Target

The other question assessed the extent to which the participants viewed their target as an organized, integrated unit. Again, the results supported our hypothesis: The main effect for target type was highly significant, $F(2, 92) = 27.15$, $p < .001$. Post hoc comparisons indicated that participants in the individual target condition judged their target to be a more organized, integrated unit ($M = 6.00$) than did the participants in the group ($M = 4.10$) and aggregate target conditions ($M = 4.03$); again, the latter two conditions did not differ significantly. Neither the main effect for cognitive load nor the interaction between target type and repetition reached significance.

Our hypotheses for the other dependent measures are based on differences in perceived entitativity. Although the perceptions of entitativity for the three targets were ordered in the appropriate direction, the group and aggregate targets were not perceived as meaningfully different on these measures. Because we found no differences between the group and aggregate targets, we conducted planned contrasts to compare the individual target condition with the other two conditions combined (in addition to conducting ANOVAs) for the remaining dependent measures.

Trait Judgments

The participants were asked to rate the extent to which they thought the target possessed the traits reflected in the stimulus behaviors. We predicted that the perceived entitativity of the target would affect the extent to which the participants made trait abstractions; that is, participants should make stronger trait ratings of the individual target than of the group and aggregate targets. The trait judgments were analyzed using a 3 (individual, group, or aggregate targets) × 2 (load or no load) × 4 (sociability, intelligence, political activism, or athleticism theme) ANOVA with repeated measures on the last variable.

The results supported our prediction; the main effect for target type was significant, $F(2, 92) = 25.66$, $p < .001$. Simple effects analyses revealed that participants in the individual condition made more extreme trait ratings ($M = 5.98$) than did participants in the group ($M = 5.29$, $p < .001$) and aggregate ($M = 4.92$, $p < .001$) conditions. In addition, the trait ratings of the group target participants were significantly more extreme than the ratings of the aggregate target participants ($p < .02$). The planned contrast comparing the individual target condition with the other two conditions combined was significant, $t(92) = 6.80$, $p < .001$.

Table 1
Mean Ratings on Dependent Measures in Experiment 1 by Each Target Type

Measure	Target type: Individual	Group	Aggregate	p[a]
Organization of target's behaviors	5.66_a	4.43_b	4.10_b	<.01
Perceived unity of the target	6.00_a	4.06_b	4.03_b	<.01
Trait ratings	5.98_a	5.29_b	4.92_b	<.01
Intelligence	5.88_a	$5.71_{a,b}$	5.39_b	<.07
Sociability	5.91_a	5.40_b	4.90_b	<.01
Political activism	6.56_a	5.43_b	5.10_b	<.01
Athletic	5.59_a	4.60_b	4.29_b	<.01
Response latencies to trait ratings (in seconds)	4.74_a	6.16_b	6.16_b	<.05
Confidence ratings	5.54_a	5.23_a	4.21_b	<.01
Recall	5.72_a	$5.09_{a,b}$	4.26_b	<.08

Note. Means in the same row with different subscripts are significantly different at the $p < .05$ level.
[a] Significance of target main effect.

The target type main effect was qualified by a significant interaction between target type and trait assessed, $F(6, 276) = 2.62$, $p < .02$. Examination of the means for this interaction revealed that it reflected variation in the magnitude of the differences in trait ratings among targets but not the pattern of those differences. As expected, participants in the individual target condition made significantly stronger trait ratings than did the participants in the aggregate condition for all four trait themes. In addition, participants in the individual target condition made significantly more extreme ratings than did the participants in the group target condition for three of the four themes (political activism, sociability, and athleticism; see Table 1).[1]

Response Latencies for Trait Judgments

Participants in the individual target condition were predicted to be more likely to make their trait judgments on-line than participants in the group and aggregate target conditions. Therefore, they should have had shorter response latencies to the trait questions than the participants in the group and aggregate target conditions. Response latencies were analyzed in a 3 (individual, group, or aggregate target) × 2 (load or no load) × 4 (questionnaire replication: A, B, C, or D) × 4 (sociability, intelligence, political activism, or athleticism theme) ANOVA with repeated measures on the last variable. Each questionnaire replication presented the four trait questions in a different order.

[1] Although not predicted, the strength of the trait ratings varied for the different themes, $F(3, 276) = 19.54$, $p < .001$. The trait ratings for intelligence ($M = 5.66$), political activism ($M = 5.69$), and sociability ($M = 5.41$) were significantly higher than the ratings for athleticism ($M = 4.83$). In all likelihood, these effects simply reflect differences in item content.

Results of this analysis supported our prediction; the main effect for target type was significant, $F(2, 74) = 4.48$, $p < .02$. As expected, post hoc tests indicated that participants in the individual target condition ($M = 4.74$ s) responded faster than did participants in the group ($M = 6.16$ s, $p < .02$) and aggregate ($M = 6.16$ s, $p < .01$) conditions. A planned contrast comparing the individual target condition with the other two conditions was significant, $t(92) = 2.99$, $p < .01$.[2]

Confidence Judgments

We expected that participants would perceive the behavioral information to be more informative about underlying dispositions for the individual target than for the group and aggregate targets. Therefore, the participants in the individual target condition should have been more confident in their trait judgments than those in the other conditions. Confidence ratings were analyzed in a 3 (individual, group, or aggregate target) × 2 (load or no load) × 4 (sociability, intelligence, political activism, or athleticism theme) ANOVA with repeated measures on the last variable.

Consistent with our prediction, the main effect for target type was significant, $F(2, 92) = 14.66$, $p < .001$. Participants in the individual target ($M = 5.54$, $p < .001$) and group target ($M = 5.23$, $p < .001$) conditions were more confident in their ratings than were participants in the aggregate target condition ($M = 4.21$). In this case, the individual and group conditions did not differ. A planned contrast comparing the individual target condition and the other two conditions combined was significant, $t(92) = 3.70$, $p < .001$.[3]

Mediational Analyses

The results of the analyses reported thus far document that the target manipulation had strong and significant effects on all measures, providing strong support for our predictions. The conceptual argument developed earlier, however, posits that target differences in the extremity of participants' dispositional inferences, in the speed with which judgments are made, and in the confidence in those judgments are mediated by perceivers' differential expectancies of greater entitativity of individual targets than of group and aggregate targets. Two of our measures—perceptions of the target as an organized unit and the extent to which the stimulus behaviors were seen as fitting a coherent pattern—serve as fairly direct assessments of this hypothesized mediating variable. Therefore, our next analyses were designed to evaluate the mediating role of perceived entitativity (Baron & Kenny, 1986).

To test for this mediating effect, we conducted analyses of covariance (ANCOVAs) for each of the main dependent measures (trait ratings, judgment latencies, and confidence ratings), entering as covariates participants' ratings on the perceived entitativity measures. The two entitativity measures were highly correlated in each target condition (individual: $r = .51$, $p < .01$; group: $r = .34$, $p < .05$; aggregate: $r = .42$, $p < .02$). Therefore, participants' ratings on these two measures were averaged and used as a covariate. If perceived entitativity mediated the influence of the target manipulation on the dependent measures, then, in the ANCOVA, this mediator should have had a statistically significant effect, and the amount of variance (η^2) accounted for by the target manipulation should have been reduced relative to its effect in the ANOVA.

The results of these analyses indicated a significant mediating role of perceived entitativity for two of the three dependent measures. Specifically, in the ANCOVA of trait ratings, the effect of perceived entitativity was statistically significant, $F(1, 91) = 9.10$, $p < .005$, $\eta^2 = .09$, and the η^2 value for the target main effect dropped from .36 to .17. Similarly, for confidence ratings, perceived entitativity had a significant effect, $F(1, 91) = 22.67$, $p < .001$, $\eta^2 = .20$, and the η^2 value for the main effect decreased from .24 to .16. The target main effect was still significant ($p < .01$) in both of these ANCOVAs, indicating that perceived entitativity was not the sole source of influence associated with the target manipulation. Nevertheless, in both cases, controlling for entitativity had a statistically significant effect. Unaccountably, the comparable analysis for judgment latencies did not indicate a significant effect of entitativity. On the whole, then, these results indicate that perceived behavior organization and perceived target unity played an important mediating role in producing the obtained differences among targets on two of the three dependent measures.

An additional analysis examining mediational effects was also conducted. It is possible that target differences in confidence ratings are simply a product of the parallel differences in trait ratings. That is, people may simply be more confident when they make extreme judgments. Therefore, we conducted an ANCOVA on the confidence ratings, using the trait ratings as covariates (controlling the influence of trait extremity on confidence in trait judgments). The results of this analysis indicated that trait extremity did have a significant effect on confidence ratings, $F(2, 91) = 5.32$, $p < .01$, $\eta^2 = .11$, with the η^2 value for the target manipulation dropping from .24 to .11. Thus, confidence in trait judgments was in part a function of the strength of the disposi-

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[2] The interaction between questionnaire replication and trait assessed was also significant, $F(9, 222) = 6.88$, $p < .001$. This interaction can be understood as a practice effect. Participants responded slower to a trait question when it was the first question asked ($M = 6.90$ s) than when it was the third ($M = 5.16$ s) or fourth ($M = 4.95$ s) question asked. This finding was qualified by the three-way interaction among target type, questionnaire replication, and trait assessed, $F(18, 222) = 2.38$, $p < .002$. This higher order interaction reflected differential practice effects for the trait themes. Although this interaction affected the magnitude of the response latency differences between target types, it did not alter the pattern of these differences. To test our hypothesis independent of practice effects, we examined the participants' response times to the first trait question asked using a 3 (individual, group, or aggregate target) × 2 (repetition or no repetition) × 4 (questionnaire replication: A, B, C, or D) ANOVA. In support of our hypothesis, the only significant result was the main effect for target type, $F(2, 74) = 8.21$, $p < .001$. The participants in the individual target condition responded faster ($M = 5.04$ s) than did the participants in the group target ($M = 7.43$ s, $p < .01$) and aggregate target ($M = 8.21$ s, $p < .001$) conditions. A planned contrast comparing the individual target condition and the other two conditions was significant, $t(92) = 4.73$, $p < .001$.

[3] The only other significant result was the theoretically uninteresting main effect of trait theme, $F(3, 276) = 9.60$, $p < .001$. Participants were more confident in their ratings of political activism ($M = 5.31$), sociability ($M = 5.10$), and intelligence ($M = 4.95$) than in their ratings of athleticism ($M = 4.67$). Again, these differences probably reflect idiosyncrasies of item content.

tional inference that had been made. Given this finding, the question then becomes whether perceived unity played a significant mediating role in confidence judgments, independent of trait extremity. To test this possibility, we conducted an ANCOVA of the confidence ratings in which we covaried out-trait extremity (as in the preceding analysis) and also entered perceived unity (the average of our two measures) as an additional covariate. This analysis revealed that both trait extremity, $F(2, 90) = 6.84$, $p < .01$, $\eta^2 = .09$, and perceived entitativity, $F(2, 90) = 14.67$, $p = .001$, $\eta^2 = .14$, were significant mediators of participants' confidence ratings.

In sum, these mediational analyses lend further support to our interpretation that differences in perceivers' expectations about the unity and coherence of individual and group targets were centrally involved in generating the between-target differences reported above.

Recall

We expected that the participants in the individual target condition would recall more behavior statements than the participants in the group and aggregate target conditions. To test this hypothesis, we conducted a 3 (individual, group, or aggregate target) × 2 (load or no load) ANOVA on the number of behavior statements recalled.

The main effect for target type approached significance, $F(2, 92) = 2.63$ $p < .08$, with participants in the individual target condition ($M = 5.72$) recalling slightly more behaviors than those in the group ($M = 5.09$) and aggregate ($M = 4.26$) target conditions. Comparisons among means indicated that the individual and aggregate means were significantly different ($p < .05$) but that the group condition did not differ significantly from either of the others. A planned contrast comparing the individual target condition and the other two conditions combined was also marginally significant, $t(92) = 3.39$, $p < .07$. For reasons that are unclear, recall performance was generally quite poor; participants recalled, on average, only 31% of the stimulus behaviors. Given this generally low level of recall, differences between conditions might have been obscured.

The main effect for cognitive load was significant, $F(1, 92) = 15.34$, $p < .001$, with participants in the no load condition ($M = 5.96$) recalling significantly more behaviors than participants in the load condition ($M = 3.93$). In contrast to our prediction, the load manipulation did not interact significantly with target conditions.

Discussion

The results of Experiment 1 provided support for several hypotheses based on Hamilton and Sherman's (1996) analysis of individual and group impression formation. Participants made more extreme ratings, made those judgments more quickly, and were more confident in those ratings when judging an individual than when judging a group or aggregate. Moreover, for two of the preceding three dependent measures, perceived entitativity was an important mediator of these differences. These findings build on and extend the results of past research that has shown similar effects with quite different paradigms (McConnell et al., 1994, 1997; Sanbonmatsu et al., 1987).

Although these findings provide strong support for the guiding theoretical framework, some aspects of the results did not conform to predictions. Here we briefly comment on three such findings. First, differences in recall performance as a function of the target manipulation were only marginally significant. This outcome is surprising in light of previous studies that have reported better recall performance for individual than for group targets (McConnell et al., 1994, 1997; Wyer et al., 1984). It is not clear to us what factors weakened this effect in our study.

Second, the cognitive load manipulation was notably ineffective in altering the pattern of findings obtained in the no load condition. We selected the cognitive load manipulation on the basis of Srull's (1981) study, in which this manipulation (repeating the stimulus sentences out loud twice as they are presented) had been effective in disrupting the processes underlying the advantaged recall of expectancy-inconsistent information. In the present study, this cognitive load task did interfere with the encoding of the stimulus information, as reflected in the poorer overall recall in the load condition than in the no load condition. However, it did not interact with the target variable and hence had no differential impact on individual versus group targets, as expected. It is difficult to know how to best understand this null finding. Perhaps a different cognitive load task would have produced the predicted effect.

Third, we included three levels of our target variable—individual, group, and aggregate—on the assumption that they represented decreasing levels of expected target unity. Previous studies had compared individual and group target conditions; our thought was that an aggregate of randomly selected individuals from the same university would constitute an even lower level of perceived entitativity than the group target condition, and we could thereby extend the findings obtained in earlier studies. Although the results for most dependent measures were ordered in the predicted manner, the group and aggregate conditions usually did not differ significantly (and both differed significantly from the individual target condition).

Despite these ambiguities, the results of this experiment provide considerable evidence consistent with the view that perceivers seek to form integrated impressions of individual targets to a greater extent than they do for group targets. Our results show that people make more extreme dispositional inferences, they make those inferences on-line, and they are more confident in those inferences when they form impressions of an individual target person than of a group of persons or an aggregate. In Experiment 2 we extended our investigation to another important aspect of the impression formation process, one that pertains particularly to how perceivers process expectancy-inconsistent information about individual and group targets.

Experiment 2

Research has shown that when forming impressions of individuals, perceivers devote additional attention to processing information that is inconsistent with a prior expectancy (Bargh & Thein, 1985; Stern et al., 1984). This increased processing reflects an effort to reconcile the unexpected information with the overall impression of the target person and may entail the review of previously acquired items of information (Sherman & Hamilton, 1994; Srull, 1981) as well as attributional reasoning to explain the

unexpected behaviors. In fact, the accumulated evidence indicates that expectancy-inconsistent behaviors initiate the attribution process during impression formation (Clary & Tesser, 1983; Hamilton, 1988, 1998; Hastie, 1984; Pyszczynski & Greenberg, 1981).

As we noted earlier, Stern et al. (1984) found that the increased processing of inconsistent information does not occur when forming impressions of a group based on information about group members' behaviors. In Experiment 2, we investigated whether the attribution process is less likely to be engaged for group targets as well.

The main premise underlying our analysis is our assumption that perceivers expect less consistency in a group target than in an individual target. If this is true, then social perceivers should be less sensitive to inconsistent behaviors performed by different group members than they are to inconsistent behaviors performed by a single individual. As a consequence, perceivers should devote less effort to resolving these inconsistencies for group targets. Therefore, one would expect fewer causal attributions to be spontaneously generated in response to expectancy-inconsistent information about a group target relative to an individual target.

To test this hypothesis, we extended the paradigm used by Hastie (1984) to investigate spontaneous causal reasoning after expectancy-consistent and expectancy-inconsistent antecedent cues. Participants were first given an initial expectation about a social target, either an individual or a group. They then read a series of behavior-descriptive sentences, each of which was objectively either consistent or inconsistent with the initial information. After each sentence, participants were required to write a continuation, or extension, of the sentence. These sentence continuations were then coded for the presence of causal attributions. Our primary hypothesis was that participants would spontaneously generate more causal continuations for inconsistent behaviors performed by an individual target than for objectively inconsistent behaviors performed by group members.

Method

Participants

One hundred thirty-three UCSB students participated in this experiment in partial fulfillment of a course requirement. Participants were tested in groups of 6 or fewer but worked independently.

Stimulus Materials and Design

Stimulus materials were presented in a written format on 8.5 × 5.5 inch (21.6 × 14.0 cm) sheets of paper. Each set of stimulus materials consisted of (a) an opening paragraph designed to create an initial expectation and (b) nine sentence predicates describing behaviors performed by the target. In the initial paragraph, the target was identified as being either an individual or a group of persons. The paragraph then provided a general characterization of the target to establish an initial expectancy that the target was either friendly, unfriendly, intelligent, or unintelligent. Thus, the four initial expectancy conditions differed in terms of both trait dimension (friendliness or intelligence) and valence (positive or negative). This expectancy information was conveyed in two sentences that simply described the target in terms of general characteristics. For example, the intelligent individual target expectancy read: "For purposes of confidentiality, we cannot identify the individual directly, but you may find it useful to know that he tends to be thought of as very intelligent. He is described as having a sharp, quick mind that helps him excel at almost everything he does." The intelligent group target expectancy stated: "For purposes of confidentiality, we cannot identify the group directly, but you may find it useful to know that they tend to be thought of as very intelligent. They are described as having sharp, quick minds that help them excel at almost everything they do." Comparable wording was used to establish the unintelligent, friendly, and unfriendly expectancies.

Participants then read nine sentence predicates describing behaviors that had been performed by the target. Each sentence was presented on a different page. In the individual target condition, participants were told that each sentence described a behavior performed by the target person. In the group target condition, participants were told that each behavior had been performed by a different member of the group. As a means of equating the two conditions on amount of information, only sentence predicates were presented. Six of these behaviors were consistent with the initial expectation; three of the behaviors were inconsistent. In pretests, participants rated the degree to which each of the behaviors was indicative or not indicative of the designed trait. The target behaviors were selected so as to equate these ratings across the two trait dimensions. The stimulus materials further counterbalanced consistent and inconsistent behaviors (between participants), such that consistent sentences for one target served as inconsistent sentences for other targets. For example, "John won the chess tournament" served as a consistent behavior for participants who received an intelligent expectancy and served as an inconsistent behavior for participants who received an unintelligent expectancy. Because there were only half as many inconsistent statements (three) as consistent statements (six), only half of the consistent items could be used in this particular counterbalancing structure at one time. These manipulations yielded a 2 (target) × 2 (trait) × 2 (valence) × 2 (congruency) design. All variables except congruency were between subjects.[4]

Procedure

In the introduction, participants were informed that they would be reading a series of short sentences describing behaviors that had been performed by a social target (identified as either a single individual or individuals belonging to the same group). The instructions indicated that their task would be to read each behavioral description and generate a continuation for that sentence. Specifically, continuations were defined as "short phrases (written by you) that provide a plausible extension of the original description."

Once the participants had finished reading these instructions, they were told to begin reading the behavior descriptions and generating extemporaneous continuations. The experimenter paced participants through this task by allowing them 30 s to read each description and provide their extension. When finished, participants were debriefed, thanked, and excused.

Results

Protocol Coding

Two judges, unaware of the hypotheses, coded the written continuations of each behavioral sentence into one of several categories based in part on those used by Hastie (1984). Three major categories were defined: attributions, noncausal extensions, and reversals. All responses were coded in one of these three categories. To illustrate the coding scheme, our description of each category includes a sample response to the target behavior "John won the chess tournament."

[4] Participants in this experiment also rated a second social target later in the experiment. The data for the second target were influenced by apparent practice effects; thus, these data were relatively uninformative and are not discussed.

A continuation was coded as an *attribution* if it provided an explanation for why the act was performed. Attributions were further coded according to whether the explanation attributed the behavior to an internal cause, whereby the behavior reflected some dispositional property of the actor (e.g., ". . . because he is so smart"), or to an external cause, in which some situational circumstance or social influence was cited (e.g., ". . . because his opponent was sick"). Overall, 41% of participants' responses were coded as attributions (29% were coded as internal attributions and 12% as external attributions).

A continuation was coded as a *noncausal extension* if it provided some additional information relevant to the behavior but was noncausal in nature. This category included two types of responses differentiated by Hastie (1984): elaborations and temporal successions. Elaborations provided information regarding the situational context in which the behavior occurred (e.g., ". . . at the student union"). Temporal successions provided information about what happened subsequent to the stimulus behavior (". . . and then went out to celebrate"). These two categories could not be reliably distinguished by our coders. Because the difference between these two categories was not theoretically relevant in the present research, they were combined (along with other idiosyncratic responses) into a category of noncausal extension. Overall, 53% of participants' responses were coded as noncausal extensions.

A continuation was coded as a *reversal* if it sought to reverse the original meaning of the behavior sentence (e.g., ". . . in his dream last night"). This continuation did not provide a strictly causal explanation for the behavior but seemed to do more than simply expand on the information provided. It addressed the stimulus information by altering the meaning of the sentence stem to which the participant was asked to respond. Reversals were relatively infrequent, accounting for only 6% of participants' responses.

Reliability of Coding

In coding participants' continuations into these three main categories, the two coders agreed on 89% of the cases. Also, among attributions, the coders agreed on 86% of the cases regarding whether they were internal or external attributions. Disagreements were resolved through discussion among the coders and experimenters.

Analytic Strategy

Participants wrote continuations for six consistent and three inconsistent behaviors describing the stimulus target. Therefore, the data analyzed were the proportions of consistent and inconsistent acts for which participants wrote extensions fitting each of the coded categories. The three between-groups independent variables were (a) whether the target was an individual or a group, (b) whether the expectancy (and hence the majority consistent behaviors) was positive or negative, and (c) whether the stimulus materials pertained to the friendly–unfriendly or intelligent–unintelligent trait domain. In addition, there were two within-subject variables. The first compared responses for consistent and inconsistent behaviors. The second was defined by the coding categories themselves. A series of ANOVAs examined several within-subject contrasts as a function of the independent variables in our design. To test our primary hypothesis, we first analyzed the participants' use of attributions versus noncausal extensions. We then further analyzed attributions by contrasting the use of internal versus external attribution strategies for those participants who wrote causal attributions of some kind. Finally, we analyzed reversals by contrasting them with the other two coding categories. Thus, all analyses involved a 2 (target: person or group) × 2 (expectancy valence: positive or negative) × 2 (trait domain: friendly–unfriendly or intelligent–unintelligent) × 2 (behavior: consistent or inconsistent) × 2 (the coding categories being compared) design with the last two variables being within subjects. There were numerous significant results in all of the analyses reported here relating to trait, valence, and congruency effects and their interactions. Because the present article is focused on the effects of target (person or group) on participants' judgments, only those statistical results involving the target manipulation are presented.[5]

Attributions and Noncausal Extensions

We predicted that, when processing information about an individual target, participants would be more likely to make causal attributions after inconsistent behaviors but noncausal extensions for expectancy-consistent behaviors, replicating the findings of Hastie (1984). Our primary hypothesis was that this difference would not occur—or at least would be weaker—when the target information described a group of persons. This hypothesis was tested via the three-way interaction of target, behavior type, and continuation type.

The main effect for continuation type was highly significant, $F(1, 125) = 5.56$, $p < .02$, revealing that noncausal extensions were written more frequently ($M = 1.01$) than causal explanations ($M = 0.81$) overall. This variable interacted significantly with congruency, $F(1, 125) = 10.53$, $p < .01$, such that participants, in general, wrote more noncausal extensions for consistent ($M = 0.59$) than inconsistent ($M = 0.42$) items; they wrote causal attributions equally for consistent ($M = 0.40$) and inconsistent ($M = 0.41$) items. These effects, however, were qualified by their important interaction with target type.

The predicted three-way interaction of target, congruency, and continuation type was very close to significance, $F(1, 125) = 3.49$, $p < .06$. As can be seen in Table 2, the interaction of congruency and continuation type was moderated by whether the social target was an individual or a group. To examine these patterns more precisely, we conducted separate analyses (Consistent–Inconsistent Behaviors × Attributions–Noncausal Extensions) for each target type. When the target was an individual, this test yielded a significant interaction, $F(1, 62) = 13.37$, $p < .01$. After consistent behaviors, participants were significantly more likely to write noncausal extensions ($M = .59$) than causal explanations ($M = .40$), $F(1, 62) = 7.55$, $p < .01$; the opposite pattern occurred when the stimulus behavior was inconsistent with the expectancy (noncausal extensions, $M = .37$; attributions, $M = .46$, *ns*). In contrast, the group target analysis yielded no evidence for this interaction between congruency and continuation type, $F(1, 63) = 0.93$, *ns*. Instead, only the main effect for continuation type was significant, $F(1, 63) = 7.39$, $p < .01$. Group participants, in

[5] A complete report of all results is available on request.

Table 2
Mean Proportions of Attributions Summed Across Continuation Types as a Function of Target Type, Item Congruency, and Extension Type

Extension type	Individual target (n = 66) item congruency		Group target (n = 67) item congruency	
	Congruent	Incongruent	Congruent	Incongruent
Attribution	.40	.46	.40	.36
Noncausal extension	.59	.37	.59	.47

Note. Reported means equal the mean of the sum of two proportions: for attributions, the sum of internal and external attributions; for noncausal extensions, the sum of elaborations and temporal successions. Because congruent and incongruent items are reported separately, the maximum sum in any column is 1.

general, wrote noncausal extensions more often than causal attributions, $F(1, 63) = 7.39$, $p < .01$.[6]

It is particularly meaningful to note that, after consistent behaviors, the means for noncausal extensions and causal attributions were virtually identical for both target types. In contrast, the results diverge in response to inconsistent information. For individual targets, incongruency instigates spontaneous causal explanation, whereas this attributional activity is not invoked when a group member engages in behavior inconsistent with the overall group impression. Thus, the results reveal considerably different response patterns as a function of whether the stimulus behaviors described an individual or a group of persons. These results provide direct support for the primary hypothesis derived from our conceptual analysis.

Internal Versus External Attributions

The results reported thus far involved conditions under which participants made attributions versus noncausal extensions as they processed the stimulus behaviors. When causal explanations for behaviors were generated, those attributions could be internal or external in nature. Our next analysis therefore examined variations among the experimental conditions in the extent to which they induced internal or external attributions. All attributions were coded as being of internal or external locus. For purposes of analysis, we included only those participants who had made some kind of causal attribution.

Although this analysis produced numerous significant results, the most important outcome for present purposes was the fact that the manipulation of target (individual or group) had no effect whatsoever, either by itself or in interaction with other independent variables. Thus, although the previous sections documented that individual and group targets differed in their likelihood of generating spontaneous attributions, these target differences did not result in different types of attributions.

Reversals

The third coding category contained responses that were judged to be reversals, in which participants appeared to do more than simply elaborate on the stimulus behavior but did not generate a strictly causal explanation for why it occurred. Reversals seemed to be attempts to make a behavior consistent with the overall target impression by changing the meaning of the stimulus description itself rather than by explaining why the behavior happened. These reversals occurred infrequently and hence were not included in the primary analyses described thus far. Nevertheless, they were of sufficient interest to warrant analysis.

Not surprisingly, participants produced fewer reversals than the other continuation types, $F(1, 125) = 126.54$, $p < .01$. The effects for both valence, $F(1, 125) = 8.90$, $p < .01$, and behavior congruency, $F(1, 125) = 59.47$, $p < .001$, were also significant. In comparison with the other coding categories, participants wrote more reversals when they had a negative ($M = 0.23$) than when they had a positive ($M = 0.12$) expectancy. Furthermore, they wrote more reversals after inconsistent ($M = 0.17$) than consistent ($M = 0.01$) behaviors. The interaction of valence, congruency, and continuation type was also significant, $F(1, 125) = 6.76$, $p < .05$. Although reversals occurred with greater frequency after inconsistent than consistent behaviors regardless of expectancy valence, this difference was substantially pronounced under conditions of a negatively valenced expectancy. Most important for purposes of the present article, the analysis of reversals produced no significant results including the manipulation of the target of perception.

Discussion

One of the ways that social perceivers respond to unexpected information is by invoking causal reasoning processes to explain that information. Our conceptual framework (Hamilton & Sherman, 1996) assumes that social perceivers expect greater behavioral consistency from individual actors than they do from a group of actors. If this is true, then evidence of inconsistency should be more disconcerting for perceptions of individuals than for perceptions of groups. It follows, then, that inconsistent information should generate greater spontaneous activation of causal reasoning processes for individual than group targets.

Replicating Hastie (1984), participants in this study demonstrated a clear tendency to invoke causal reasoning to explain expectancy-incongruent information when the behaviors were performed by a single individual. Incongruent (relative to congruent) information about individual targets activated spontaneous causal reasoning processes. In contrast, participants who received group target information did not show this pattern and treated the congruent and incongruent information in the same manner. The results from the separate two-way analyses most clearly demonstrate this finding: For an individual target, congruency and continuation type interacted significantly, such that incongruent information triggered attributional reasoning and congruent information produced noncausal thought; for a group target, however, this

[6] Participants in both the individual, $F(1, 63) = 32.99$, $p < .01$, and group, $F(1, 62) = 26.80$, $p < .01$, conditions wrote significantly more of these extensions (collapsing across attributions and noncausal extensions) in response to consistent than to inconsistent items. These "overall" main effects for consistent items (and a similar "overall" effect for positively valenced expectancies) are rendered intelligible in a later section that compares the combination of attributions and noncausal extensions against the third coding category, reversals. Reversals were generated almost exclusively in response to inconsistent and negative items.

interaction was nonexistent, with congruent and incongruent information producing comparable ratios of causal to noncausal extensions. These findings provide strong support for the primary hypothesis of this experiment.

General Discussion

The present research was guided by Hamilton and Sherman's (1996) theoretical analysis of impression formation processes for individual and group targets. The focal assumption underlying their analysis is that perceivers assume a greater amount of unity and coherence in an individual than they assume to exist among members of a group (similar assumptions have been made by Asch, 1952; Jones & McGillis, 1976; and Wyer & Srull, 1989). Because of this assumed unity, Hamilton and Sherman argued that, in forming impressions of an individual, perceivers seek to identify the underlying themes of the person's personality and to resolve inconsistencies in the information acquired about the person. In contrast, given the lesser expectation for entitativity among group members, perceivers are assumed to engage in this process to a lesser extent when forming an impression of a group.

In two experiments, we tested hypotheses derived from Hamilton and Sherman's (1996) analysis. First, the goal of identifying personality themes should lead perceivers to infer dispositional properties from behavior-descriptive information to a greater extent for individual than for group targets, and those inferences should be more likely to be made on-line, as the information is processed (Sherman, 1996; Sherman & Klein, 1994). The results of Experiment 1 provided strong support for these predictions. In comparison with those forming impressions of a group or an aggregate, participants in individual target conditions made stronger (more extreme) trait judgments, they made those judgments faster, and they made them with greater confidence. All of these outcomes are consistent with the view that participants inferred dispositional qualities on-line, as the information was acquired, to a greater extent for individual than for group targets. Our analyses also provided some evidence that perceptions of target entitativity mediated these effects.

Second, the goal of attaining a coherent impression of the target also implies that perceivers would attempt to resolve inconsistencies in the information acquired. Such efforts would be likely to trigger attributional reasoning to understand the cause of unexpected behaviors, and therefore causal analysis was expected to occur more for individual than group targets. The results of Experiment 2 provided strong support for this prediction: Participants in the individual target condition provided causal explanations for expectancy-inconsistent behaviors, whereas participants in the group target condition did not. Thus, when impressions of a group were formed, inconsistencies between the behaviors of different group members appeared not to be as disconcerting and in need of resolution as inconsistencies among an individual's behaviors, presumably because perceivers did not expect the same degree of consistency among group members' behaviors.

Our findings add to a growing body of evidence revealing differences in the impression formation process for individual and group targets. Our results extend this literature by providing initial documentation of target differences in the extremity of perceivers' trait judgments, in the speed and confidence with which those judgments are made, and in the conditions under which attributional reasoning is spontaneously induced.

It is important to note, however, that in Hamilton and Sherman's (1996) analysis, it is not differences between individual and group targets per se that generates these effects but, rather, differences in expectancies that perceivers hold about individual and group targets. Although not specifically tested in the present research, this interpretation has been bolstered by the findings of McConnell et al. (1994, 1997), who have shown that when perceivers' expectations about individual and group targets are equated through experimental instructions or when the same processes are induced for both kinds of targets, the outcomes for individual and group targets become equivalent.

In research comparing impressions of individuals and groups, it is useful to observe these effects using more than one paradigm. The present findings are important in that our previous results (McConnell et al., 1994, 1997; Sanbonmatsu et al., 1987) indicating differences in processing information about individuals and groups were obtained with a paradigm that has most clearly been associated with research on perceptions of groups (specifically, an illusory correlation paradigm). The present studies used paradigms more strongly associated with the person memory literature and, hence, with the study of individual impression formation. The fact that quite comparable results were obtained in studies using these divergent paradigms lends further confidence to the robustness of these effects.

As we noted at the outset, research on the formation of impressions of individuals and of groups has historically proceeded along separate but parallel paths. Recent research has sought to experimentally compare the processes underlying impression formation in these two domains, and the accumulating findings (including the present results) show that equivalence in outcomes cannot be assumed. In fact, different results are likely to be obtained even when the individual and group impressions are based on exactly the same information. Such findings strongly implicate the role of perceiver expectancies about the nature of individuals and groups as entities (Hamilton et al., 1998). The specific nature of those expectancies, the extent of their differences, and precisely how they influence the processes involved in forming impressions of these targets remain important issues for future investigation.

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