Children's Expectancies and Perceptions of Adults: Effects on Rapport

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Interpersonal expectancy effects are less thoroughly understood in children than in adults, yet they can have practical implications for children's interactions. To understand better children's expectancies, this study extended earlier work to include expectancies of adults, preexisting (i.e., noninduced) expectancies, and joint effects of expectancies and subsequent perceptions. Children ($N = 81$) in Grades 4 through 6 (i.e., 9- to 12-year-olds) indicated their expectancies of adults who subsequently interacted with them using a style of either autonomy support (AS) or control (CN). After each interaction, children reported on perceived AS and on rapport. Results indicated that children's expectancies and subsequent perceptions interact to predict rapport, adult AS is associated with increased rapport, and the effect of children's expectancies on rapport is only partially mediated by their perceptions.

Children routinely come in contact with unfamiliar adults. For example, they are introduced to new teachers who instruct them, to unfamiliar psychologists who evaluate them, and to just-hired babysitters who care for them. Interactions between children and unfamiliar adults vary dramatically from being smooth and cooperative to being contentious and effortful. Here we study the ways in which these different outcomes (i.e., rapport) may be affected by adults' styles of interaction (i.e., autonomy support vs. control), as well as children's expectancies and subsequent perceptions of those styles.

Expectancy effects, or self-fulfilling prophecies, in adults have been demonstrated in more than 300 studies (Cooper & Hazelrigg, 1988; Harris & Rosenthal, 1985; Rosenthal & Rubin, 1978). For example, in the classic study of such effects (Rosenthal & Jacobson, 1968), teachers were given the expectancy that some children would show dramatic gains in intellectual competence across the school year. At the end of the year, children of teachers who had expected them to ''bloom'' did in fact show greater gains in test performance than their peers.

What do we know about the function of such expectancies in adults? First, adults' expectancies tend to color their perceptions of interactions in an assimilatory manner (for reviews, see Darley &

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Fazio, 1980; Miller & Turnbull, 1986). In one study, for example, perceivers were told their interaction partners possessed a distinct trait that was supposedly associated either with various positive or various negative characteristics. After interacting, perceivers given the positive expectancy judged their partners more positively than did perceivers given the negative expectancy (Nelson & Klutas, 2000). However, expectancy-related phenomena appear more complex than can be described by assimilation alone. For example, one can alternately elicit assimilation and contrast effects by varying the discrepancy between the expectancy and the reality with which perceivers are presented (Manis, Nelson, & Shedler, 1988). Several proposed theories have therefore taken into account both expectancies and the reality (or perceived reality) of what individuals encounter in an interaction. Expectancy violation theory (e.g., Coleman, Jussim, & Kelley, 1995; Jussim, Coleman, & Lerch, 1987; Jussim, Fleming, Coleman, & Kohberger, 1996) suggests, for example, that targets exhibiting behaviors in violation of perceivers' stereotyped expectancies will be judged more extremely. That is, judgments are not simply a function of individuals' perceptions of a target's behavior but rather a function of that experience in relation to perceivers' prior expectancies. Finally, models of impression formation propose that perceivers attend more closely to and form more individuated impressions of targets whose behavior violates expected category norms (Fiske & Neuberg, 1990).

What is the evidence that expectancy effects would hold for children? Might children's expectancies function in similarly complex ways? First, there

is some evidence that elementary-age children do hold expectancies that affect them. For example, children's achievement-related outcomes tend to be consistent with their own expectancies for success (Felson, 1984; Graham, 1984; Parsons & Ruble, 1977). More central to the present investigation are studies showing effects of expectancies on evaluations of and interactions with other people. In one study (Harris, Milich, Corbitt, Hoover, & Brady, 1992), boys in Grades 3 through 6 were given an expectancy that their play partner had behavior problems or were given no expectancy at all. Compared with perceivers given no expectancy, those given the expectancy gave their partners less credit for doing well on the tasks, attributed more expectancy-consistent negative behaviors to their partners, and were less friendly toward them. Thus, children in this age group show an assimilatory effect within an expectancy-inducing experimental paradigm.

Additionally, there is evidence that the effect of children's expectancies may depend on the information encountered and the dimensions being rated. McAninch, Manolis, Milich, and Harris (1993) gave 8- to 12-year-old children an expectancy that the child they were to see on videotape was either shy or outgoing. Children rated how much they liked the target child as well as how friendly and how shy they thought the target child was. Consistent with an assimilation effect, these initial ratings conformed to the expectancy. However, after the children viewed a videotape in which the target child described himself or herself in a way that was partially congruent and partially incongruent with the expectancy, the two expectancy groups no longer differed in their ratings of the target child's shyness or friendliness. Evidently, in rating these two dimensions, children relied on the information in the videotape and not on their initial expectancies. By contrast, children's ratings of liking showed a different pattern. For this dimension, children's expectancies continued to exert an effect, with children liking the supposedly shy targets less than the supposedly outgoing targets.

Our prediction that children in the elementary years will show expectancy effects is consistent both with the results of the previous studies and with children's cognitive abilities at this age. Interpersonal expectancy effects require that perceivers be able to predict targets' future behavior on the basis of stable personality traits. This ability emerges around age 8 (see Alvarez, Ruble, & Bolger, 2001, for a review; Barenboim, 1977, 1981; Piaget, 1970). For example, whereas 5- to 6-year-old children predict others' future behavior on the basis of global

evaluations of the "goodness" or "badness" of a trait and make unreliable predictions about traits that do not lend themselves to such global evaluations, 9- to 10-year-old children predict behavior on the basis of trait inferences (Alvarez et al., 2001). In this first study of children's expectancies of adults, our aim was not to establish the upper or lower bounds of the age range in which expectancy effects could be found but rather to investigate these effects among children whom we could reasonably expect to produce them. We therefore chose to study children in Grades 4 through 6. We thus anticipated expectancy effects among even our youngest children and did not anticipate differences within our age range (though we did test for grade effects).

In this study we hoped to accomplish several things. First, we wished to extend the existing literature on children's expectancies of peers to children's expectancies of adults and, in particular, to examine how children's expectancies and experiences would affect the development of rapport with an unfamiliar adult. This would have important applied value in that children come in contact with a variety of professionals whose work depends on the establishment of a working relationship, or rapport. Rapport has been viewed as a broad behavioral and affective construct composed of positivity, mutual attentiveness, and coordination (Tickle-Degnen & Rosenthal, 1990). As a global descriptor of interactions, it therefore subsumes a host of interpersonal dimensions, such as "warmth, empathy, understanding, genuineness, friendliness, or liking" (Tickle-Degnen & Rosenthal, 1990, p. 290) and thus lends itself to use as an overall index of interaction outcome.

Second, we wished to examine expectancies along a dimension of adult behavior that is meaningful to children and to extend the existing literature on experimentally induced expectancies to preexisting expectancies. Thus, instead of providing children with an expectancy, we measured the expectancy they brought to the interaction on the basis of their own past experience. The dimension of autonomy support (AS) to control (CN), drawn from self-determination theory (Deci & Ryan, 1985), was selected as both (a) the dimension along which children would evaluate adults, and (b) the dimension that would be experimentally manipulated to create AS and CN conditions. In the context of adult–child interactions, supporting children's autonomy means encouraging their own initiations and allowing them developmentally appropriate opportunities to make choices. At the opposite end of the continuum, controlling children means pressuring

them toward particular agendas and overriding or redirecting their initiations (Deci & Ryan, 1985; Eccles et al., 1993). We chose this dimension because it is salient to children in evaluating their parents, teachers, and other familiar adults, and because it has strong motivational concomitants. For example, children who perceive their parents (Grolnick & Ryan, 1989) and teachers (Ryan & Grolnick, 1986) as higher in AS exhibit more intrinsic motivation and self-regulation than those perceiving these individuals as high in CN. Furthermore, the fact that AS has been associated with positive interpersonal outcomes in previous work (e.g., Avery & Ryan, 1988; Boggiano, Klinger, & Main, 1985; Deci, Eghrari, Patrick, & Leone, 1994) suggests that it may be associated with rapport. Moreover, because this is a dimension along which children easily rate adults, it provides an important opportunity to determine whether children hold categorical views along it and whether they apply these views to a novel adult. Finally, even beyond the expectancy question, it is of interest to know whether an AS condition provided by unfamiliar adults predicts increased rapport given that this is a dimension that is manipulable and can be taught as an interaction style.

Thus far we have discussed the importance of studying children's expectancies of adults but have not discussed the breadth or specificity of the category of adults. Of course children differentiate among the adults they know on a number of dimensions (e.g., nice and mean teachers, strict and lenient parents). The question here concerns the expectancies children bring to a new, unknown member of a category. Evidence suggests that, faced with such an unfamiliar category member, children will apply their categorical expectancy to the individual. In a study of children's perceptions of the student body at a fictitious school, for example, Levy and Dweck (1999) created a characterization of the student body by having children read about the behavior of several of its students. They found that children both recognized variability within the student body and developed categorical views about the central tendency of the student body as a whole. When presented with a new student who purportedly attended the school, children expected the student's behavior to be consistent with their categorical view of the student body. Thus, we hypothesized that when children meet a particular adult for the first time, they extend to that adult the expectancies they hold more generally. Specifically, children who expect adults to be controlling and overly directive will expect a new, unfamiliar adult to exhibit CN, as well. Similarly, children who expect

adults to support children's autonomy and follow their lead will expect an unfamiliar adult to exhibit AS, as well. With regard to the breadth issue, our pilot testing revealed that children had trouble answering questions about the general category of adults, but they easily answered questions about subcategories such as doctors, teachers, and "adults who work with children." Because our practical question revolved around this type of adult, this was the category we chose.

A third goal was to extend the findings of earlier studies on children to explore a variety of ways expectancies and experiences could jointly affect rapport. First, expectancies may interact with experience, such that the effect of experience would depend on the context created by the initial expectancy. The same high levels of experienced AS, for example, may produce different levels of rapport for children who had been expecting AS than for children who had been expecting CN. Second, a joint effect could emerge within children as a function of each child's experience relative to his or her own expectancy. That is, the degree of congruence between each child's expectancy and experience may affect rapport. Third, a mediating model might account for the relations among expectancies, perceived experience, and rapport. Specifically, perceptions of experience may be the pathway through which expectancies exert their effect on rapport. Whether expectancies might have a direct effect on rapport after controlling for perceptions was also a question of interest.

In summary, we hypothesized the following: Children hold categorical expectancies of adults who work with children as being at one pole or the other on the dimension of AS to CN and will show an assimilation effect whereby they generalize those expectancies to a novel adult in the same category. Rapport will be greater in the AS than in the CN condition. Rapport will be jointly affected by expectancies and perceptions considered together. Three possible ways in which this might occur were examined: an interaction between expectancies and perceptions, an effect dependent on the congruence between expectancies and perceptions, and a mediational effect whereby expectancies exert their effect through perceived experience.

Method

Participants

Participants were 81 students in six classes from Grade 4 ($n = 39$, M age = 9 years, 9 months), Grade 5

($n = 24$, M age = 10,7), and Grade 6 ($n = 18$, M age = 11,10) in a public elementary school having approximately a 59.5% White, 28.4% Hispanic, 3.3% Asian, 8.6% African American, and 0.3% Native American student body.

Procedure

Six to 8 children participated at a time in a single session lasting 20 to 30 min. After hearing a brief description of the procedure, children provided their expectancies of adults who work with children, on the dimension of AS to CN (Autonomy Support Questionnaire–Expected [ASQ–E]). They were then exposed for 2 to 3 s to the still image of an unfamiliar female adult on videotape, and they reported their expectancies of her style, based strictly on her appearance.

The children then participated in an interaction with the adult. Because we were interested in perceptual and not behavioral effects, we subtracted out the behavioral component by using videotapes instead of live adults to simulate interactions. This design allowed us to examine the effects of adult behavior specifically on children's perceptions because the adult behavior could not simultaneously be under the influence of the children's behavior or perceptions.

To simulate interaction, adults in the tapes behaved as though they were physically in the children's presence. For example, they asked scripted questions, paused for children's responses, and replied as if they had heard the children's responses, all using age-appropriate language. The overall effect was similar to what children routinely encounter in educational videos and instructional software programs. In pilot testing, and in the actual study, children treated this format as commonplace.

After the simulated interaction in which the adult actor led the children through a simple task, using either AS or CN as a style of interaction, children completed a manipulation check, a rapport measure (Child/Adult Rapport Measure–Child Report [CHARM–C]), and a perceived AS measure (Autonomy Support Questionnaire–Perceived [ASQ–P]). The procedure was then repeated with a second actor who led the children through another simple task, using either AS or CN (whichever style had not been used in the first clip). Thus, each child was exposed to both treatment conditions, both actors, and both tasks in a repeated-measures design counterbalanced for order of condition and order of actor.

Measures

The ASQ–E consists of a sentence stem and five sentence endings constituting the items. Each item was rated on a 4-point scale ranging from 1 (*not true at all*) to 4 (*very true*) and capturing children's expectancies of adults' AS versus CN (e.g., "Ms. Smith seems like someone who. . ." ". . . lets kids do things their own way," ". . . tries to control everything" [reverse scored]," ". . . lets kids make decisions"). The items were written for this study, but are related theoretically to other existing measures of perceived autonomy support (e.g., Grolnick, Ryan & Deci, 1991). After reverse-scoring control-oriented items, summary scores were created by averaging across the five items, with higher scores indicating higher levels of expected AS.

ASQ–E

Participants completed the ASQ–E three times. The first time was with the sentence stem "Most adults who work with children . . ." before viewing any of the videotapes to capture children's expectancies of a category of adults ($\alpha = .64$). The second (before Clip 1) and third (before Clip 2) times children completed the ASQ–E ($\alpha = .63$ and .80, respectively) were after brief exposure to each adult on video, and they used the sentence stem, "Ms. ___ seems like someone who . . ." Internal consistency remained satisfactory when calculated by condition ($\alpha = .77$ for AS and $\alpha = .70$ for CN). Factor analyses, performed separately for general expectancies and for each of the two video clips consistently yielded a single factor structure (eigenvalues of 2.06, 2.06, and 2.82, respectively), using the scree test criterion (Cattell, 1966).

Videotapes. Each participant viewed two of eight simulated interactions (i.e., video clips) of 3 min each, created by the factorial crossing of experimental condition (AS or CN), actor (Ms. Smith or Ms. Johnson), and task (writing lists or drawing pictures). Order of conditions and order of actors were counterbalanced.

The clips were made to represent the experimental conditions through the use of slight variations in language that effectively change the focus of the script from an emphasis on choice, sensitivity to the child's schedule, and limit setting accompanied by reflection in the AS condition, to evaluation, an emphasis on control, adherence to the adult's schedule, and limit setting without reflection in the CN condition. For example, where the AS script asked, "Did you have a chance to finish?" the CN

script said, "You should be finished by now." Similarly, where the AS script acknowledged children's feelings—"I know you might usually like to draw other things, but please draw an animal this time"—the CN script sets the same limit without such acknowledgement of children's feelings—"Don't draw something else instead—it has to be an animal."

The adult actors were graduate student volunteers, matched on gender (female), age (30s), race (Caucasian), general appearance (long brown hair), and native language (English). This matching was done to minimize actor effects. The actors were not informed of the study design or hypotheses. They were instructed to maintain, as evenly as possible, their vocal and facial affect across scripts and to match each other's affect, as well. After several practice trials, the two actors were videotaped while they read the scripts out loud.

To ensure that the difference between conditions was only on the dimension of AS to CN, and not on positivity to negativity of affect, two independent raters rated the tapes in 10-s intervals on a 5 -point scale ranging from 1 (*negativity*) to 5 (*positivity*) of facial expression (with sound turned off), and separately on vocal expression (with picture turned off), yielding 148 data points for each set of ratings. Reliability reached acceptable levels, with an intraclass correlation of .74 for facial expression and .71 for vocal expression. Overall, facial expression was neutral to positive ($M = 3.13$, $SD = .06$), as was vocal expression ($M = 3.12$, $SD = .07$). ANOVA was used to compare all eight video clips, and it revealed no differences for facial, $F(7, 140) = .55$, $p = .79$, or vocal, $F(7, 140) = .61$, $p = .75$, affect.

The tasks chosen for the videotapes—a writing task and a drawing task—were selected for their similarity to the paper-and-pencil tasks often required of children in the schoollike or testing situations in which they encounter unfamiliar adults. The writing task consisted of two parts: making a list of "the things you're good at," and making a list of "up to three things that you would like for your next birthday." The drawing task also consisted of two parts: drawing "a picture of yourself" and "a picture of an animal." Pauses of appropriate length were incorporated into the scripts to allow time for children to perform the tasks.

CHARM–C. The CHARM–C consists of 20 items rated on a 4-point scale ranging from 1 (*very true*) to 4 (*not true at all*) and is intended to capture children's ratings of rapport with an adult (e.g., "She would laugh if I told a joke," "She seemed to like children,"

"She didn't want to get to know me better [reverse scored]"). Participants completed the CHARM–C after viewing each video clip. Responses were reverse-scored where necessary and averaged to create summary scores, with higher scores indicating greater rapport. Because this study was the first to use the CHARM–C, the following account of its development and properties is provided.

Twenty pilot items were written in simple language (Flesch Reading Ease = 98.8, Flesch-Kincaid Grade Level = 1.4) and administered to all children in the sample after they watched each of two video clips. Psychometric properties reported here were based on the first administration. Item means and ranges were found to be acceptable. A factor analysis with promax rotation yielded a single-factor structure (eigenvalue = 9.49) as judged by a scree test (Cattell, 1966), with loadings ranging from 0.44 to 0.82. Thus, all 20 items were included in the final measure. Reliability was excellent for the first ($\alpha = 0.94$) and second ($\alpha = 0.97$) administrations, and in both conditions ($\alpha = 0.94$ for AS and CN).

To examine the measure's validity, 40 randomly ordered items, consisting of the 20 rapport items plus 20 additional items tapping dimensions similar to, but distinct from, rapport were rated by 11 clinical psychology graduate students as to how "rapport related" the items were. For each respondent, two summary scores were calculated: the mean of the 20 rapport items and the mean of the 20 filler items. The differences between these means were analyzed with a Wilcoxon matched-pairs signed-ranks test. Results ($T^+ = 66$, $T = 0$, $p < .001$) indicated that every respondent distinguished the rapport items from the nonrapport items as being more rapport related, thus supporting the validity of the measure.

ASQ–P. After engaging in each simulated interaction, children completed the ASQ–P to indicate the degree of AS versus CN they perceived the actor to have exhibited. The ASQ-P consists of five items corresponding to those on the ASQ-E (e.g., "She let me do the task my own way," "She let me make decisions," "She was pushy [reverse scored]"), rated on a 4-point scale ranging from 1 (*not true at all*) to 4 (*very true*). After reverse-scoring appropriate items, summary scores were calculated by averaging responses across the five items. Higher scores indicate higher levels of perceived AS. Internal consistency was acceptable for the first ($\alpha = 0.76$) and second ($\alpha = 0.87$) administrations, and for the AS ($\alpha = 0.73$) and CN ($\alpha = 0.81$) conditions. Items loaded on a single factor in both administrations (eigenvalues = 2.58 and 3.26, respectively).

Manipulation check. Because positive feelings, such as relaxation and enjoyment, follow from AS, whereas negative feelings such as pressure and tension follow from CN (Deci et al., 1994; Ryan, 1982; Ryan, Mims, & Koestner, 1983), children completed the Affect Questionnaire (AQ) as a check on whether the tapes had succeeded in communicating AS versus CN.

The AQ is a six-item measure consisting of a sentence stem ("During the task with Ms. Smith, I felt . . .") and six affect-relevant sentence endings (relaxed, tense, pressured, happy, nervous, calm) rated on a 4-point scale ranging from 1 (*not true at all*) to 4 (*very true*). The items were adapted from the pressure/tension factor of the Intrinsic Motivation Inventory (Ryan, 1982; Ryan et al., 1983). Negative items were reverse-scored, and all six items were then averaged to form summary scores, with higher scores corresponding to more positive affect. The AQ was completed twice: once after the first video clip ($\alpha = 0.79$, eigenvalue = 2.95) and once after the second ($\alpha = 0.90$, eigenvalue = 4.02). When calculated by condition, $\alpha = 0.82$ for AS and $\alpha = 0.81$ for CN.

Results

Preliminary Analyses

T tests and ANOVAs were conducted to establish whether there were order effects, actor effects, or Order × Actor interactions with respect to any of the dependent variables. Tests for order effects were performed separately for each condition because of unequal numbers in the relevant cells. An alpha level of .05 was used for these and all subsequent statistical tests. For the CN condition only, there was an order effect such that ratings of perceived AS were lower ($t = -3.29$, $p < .01$) and ratings of affect were more negative ($t = -2.56$, $p < .05$) when the CN condition was presented as the second video clip. Order was therefore controlled in subsequent analyses. Also in the CN condition, an actor effect ($t = -2.18$, $p < .05$) emerged in participants' ratings of perceived AS versus CN, such that "Ms. Smith" was reported to exhibit less CN in the CN condition than was "Ms. Johnson." No Order × Actor interactions were significant.

ANOVA was used to test for effects of gender, grade, and their interaction. No effects were found, and subsequent analyses therefore grouped all participants. Means, standard deviations, and ranges for all variables are presented in Table 1.

Table 1
Summary Statistics for All Variables

Variable	M	SD	Min	Max
Across conditions				
Expected AS (all adults)	2.59	0.58	1.00	4.00
AS condition				
Expected AS	2.88	0.72	1.00	4.00
Perceived AS	3.30	0.67	1.00	4.00
Rapport	3.27	0.66	1.30	4.00
Positive affect	3.34	0.71	1.33	4.00
CN condition				
Expected AS	2.89	0.63	1.60	4.00
Perceived AS	2.28	0.87	1.00	4.00
Rapport	2.27	0.74	1.00	4.00
Positive affect	2.35	0.81	1.00	4.00

Note. AS = autonomy support; CN = control.

Table 2
Intercorrelations Among Major Variables

	1	2	3	4	5
1. Expected AS (all adults)	–	0.14	0.13	0.10	0.08
2. Expected AS (individual)	0.29*	0.34**	0.40***	0.26*	0.41***
3. Rapport	0.30**	0.43***	0.18	0.74***	0.76***
4. Perceived AS	0.27*	0.41***	0.79***	0.07	0.62***
5. Affect	0.18	0.26*	0.74***	0.65***	0.17

Note. Entries are partial correlations, controlling for order. Those above the diagonal represent correlations among variables in the autonomy supportive condition. Those below the diagonal are correlations among variables in the controlling condition. Entries on the diagonal are correlations between the autonomy supportive and controlling conditions. AS = autonomy support; CN = control.
*$p < .05$. **$p < .01$. ***$p < .001$.

Intercorrelations were computed to provide an overview of the relations among the study's main constructs. In the AS condition, the variables were highly intercorrelated, with all relations among expectancies, rapport, perceived AS, and affect reaching significance (see Table 2, above diagonal). That is, when exposed to an AS-style adult, children who had expected her to exhibit more AS perceived her as actually having exhibited more AS, and they reported greater rapport, whereas children who expected the adult to exhibit more CN saw her as actually having exhibited more CN, and they reported less rapport. To ensure the strong correlation between expectancies and perceptions did not simply reflect children's idiosyncratic tendencies to favor particular responses across measures, a pairwise *t* test comparing children's expectancies with

their own perceptions was conducted and it showed that, within children, expectancies were significantly different from perceptions ($M_{diff} = 0.42$, $t = 4.40$, $p < .001$). None of the relations between the general expectancies of AS versus CN in adults who work with children and the other variables in the AS condition reached significance.

The pattern of correlations among major variables in the CN condition was similar to that found for the AS condition, with all of the relations reaching significance (see Table 2, below diagonal). When exposed to a CN-style adult, children who had expected her to exhibit more AS (i.e., less CN) saw her as actually having exhibited more AS, and they reported greater rapport. The within-children association between expectancies and perceptions in the CN condition was not simply a reflection of idiosyncratic scale use ($M_{diff} = -0.61$, $t = -6.25$, $p < .001$).

Contrary to the AS condition, however, in the CN condition, participants' general expectancies of adults who work with children showed significant positive associations with other variables. The more AS children categorically expected of adults, the more expected and perceived AS they reported for the individual adult, and the greater were their reports of rapport.

Correlations between variables across the conditions showed a significant association between expectancies in the AS and CN conditions (see Table 2, on diagonal), indicating that children tended to have similar expectancies of the two individual adults.

Effect of AS Versus CN on Affect

If the videotapes successfully conveyed the experimental conditions, children should have had more positive feelings (happy, relaxed, and calm) in the AS condition and more negative feelings (tense, pressured, nervous) in the CN condition. Consistent with expectations, a repeated-measures ANOVA, with condition as the repeated measure, yielded a within-participants effect in the hypothesized direction across both genders, $F(1, 76) = 64.57$, $p < .0001$, and all three grades, $F(1, 76) = 71.22$, $p < .001$ (see Table 1 for overall means). Children reported happier, more relaxed, and calmer feelings with an AS-style adult, and more tense, pressured, and nervous feelings with a CN-style adult. Neither the Gender × Condition nor the Grade × Condition interaction was significant.

Effect of Condition on Rapport

We expected that interactions in the AS condition would lead to greater rapport than would interactions in the CN condition. As hypothesized, repeated-measures ANOVAs, with condition as the repeated measure, revealed a within-participants effect of condition across genders, $F(1, 77) = 73.56$, $p < .0001$, and across grades, $F(1, 76) = 84.54$, $p < .0001$, with higher rapport in the AS condition (overall means in Table 1). No Gender × Condition nor Grade × Condition interaction was in evidence.

Children's Expectancies of Adults' AS

Across children, the mean expected AS of adults who work with children was 2.59 ($SD = 0.58$), roughly the midpoint of the 4-point scale. Individual children's expectancies represented the widest possible range, from the most extreme CN (individual score = 1.00) to the most extreme AS (individual score = 4.00). This variability suggests that individual children hold different categorical expectancies of adults and that these different expectancies, seen together, were not skewed toward a particular pole. A one-way ANOVA yielded an effect of grade, $F(2, 78) = 3.27$, $p < .05$, although comparisons using the Bonferroni comparison method revealed no significant differences among Grade 4 ($M = 2.43$, $SD = 0.62$), Grade 5 ($M = 2.79$, $SD = 0.50$), and Grade 6 ($M = 2.67$, $SD = 0.49$).

Effects of Children's Expectancies on Rapport

Regressions were performed separately for each condition to test for effects of children's expectancies on rapport. In both the AS condition, $F(2, 76) = 13.61$, $\beta = 0.38$, $p < .001$, and the CN condition, $F(2, 78) = 15.39$, $\beta = 0.40$, $p < .001$, greater expected AS significantly predicted greater rapport, controlling for order. More important, however, expectancies explained unique variance in rapport, beyond that explained by subsequent perceptions. This was particularly so in the AS condition, $F(3, 75) = 6.71$, $\beta = 0.20$, $p < .05$, and marginally so in the CN condition, $F(3, 77) = 2.87$, $\beta = 0.13$, $p < .10$.

Effects of Children's Subsequent Perceptions on Rapport

A similar pattern of results emerged for the effects of subsequent perceptions on rapport. Controlling for order, a main effect of perceptions was evident in the AS condition, $F(2, 76) = 84.76$, $\beta = 0.73$, $p < .0001$, and the CN condition, $F(2, 78) = 118.27$, $\beta = 0.82$, $p < .0001$, such that perceptions of greater AS

Table 3
Effects of Expected and Perceived Autonomy Support on Rapport

	AS condition ($N = 79$)[a]			CN condition ($N = 81$)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Order	$-0.19^{\dagger}$	-0.06	-0.06	0.14	-0.12	-0.10
Expected AS	0.38^{***}	0.20^{*}	0.20^{*}	0.40^{***}	$0.13^{\dagger}$	$0.13^{\dagger}$
Perceived AS	–	0.67^{***}	0.62^{***}	–	0.77^{***}	0.73^{***}
Expected $\times$ Perceived	–	–	$-0.12^{\dagger}$	–	–	$0.12^{\dagger}$
R^2	0.18	0.58	0.60	0.18	0.62	0.64
Adjusted R^2	0.16	0.56	0.58	0.16	0.61	0.62

Note. For each condition, Model 1 regressed rapport onto order and expected autonomy support. Model 2 regressed rapport simultaneously onto order, expected autonomy support, and perceived autonomy support. Model 3 regressed rapport simultaneously onto order, expected autonomy support, perceived autonomy support, and the Expected $\times$ Perceived interaction. Standardized betas are reported. AS = autonomy support; CN = control.
[a]Two participants were excluded because they did not provide data in the AS condition.
$^{\dagger}p < .10$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

predicted greater rapport. Furthermore, these effects persisted when expectancies were controlled in the AS condition, $F(3, 75) = 71.58$, $\beta = 0.67$, $p < .0001$, and CN condition, $F(3, 77) = 90.85$, $\beta = 0.77$, $p < .0001$.

Joint Effects of Expectancies and Perceptions

There are multiple ways that expectancies and perceptions could combine to affect rapport jointly. Within participants, the degree of congruence between what children had expected and what they subsequently perceived could influence rapport. Across participants, the effect of subsequent perceptions could depend on the context created by expectancies, resulting in an interaction.

We wished to examine both types of effect, but because the two share some conceptual similarity, we offer the following illustration to distinguish between them. Consider that an interaction term is the product of the factors that constitute it—in this case, the product of expected and perceived. In a test of congruence, we are interested not in the product but in the congruence between each particpant's rating on expected and his or her own rating on perceived, that is, the distance (positive or negative) of perceived from expected. If Child A rates expected = 1 and perceived = 4, and Child B rates expected = 2 and perceived = 2, their interaction terms are equivalent ($1 \times 4 = 4$, and $2 \times 2 = 4$), but their congruence terms are not ($1 - 4 = -3$, but $2 - 2 = 0$). Child A perceived a level of autonomy support that was 3 scale points higher than what he or she had expected, whereas Child B perceived a level of autonomy support that was exactly what he or she had expected. Similarly, two children could

have interaction terms that differ (e.g., $1 \times 2 = 2$, whereas $3 \times 4 = 12$) but congruence terms that do not ($1 - 2 = -1$, and $3 - 4 = -1$). Analytically, then, the within-participants degree of congruence between expected and perceived should produce different effects from those produced by the interaction.

In the preceding examples, congruence is represented by the simple difference between individual children's expectancies and subsequent perceptions for the sake of illustration. Although entering such a simple difference score into a regression would seem the intuitive way to test for a congruence effect, the problems with doing so have been well documented (Cohen & Cohen, 1983; Cronbach & Furby, 1970; Gottman & Rushe, 1993). An alternative proposed by Edwards (1994) is to enter both independent variables simultaneously into a regression and then test whether the resultant betas satisfy particular constraints implied by the underlying congruence model. Specifically, for our algebraic difference model, if there is a congruence effect, "the increment in variance explained by both coefficients entered simultaneously will be significant, each component will exhibit a significant independent effect, and the coefficients on the components will be opposite in sign and not significantly different in absolute magnitude" (Edwards, 1994, p. 57).

To test whether the within-participants degree of congruence (or incongruence) between expectancies and subsequent perceptions had an effect on rapport beyond the main effects of expectancies and perceptions, we therefore used Model 2 in Table 3. Visual inspection of the betas makes obvious that they are not opposite in sign and not similar in magnitude.
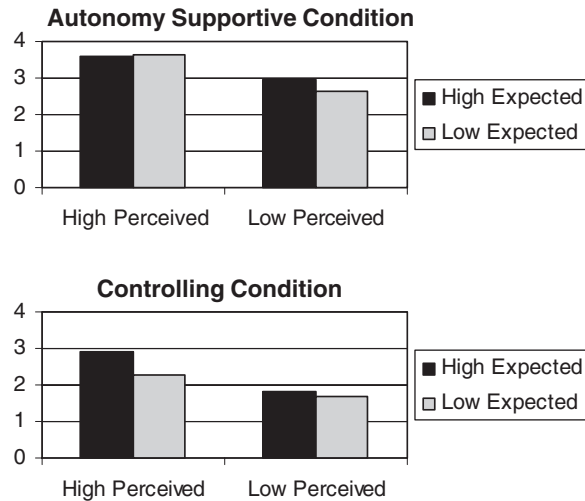
Autonomy Supportive Condition

Controlling Condition

Figure 1. Rapport as a function of expected and perceived autonomy support in each condition.

Formal tests of the remaining constraints were therefore unnecessary. No within-participants congruence effect was in evidence.

To test for joint (i.e., interaction) effects of expectancies and perceptions across participants, an ANCOVA was performed for each condition, with order as the covariate. The independent variables were expectancies, perceptions, and their interaction, with expectancies and perceptions divided into high and low groups using a median split. The interaction was significant in the CN condition, $F(4, 76) = 4.13$, $p < .05$, though not in the AS condition, $F(4, 74) = 2.06$, $p = .16$. Specifically, in the CN condition, when perceived AS was low, rapport was unaffected by whether this low perception was in the context of a low expectancy (least squares $M = 1.68$) or a high expectancy (least squares $M = 1.80$). When perceived AS was high, however, rapport was significantly higher when the high perception was in the context of a high expectancy (least squares $M = 2.93$) than when it was in the context of a low expectancy (least squares $M = 2.29$). Furthermore, both of these high-perception means are significantly higher than both of the low-perception means.

Comparisons of means in the AS condition were planned and were submitted together with the ANCOVA. They are reported here as a noteworthy analog to those in the CN condition. In the AS condition, it was the high-perception groups that were very similar in rapport, regardless of whether the high perception was paired with a low (least squares $M = 3.63$) or a high (least squares $M = 3.59$) expectancy, whereas the low-perception groups

showed a nonsignificant, but suggestive, difference in rapport when the low perception was in the context of a low expectancy (least squares $M = 2.63$) versus a high expectancy (least squares $M = 2.94$).

Figure 1 illustrates the means for both conditions. The pattern suggests that when children's perceptions are consistent with the condition (i.e., when they perceive high AS in the AS condition and when they perceive low AS in the CN condition), there is little role for their prior expectancies. By contrast, when perceptions are not matched with condition, expectancies exert a greater influence over rapport ratings.

Direct and Indirect Effects of Children's Expectancies and Perceptions on Rapport

To clarify the direct effect of expectancies on rapport, versus the extent to which children's subsequent perceptions might mediate that relation, we conducted path analyses. These were done separately for each treatment condition, with expectancies of AS versus CN as the independent variable, rapport as the dependent variable, and perceived AS as the mediating variable. Order was also included as an independent variable in all equations to control for its effects. Following Baron and Kenny (1986), three regression equations were estimated for each of the two path analyses to test the necessary preconditions of mediation.

All preconditions were met, controlling for order in each case. Specifically, expected AS affected perceived AS in both the AS condition, $F(2, 76) = 6.27$, $\beta = 0.27$, $p < .05$, and the CN condition, $F(2, 78) = 13.21$, $\beta = 0.36$, $p < .001$. Furthermore, as reported earlier, expected AS had an effect on rapport in the AS condition, $F(2, 76) = 13.61$, $\beta = 0.38$, $p < .001$, and the CN condition, $F(2, 78) = 15.39$, $\beta = 0.40$, $p < .001$, and finally, perceived AS had an effect on rapport in both the AS condition, $F(2, 76) = 84.76$, $\beta = 0.73$, $p < .001$, and the CN condition, $F(2, 78) = 118.27$, $\beta = 0.82$, $p < .001$.

The direct effect of expected AS on rapport was then compared with the same effect when perceived AS was controlled, again separately for each condition. In both conditions, the effect of children's expectancies on rapport diminished when children's perceptions of AS were controlled for (see Table 3, Models 1 and 2). In the AS condition, the direct effect of expectancies on rapport diminished but remained significant ($p < .05$). In the CN condition, the direct effect diminished sufficiently to render it no longer significant ($p < .10$). Following Baron and Kenny's (1986) suggested modification to Sobel's formula,

tests of the significance of the mediation were performed. In both the AS condition ($Z = 2.38$, $p < .05$) and the CN condition ($Z = 3.30$, $p < .0001$), mediation was significant, indicating that children's perceptions did carry some of the influence of their expectancies to their reports of rapport.

Discussion

In this study, we extended earlier work on children's expectancies by examining children's preexisting categorical expectancies of adults who work with children, as well as their expectancies and subsequent perceptions of individual adults, and the independent and joint effects of these expectancies and perceptions on the quality of child–adult interactions as indexed by rapport. Key questions were as follows: (a) whether children hold categorical expectancies of adult styles on the dimension of AS to CN and generalize those expectancies to novel adults, (b) the extent to which expectancy effects might explain children's reports of adults' styles and of rapport, (c) what effect condition would have on rapport, and (d) how expectancies and perceptions might jointly affect rapport.

The data supported that children in Grades 4 through 6 show considerable individual differences in their categorical expectancies of adults. These individual differences did not differ systematically by grade. Thus, in addition to widely acknowledged categorical beliefs regarding, for example, gender and race, children in this age range also hold categorical expectancies of other groups, such as adults who work with children. However, unlike gender and racial stereotypes, in which similar categorical beliefs are shared across many children, categorical beliefs about adults who work with children were particular to individual children. Based on the significant correlation in the CN condition between children's expectancies of adults who work with children and their expectancies of the individual adult, we suggest that children did apply their categorical expectancies of adults who work with children to the individual adults they encountered in the study. This conclusion is tentative, given that the analogous correlation in the AS condition did not reach significance. However, the two correlations did not differ significantly from each other, were both in the same direction, and may have been depressed by the relatively low internal consistency of the expectancies measure. Furthermore, the significant correlation is consistent with Levy and Dweck's (1999) findings.

Expectancy effects played a role in children's perceptions of adult styles and of rapport. Within each condition, children's expectancies of the individual adult were significantly correlated with their perceptions of the adult's style. That is, children tended to report seeing what they had expected to see in adults' styles. Because the adults' behavior in our study was on videotape and not subject to influence, our finding is evidence that, even in the absence of behavioral confirmation, 9- to 12-year-old children interpreted social information as consistent with their expectancies. Furthermore, children's expectancies and perceptions each predicted unique variance in rapport, beyond the influence of the other. Thus, children's prior expectancies biased their judgments of rapport, but their experience of the social world also provided additional information that substantially influenced their responses.

The AS style resulted in greater rapport than did the CN style. This is consistent with earlier work linking AS in dyadic interactions with positive interpersonal outcomes (Bober, 1998; Boggiano et al., 1985). The result was obtained even though both actors in both conditions maintained positive affect and thus suggests, contrary to some accounts (Tickle-Degnen & Rosenthal, 1990), that rapport depends on more than simple positivity. Rather, the quality of child–adult interactions depends, at least in part, on the extent to which adults provide children with choice and support regarding children's own initiations, as opposed to pressuring or steering them in particular directions.

Children's expectancies and perceptions interacted to affect rapport. Specifically, when children's perceptions were consistent with the experimental condition (i.e., when they perceived high AS in the AS condition and when they perceived low AS in the CN condition), there was little role for their prior expectancies. By contrast, when children's perceptions did not match the condition, their expectancies exerted a greater influence over their rapport ratings. Such an interaction is consistent with expectancy-violation theory (e.g., Coleman et al., 1995; Jussim et al., 1987; Jussim et al., 1996) and other work (Manis & Paskewitz, 1984; Manis et al., 1988) in suggesting that the relation between expectancies and experience plays an important role in informing subsequent social judgments. Furthermore, it suggests that children's expectancies and perceptions combine to influence outcomes in interesting ways, perhaps rivaling the complexity of such phenomena as contrast (Manis & Paskewitz, 1984) and extremity effects (Linville, 1982) documented in the adult

expectancy literature. Such complexities would not be outside the range of children's social-cognitive development, given that the principles of discounting and augmenting (Kelley, 1972) have been documented in children over 8 years old (Boggiano & Main, 1986; Kassin & Ellis, 1988; Newman & Ruble, 1992) and these principles underlie the expectancy-violation model (Coleman et al., 1995). Thus, children's expectancy effects, like those of adults, appear more complicated than can be described by assimilation alone.

The within-participants degree of congruence between each child's expectancy and his or her own subsequent experience did not produce effects on rapport. Such an effect implies a mathematical constraint, such that expectancies and perceived experiences would have to exhibit individually effects on rapport that were equal in magnitude (Edwards, 1994). In our case, the magnitude of the effect of perceived experience was substantially greater than that of the expectancy effects. Thus, the extent to which children's reports of rapport were based on their perceived experience precluded a within-participants congruence effect.

Tests of the mediational model indicated that the role of children's preexisting expectancies in affecting their reports of rapport is more complicated than simply a direct effect or a perfectly mediated one. Rather, the data suggested that children's expectancies of a particular adult affected rapport by both of these routes. Expectancies exerted some of their influence by influencing children's experience of the social information they encountered in the environment, which in turn affected rapport. In addition, however, there were direct effects of expectancies on rapport, unmediated by perceived experience. This finding represents an extension of earlier work (Dweck & Reppucci, 1973; Harris et al., 1992; McAninch et al., 1993; Rabiner & Coie, 1989; Zanna, Sheras, Cooper, & Shaw, 1975) and speaks to the enduring power of children's expectancies, even when additional relevant social information is available.

The question remains whether such expectancy effects are specific to rapport or might apply more generally across any number of positively valenced outcome measures. In future studies it will be important to measure multiple outcomes to test the specificity of the finding.

The findings suggest that, in practice, adults can improve the quality of their interactions with children by adopting AS as a style, though some children will nevertheless perceive it as consistent with their non-AS expectancies. Furthermore, adults who wish to forge alliances with children may do

well to distinguish themselves from stereotypical adults or from members of other salient social groups to which they belong.

Some limitations of the study warrant mention. The modest internal consistency of some measures may have masked important effects that could illuminate more fully the relationships among general expectancies, expectancies of particular adults, and rapport.

The intercorrelations among the study's main constructs were high, but the number of questionnaire items and our sample size of 81 precluded the use of a factor analysis to explore empirically the conceptual distinctness of perceived AS and rapport. Although the high correlations may actually have been attenuated by modest scale reliabilities (and could therefore be underestimated here), it is also possible that they were inflated by common method variance (and could therefore be overestimated here), given that all measures were self-report questionnaires. Important next steps include the use of multimethod assessments and factor analytic techniques, which will allow for a better understanding of the sources of variation and concordance between perceived AS and rapport.

Each simulated interaction lasted approximately 3 min and thus limited children's access to additional information about the adults. Whether or how additional information would have altered the findings reported here remains an open question. On the one hand, children's expectancies might become less potent as they garner additional information. Among undergraduate women, Swann and Ely (1984) found that perceivers' expectancies fell away with repeated target contact. On the other hand, the primacy of initial information might continue to hold greater sway over their ratings of rapport than later information, as has been reported for ratings of liking (McAninch et al., 1993; Srull & Wyer, 1989). Srull and Wyer (1989) have proposed that the effect of later information may be different for ratings of traits than for ratings of liking. Thus, it is plausible that, with interactions of greater duration, children's perceptions of the AS "trait" would show a different pattern of results, but that their ratings of rapport, which is conceptually more similar to liking, would remain unchanged. In future work it will be important to study this by testing interactions of varying duration.

Despite these limitations, the current study extends previous work and contributes to our understanding of children's expectancies and their role in child–adult interpersonal processes. An important next step will be the investigation of

individual differences among children in the relative contributions of expectancies and experience to their social judgments.

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