The Social-Emotional Development of "Late-Talking" Toddlers

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ABSTRACT

Objective: To examine the social-emotional problems and competencies of toddlers who evidenced lags in expressive language without concomitant receptive language delays. **Method:** Maternal report and observation of 14 "late-talking" toddlers was compared with that of 14 control toddlers. Participants were selected on the basis of maternal report of vocabulary production with the MacArthur Communicative Development Inventory Short Forms and by direct assessment with the Mullen Scales of Early Learning. Social-emotional functioning was assessed with the Infant-Toddler Social and Emotional Assessment, the Child Behavior Checklist 1.5–5, and the Vineland Adaptive Behavior Scales-Expanded Form. Toddler affect was observed using the Parent–Child Early Relational Assessment. The Parenting Stress Index Short Form was used to assess maternal stress. **Results:** Late talkers were rated higher in depression/withdrawal and lower in social relatedness, pretend play/imitation, and compliance on the Infant-Toddler Social and Emotional Assessment and more withdrawn on the Child Behavior Checklist than controls. Observation indicated late talkers were more serious, more depressed/withdrawn, and less interested in play. Late talkers were reported to be lower in socialization on the Vineland. Mothers of late talkers endorsed higher parent–child dysfunction on the Parenting Stress Index. No differences were found for externalizing behaviors or peer relationships. **Conclusions:** Early lags in expressive language are associated with poor social-emotional adjustment. Intervention may ameliorate difficulty in linguistic and social-emotional functioning. *J. Am. Acad. Child Adolesc. Psychiatry*, 2002, 41(11):1324–1332. **Key Words:** late talkers, expressive language, toddler, social-emotional problems, competence.

A common lag in young children's development is slow expressive language production (Rescorla, 1989; Whitehurst and Fischel, 1994). Prevalence estimates of expressive language delay in 2-year-olds range from 7% to 18%, dependent on inclusion criteria (Rescorla, 1989). Typically developing 2-year-olds have a spoken vocabulary of at least 50 words (Coplan et al., 1982; Paul and Kellogg, 1997; Rescorla, 1989). Those 2-year-olds whose productions fall short of these developmental norms are considered to exhibit delayed expressive language (Paul, 1991; Paul and Kellogg, 1997; Rescorla, 1989) and have been referred to as "late talkers" (e.g., Paul and Shiffer, 1991, p. 419). Studies of preschool and school-age children with language delays indicate that deficits in language are associated with increased problem behaviors (Beitchman et al., 1996; Benasich et al., 1993; Redmond and Rice, 1998) and social rejection when compared with controls (Fujiki et al., 1996; Gertner et al., 1994). However, less is known about the relationship between expressive language delay and social-emotional problems and competencies in late talkers.

There is some controversy regarding the long-term consequences of early expressive language lags. A number of studies suggest that toddlers with slow expressive language development outgrow early delays, hence the term *late talkers* (Paul and Shiffer, 1991; Whitehurst and Fischel, 1994). However, a substantial number of late talkers will remain delayed in expressive language (Paul et al., 1991; Thal and Tobias, 1994; Thal et al., 1991). Moreover, the apparent amelioration of language delays

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has been described by Scarborough to be an "illusory recovery" (Scarborough, 2001, p. 22), as these children frequently exhibit later language and reading problems (Scarborough, 2001; Scarborough and Dobrich, 1990).

Delays in language development may be associated with poor acquisition of social and emotional competencies and place even very young children at risk for problem behaviors. In an observational study of the behavior of late-talking toddlers, Caulfield et al. (1989) reported that 2-year-olds with delayed expressive language exhibited higher levels of negative behaviors (e.g., crying, hitting, and throwing toys) when compared with controls during a play and clean-up task. The delayed group also engaged in a higher frequency of noninvolved behavior, such as quietly standing or sitting during play (Caulfield et al., 1989). These observations have been corroborated by parent report. Parents of late-talking toddlers perceive them as more difficult to manage, less attentive, more active, and less likely to exhibit positive affect than parents of controls perceive their children (Paul and James, 1990). Preliminary evidence from the Infant-Toddler Social and Emotional Assessment (ITSEA) (Carter and Briggs-Gowan, 2000) also indicates that language delays and problem behaviors co-occur in young children. In a representative birth cohort sample, poor vocabulary production was associated with externalizing symptoms and depression/withdrawal, along with lower competence on the ITSEA (Irwin et al., unpublished, 2000).

In addition to potential difficulties in early social and emotional functioning, the parent–child relationship may be at risk in families with late-talking toddlers. Parents in the study by Caulfield et al. (1989) rated their language-delayed toddlers less favorably on the acceptability subscale of the Parenting Stress Index (PSI) (Abidin, 1983).

One of the most salient social-emotional tasks in the preschool period is negotiating peer relations (Sroufe and Rutter, 1984). Expressive language skills facilitate self-regulation, as children use language to inhibit behaviors that are not socially sanctioned and to guide socially appropriate rule-governed behaviors (Luria, 1976). In addition, children's ability to express needs and desires increases the probability that these needs will be met, minimizing their experiences of frustration and isolation. Preschool and school-age children with persistent deficits in expressive language have been shown to engage in less optimal social interactions when compared with typically developing peers (Fujiki et al., 1996; Gertner et al., 1994). Like older children with language delays, the social interactions of very young children with lags in expressive language differ from those of typically developing peers. Paul et al. (1991) found that toddlers with expressive language lags were poorer on parent report of socialization skills on the Vineland Adaptive Behavior Scales (Sparrow et al., 1984) when compared with controls, even when those items that required speaking were selected out.

Young children who are slow to develop expressive language may also be delayed in receptive language (Paul et al., 1991). Receptive and expressive delays in children have been correlated with increased problem behaviors (e.g., Beitchman et al., 1996; Benasich et al., 1993). A limitation of previous research on the social-emotional functioning of toddlers with language delay was the failure to distinguish toddlers with expressive delays only from those with expressive and receptive delays (Irwin et al., unpublished, 2000). This study assessed both problems and competencies in a group of late-talking toddlers without concomitant receptive delays.

As language is inherently a social behavior, it was hypothesized that lags in expressive language would be associated with increased reporting of problem behaviors and delays in the acquisition of social-emotional and behavioral competencies. Late-talking toddlers were expected to exhibit higher levels of internalizing and externalizing behaviors and to acquire fewer competencies than peers with typically developing expressive language. In addition, the parents of late talkers were expected to report a more difficult parent–child relationship than those of toddlers with typical language development.

METHOD

Participants

The participants were 28 native English-speaking toddlers, 14 late-talking toddlers (mean age 26.9 months, range 21–31 months) and 14 control toddlers (mean age 26.7 months, range 21–32 months), and their mothers. The participants were drawn from two samples of children. The first sample (n = 123) consisted of children who had been referred to an early intervention system because of concerns about their development and who had also received a home visit. The second sample was a subset of children (n = 159) drawn from a larger birth cohort (n = 1,280) of children randomly selected from healthy births in a suburban and urban region. This subset of children from the larger sample was chosen to participate in a methodological substudy, which included direct assessment in the home.

All toddlers from both samples who met the inclusion criteria for the current study served as participants. Five of the late-talking toddlers were selected from the birth cohort sample, and nine were selected from the early intervention sample. The late-talking participants from the early intervention sample had been referred because of concerns about their language development. None had been referred for social-

emotional problems. All control toddlers were selected from the birth cohort sample.

Toddlers were reported by their mothers to have been full-term and healthy at birth and to be in good health at the time that the study was conducted. All toddlers were currently living with their parents, with no known history of foster placement. Toddlers were excluded from participation if they had diagnosed hearing deficits, surgically implanted tubes secondary to otitis media, known congenital or genetic disorders, or impairments in oral structure or function that would impair their ability to speak (e.g., cleft palate, tracheotomy). Finally, any children suspected of having or with diagnosed deficits in reciprocal social interaction as evidenced in autism/pervasive developmental disorder-not otherwise specified were excluded from the study. To determine exclusion status, parent survey information, birth record data, and early intervention records were reviewed.

Late-talking and control groups were matched as closely as possible on age, sex, and ethnicity. No significant differences were found between the groups on the following variables that may affect language development: maternal education, receipt of financial assistance, or number of reported episodes of otitis media in the child's lifetime. A comparison of the late-talking and control toddlers' sociodemographic variables can be found in Table 1.

Participants for the present article were chosen on the basis of profiles on a developmental assessment and parent report of vocabulary production.

Materials

The MacArthur Communicative Development Inventory Short Form (MCDI) (Fenson et al., 1993), and MacArthur Communicative Development Inventory-Level III (MCDI: Level III) (Dale et al., unpublished, 2000) assesses productive vocabulary. The scales in the MCDI demonstrate high internal consistency and good test-retest reliability in measuring productive vocabulary in toddlers for Level II (Fenson et al., 2000). Preliminary validity for the MCDI: Level III is promising (Dale et al., unpublished, 2000).

TABLE 1
Sociodemographic Profiles of the "Late-Talking" and Control Toddlers

	Late Talkers (n = 14)	Controls (n = 14)
Age in months		
Mean	26.9	26.7
SD	3.2	4.0
Sex		
Girls	2	1
Boys	12	13
Ethnicity		
African American	3	4
White	11	10
Maternal education		
≤High school	3	5
>High school	11	9
Receiving financial assistance	2	2
Reported incidence of otitis media in lifetime		
Mean	2.3	4.2
SD	1.6	4.2

Note: The financial assistance variable was based on assistance from federally supported programs, including WIC, TANF, food stamps, and public housing.

The Mullen Scales of Early Learning (MSEL) (Mullen, 1995) is a comprehensive scale of mental and motor ability for young children. The MSEL assesses receptive and expressive language separately. The MSEL consists of five scales: Gross Motor, Fine Motor, Visual Reception, Receptive Language, and Expressive Language. The Mullen has good internal, test-retest, and interscorer reliability and good construct validity (Mullen, 1995).

The Vineland Adaptive Behavior Scales for Children: Expanded Form (Sparrow et al., 1984) is a measure of personal and social sufficiency. The Vineland includes Communication, Daily Living Skills, Socialization, and Motor Skills domains. The Vineland has excellent levels of split-half, interrater, and test-retest reliability for each domain used in the current work (Sparrow et al., 1984). As the Vineland Socialization domain includes a number of items that require expressive language, a modified version of the Socialization domain was used in the current study, with those items requiring expressive language excluded from analyses. Examples of these items include "Imitates adult phrases heard on previous occasions," "Verbalizes interest in environment," and "Responds verbally and positively to good fortune of others."

The ITSEA (Carter and Briggs-Gowan, 2000) assesses social-emotional/behavior problems and competencies. The ITSEA includes three problem domains: Externalizing (i.e., Activity/Impulsivity, Aggression/Defiance, and Peer Aggression scales), Internalizing (i.e., Depression/Withdrawal, General Anxiety, Separation Distress, and Inhibition to Novelty scales), and Dysregulation (i.e., Sleep, Negative Emotionality, Eating, and Sensory Sensitivity scales). Social-emotional competencies on the ITSEA refer to behaviors that reflect the achievement of mental age–appropriate milestones in social-emotional development (i.e., sustained attention, compliance, empathy, imitation/pretend play, mastery motivation, and prosocial peer interactions). An additional index on the ITSEA, Social Relatedness, was included in the current report. Items on the ITSEA are rated on a 3-point scale: not true/rarely, somewhat true/sometimes, and very true/often. A "no opportunity" code allows parents to indicate that they have not had the opportunity to observe certain behaviors (e.g., peer interactions). For each of the ITSEA domains and scales, a 90th percentile cut point has been defined in comparison with the normative birth cohort sample to identify infants and toddlers with high scores. Interrater and test-retest reliability of the problem and competence domains on ITSEA are acceptable (Carter and Briggs-Gowan, 2000).

The Child Behavior Checklist (CBCL) for 1.5–5 (Achenbach and Rescorla, 2000) was used to measure behavioral and emotional problems. The CBCL 1.5–5 is composed of 113 items and consists of Internalizing, Externalizing, and Total Problem domains. This measure has demonstrated very good 8-day test-retest reliability (r = 0.68–0.92, mean r = 0.84).

The Parent–Child Early Relational Assessment (ERA) (Clark, 1985) is an instrument designed to systematically assess the behavioral style and affective quality of parents and children from videotaped observations (Clark, 1999). The ERA subscales show good internal consistency, reliability, and convergent and discriminant validity (Clark, 1999).

The Parenting Stress Index Short Form (PSI/SF) (Abidin, 1990) is a 36-item parent questionnaire consisting of three scales: Parental Distress, Parent–Child Dysfunctional Interaction, and Difficult Child. The scales have shown high internal consistency and adequate test-retest reliability (Abidin, 1990).

Procedures

Parent Report. Each participant's mother completed a booklet of questions that was mailed to the home. Identical booklets were used in both

samples and included questions about child health, behavior, family functioning, and sociodemographic information. As previously noted, completion of the parent-report booklet was part of two larger studies of social-emotional development in children aged 12 to 35 months.

Direct Assessment. After completing the booklet, the children and their mothers participated in a home visit that included a videotaped parent–child interaction, a developmental assessment of the child, and an interview with the mother about the child's adaptive functioning.

Participant Selection. To be included in the current study, late-talking toddlers had to be delayed in expressive language by parent report and direct assessment.

MacArthur Communicative Development Inventory Short Form Selection Criteria. To be eligible for inclusion as a late talker, parent report of the toddlers' vocabulary production was at or below the 10th percentile relative to age and gender norms on the MCDI (Dale et al., unpublished, 2000; Fenson, 2000). The control toddlers' vocabulary production was at or above the 50th percentile relative to age and gender norms on the MCDI. Language profiles for the late-talking and control groups can be seen in Table 2.

Mullen Scales of Early Learning Selection Criteria. Late-talking toddlers' expressive language standard scores were required to be at least 1 SD below the mean for age norms. Their receptive language and visual reception (a measure of nonverbal cognitive skills) standard scores had to be within 1 SD of the mean or higher for age norms.

To ensure that the primary deficit for the late talkers was expressive language production, the toddlers' receptive language and expressive language standard scores had to differ by at least 1 SD. The mean difference between the late-talking toddlers' expressive and receptive standard scores on the MSEL was approximately 2 SD. The late talkers' mean MSEL receptive language standard score was significantly lower than that of the control toddlers, but was at the mean for age norms. In addition, the groups did not differ on receptive language by parent report on the Vineland receptive subdomain. As the late-talking toddlers in the current study were selected to have delays in expressive language, these findings confirm that the group language differences were primarily in expressive language production.

Control toddlers had expressive language standard scores at the mean or higher and receptive language and visual reception standard scores within 1 SD of the mean or higher for age norms.

Observational Coding. Child component variables were chosen for observation based on profiles of young children with language delay. Two independent coders, blind to both group membership and study hypotheses, rated the toddlers' behavior during a 12-minute play interaction consisting of teaching tasks and free play. The coders were trained to an established standard (intraclass correlation coefficient [ICC] = 0.80) using criterion tapes rated by an expert within the laboratory where the ERA was developed. ICCs between the coders for the individual items on the ERA included in current analyses were as follows: expressed positive affect (ICC = 0.70), happy/pleasant/cheerful mood (ICC = 0.76), sober/serious mood (ICC = 0.68), apathetic/withdrawn/depressed mood (ICC = 0.97), alertness/interest (ICC = 0.86), robustness (ICC = 0.98), expressed negative affect (ICC = 0.81), irritable/angry mood (ICC = 0.80), emotional lability (ICC = 1.0), aggressivity (ICC = 1.0), impulsivity (ICC = 0.73), and lack of self-regulation/organization (ICC = 0.87). Because of poor tape quality, the play of 2 of the 14 control toddlers could not be rated.

TABLE 2
Language Profiles of the "Late-Talking" and Control Toddlers

	Late Talkers (n = 14)	Controls (n = 14)	Effect Size (η^2)
MSEL Expressive Language[a]			
Mean	32.9***	58.7	0.81
SD	7.1	6.1	
MSEL Receptive Language[a]			
Mean	51.7***	61.2	0.27
SD	8.8	6.8	
MSEL RL-EL difference[a]			
Mean	19.7***	5.7	0.52
SD	8.9	3.6	
MCDI Vocabulary Production[b]			
Mean	14.3***	77.2	0.87
SD	11.2	12.9	
Vineland Language Subscale: Expressive[b]			
Mean	40.1***	103.0	0.68
SD	24.2	19.6	
Vineland Language Subscale: Receptive[b]			
Mean	32.6	35.1	0.09
SD	4.1	3.9	

Note: For those variables with significant differences, all effect sizes are large according to Cohen's (1969) criteria. MSEL = Mullen Scales of Early Learning; RL = receptive language; EL = expressive language; MCDI = MacArthur Communicative Development Inventory Short Form.

[a] Standard scores.

[b] Raw scores.

*** $p < .0001$ for comparison of "late talkers" and controls on 1,26 df.

RESULTS

Before an examination of the late talkers' and controls' social-emotional functioning with the ITSEA and CBCL, the groups' receptive language and nonverbal skills were examined to determine whether these variables might have affected parent ratings of social-emotional development.

Late-talking and control toddlers differed with respect to nonverbal skills on the MSEL. The control toddlers performed significantly better on the MSEL visual reception domain than the late talkers (mean late talkers' visual reception standard score 48.8, SD 6.6; mean control visual reception standard score 58.2, SD 10.3; $F_{1,26} = 14.3$, $p < .001$). The groups also differed in receptive language functioning as measured by the MSEL (Table 2), with the late talkers scoring significantly lower in receptive language.

To address the possibility that any observed differences in social-emotional functioning were caused by receptive language or nonlinguistic differences between the groups, MSEL receptive language and visual reception scores were

entered as covariates in the analyses of social-emotional development with the ITSEA and the CBCL. Neither receptive language nor visual reception scores were significant in any of the models tested, and therefore they are not reported here.

To assess the relationship between expressive language lags and parent report of social-emotional development, problem and competence behaviors on the ITSEA were examined. An analysis of variance was used to assess differences between the late talkers and controls on the ITSEA domains and scales.

Mean parent ratings, statistical significance tests, and estimates of effect size for the ITSEA domains and scales can be found in Table 3.

A marginally significant difference emerged on the ITSEA Internalizing problem domain; the mean ratings of late talkers were higher than those of control toddlers. Within the Internalizing domain, mothers of late talkers reported their children to be significantly higher on the Depression/Withdrawal scale.

The groups did not differ overall on the ITSEA Externalizing or Dysregulation problem domains. A marginally significant difference was found between the groups on the Negative Emotionality scale within the Dysregulation domain, with late talkers rating higher in Negative Emotionality than controls.

The groups differed significantly on the ITSEA Social Relatedness index. Late-talking toddlers were reported to be less socially related than their typically developing peers.

No significant differences were found on the ITSEA between late talkers and controls on measures of peer relationships. However, a number of the mothers of the late talkers used the "no opportunity" code on the ITSEA for scales that measured peer relationships, resulting in missing data for that scale (two mothers used the "no opportunity" code for the Peer Aggression scale, and four mothers used it for the Prosocial Peer Relations scale). Significantly fewer of the late-talking children had complete data on the Prosocial Peer Relations scale than controls ($\chi^2 = 4.7$, $p < .05$).

In addition to a higher incidence of depression/withdrawal and reduced social relatedness, late talkers were rated as lower in competence than controls on the ITSEA. Within the Competence domain, late-talking toddlers were

TABLE 3
Mean Parent Ratings for "Late-Talking" and Control Toddlers on ITSEA Domains and Scales

	Late Talkers		Controls			Effect Size
ITSEA Domain/Scale	Mean	SD	Mean	SD	*F* Value	(η^2)
Externalizing	0.58	0.33	0.43	0.24	1.80	0.06
Activity/Impulsivity	0.78	0.40	0.59	0.31	1.97	0.07
Aggression/Defiance	0.58	0.27	0.47	0.31	0.99	0.03
Peer Aggression	0.29	0.40	0.21	0.26	0.34	0.01
Internalizing	0.59	0.20	0.47	0.14	3.44†	0.11
General Anxiety	0.29	0.19	0.18	0.21	2.12	0.07
Separation Distress	1.03	0.49	0.84	0.38	1.29	0.04
Depression/Withdrawal	0.13	0.17	0.008	0.02	7.51**	0.22
Inhibition to Novelty	0.91	0.47	0.84	0.36	0.18	0.01
Dysregulation	0.46	0.23	0.36	0.23	1.33	0.04
Negative Emotionality	0.63	0.37	0.42	0.17	3.68†	0.12
Sleep	0.47	0.49	0.34	0.34	0.63	0.02
Eating	0.48	0.36	0.42	0.33	0.21	0.01
Sensory Sensitivity	0.27	0.24	0.28	0.21	0.01	0.00
Social Relatedness	1.60	0.21	1.80	0.13	4.02*	0.13
Competence	1.28	0.25	1.49	0.19	6.17*	0.19
Prosocial Peer Relations	1.15	0.51	1.36	0.34	1.20	0.01
Compliance	1.13	0.25	1.37	0.26	5.88*	0.18
Attention	1.47	0.38	1.65	0.24	2.30	0.08
Imitation/Play	1.27	0.37	1.54	0.28	4.53*	0.14
Mastery Motivation	1.55	0.37	1.68	0.18	1.34	0.04
Empathy	1.09	0.47	1.33	0.39	2.20	0.07

Note: F tests for the ITSEA domains/scales were on 1,26 df, with the exception of the Peer Aggression scale (1,25 *df*) and the Prosocial Peer Relations scale (1,23 *df*). ITSEA = Infant-Toddler Social and Emotional Assessment.
† $p < .10$; * $p < .05$; ** $p < .01$.

significantly lower in compliance and imitation/pretend play than their peers with normative language development.

To understand better the nature of the difficulties experienced by the late-talking toddlers, a categorical approach was also used. Additional analyses examined the likelihood of having a high score (above the 90th percentile) in one or more of following ITSEA areas: Depression/Withdrawal, Social Relatedness, Compliance, and Imitation/Pretend Play. The late talkers were reported to be 17 times more likely to exhibit differences in those areas of social-emotional functioning than controls (relative risk = 17.3, confidence interval 1.7–171.6, $\chi^2 = 5.9$, $p < .01$, Cramer $V = 0.53$).

A separate analysis of variance was undertaken with maternal report of toddler problem behavior on the CBCL 1.5–5. Internalizing behavior approached significance, with the late talkers rated higher than controls (mean late talkers = 5.2, SD 4.7; mean controls = 2.7, SD 2.6; $F_{1,26} = 3.01$, $p < .10$, $\eta^2 = 0.10$). Within the CBCL Internalizing domain, late talkers were endorsed as significantly more withdrawn than controls (mean late talkers = 1.1, SD 1.0; mean controls = 0.21, SD 0.57; $F_{1,26} = 8.68$, $p < .001$, $\eta^2 = 0.25$). In addition, a trend toward higher depression in late talkers was found (mean late talkers = 2.0, SD 1.9; mean controls = 0.92, SD 1.0; $F_{1,26} = 3.32$, $p < .10$, $\eta^2 = 0.11$). The groups did not differ in the remaining CBCL domains or scales.

To assess social skills, late talkers were compared with controls on an adjusted version of the Socialization domain of the Vineland, which was modified by removing those items that require speaking. Even without items that require expressive language, the late-talking toddlers had significantly lower raw Vineland Socialization scores than controls by parent report (mean late talkers = 63.9, SD 10.9; mean controls = 74.9, SD 10.8; $F_{1,26} = 7.15$, $p < .01$, $\eta^2 = 0.21$).

Observation of child affect during parent–child play with the ERA (Clark, 1985) yielded significant differences between the groups, with late talkers rated as more sober and serious in mood (mean late talkers = 4.3, SD 0.62; mean controls = 4.8, SD 0.14; $F_{1,24} = 8.1$, $p < .001$, $\eta^2 = 0.25$), more apathetic/withdrawn/depressed (mean late talkers = 4.5, SD 0.06; mean controls = 4.9, SD 0.58; $F_{1,24} = 4.3$, $p < .05$, $\eta^2 = 0.15$), and less alert and interested (mean late talkers = 4.4, SD 0.21; mean controls = 4.7, SD 0.56; $F_{1,24} = 4.6$, $p < .05$, $\eta^2 = 0.16$). Marginally significant differences were found for robustness of play (mean late talkers = 4.6, SD 0.67; mean controls = 4.9, SD 0.07; $F_{1,24} = 2.9$, $p < .09$, $\eta^2 = 0.11$) and positive affect (mean late talkers = 3.9, SD 0.82; mean controls = 4.4, SD 0.52; $F_{1,24} = 3.8$, $p < .06$, $\eta^2 = 0.14$), with the mean ratings of late talkers being lower than those of controls. To determine whether these observed differences were a result of differences in nonverbal cognitive functioning, we entered MSEL visual reception scores as a covariate in analyses of ERA ratings. The visual reception variable was not significant in any of the models tested, indicating the findings were not due to differences in nonverbal functioning between the groups. No significant differences were found on the remaining seven items that were assessed with the ERA.

Parent perceptions of their child, the parent–child relationship, and parenting stress were assessed with the PSI/SF (Abidin, 1990). Mothers of late talkers reported significantly higher ratings on the Parent–Child Dysfunction scale than did mothers of controls (mean late talkers = 17.0; controls = 13.2; $F_{1,26} = 5.33$, $p < .05$, $\eta^2 = 0.17$). No differences were found on the Difficult Child or Parental Distress scales of the PSI/SF.

DISCUSSION

The goal of this study was to examine both the incidence of problem behaviors and the acquisition of social and emotional competencies in toddlers with expressive language deficits. Deficits in expressive language skills were hypothesized to be associated with internalizing and externalizing problems in social-emotional functioning. In addition, toddlers with poor expressive language skills were posited to have fewer competencies than those with typically developing expressive language.

The results of the present study indicate that late talkers were more at risk for problem behaviors and had acquired fewer competencies than controls based on parent report on the ITSEA. The late-talking group was 17 times more likely to exhibit depression/withdrawal and deficits in social relatedness, compliance, and imitation/pretend play than controls. Estimates of effect size for significant differences between the groups on both problems and competencies were "medium" (Cohen, 1969).

As found with the ITSEA Depression/Withdrawal scale, mothers rated their language-delayed toddlers as significantly more withdrawn on the CBCL. An estimate of effect size suggests that this is a medium effect (Cohen, 1969). In addition, a trend toward greater internalizing behavior, including depression, was found with the CBCL.

Late talkers were less likely to comply with parental rules and requests for assistance and were lower in pretend play and imitation by maternal report on the ITSEA. Rescorla and Goossens-Milrod (1992) previously reported delayed pretend play in children with expressive language difficulties. Diminished imitation/pretend play behavior may result from a more general lack of interest in interacting with others (Paul, 1991; Paul and Kellogg, 1997; Paul and Shiffer, 1991).

Social functioning also appears to be impaired in toddlers with lags in expressive language. On the ITSEA, mothers of late talkers rated their children as less socially related than did mothers of controls. The social skills of late talkers were significantly poorer than those of controls, as indicated by parent report on a modified version of the Vineland Socialization domain, suggesting that these findings are beyond differences attributable to language deficits. Paul et al. (1991) have also reported lower adjusted raw Vineland socialization scores in children who are late to talk.

Observation of toddler affect during parent–child play interaction indicated that late talkers appeared to be more depressed/withdrawn, more serious, and less alert or interested during play, corroborating the parent-report findings.

Consistent with the work of Caulfield et al. (1989), the current results suggest that deficits in expressive language are associated with poorer perceived quality of the parent–child relationship. Mothers of late talkers rated their relationship with their child as significantly more stressful on the Parent–Child Dysfunction scale of the PSI/SF than did mothers of controls. These ratings are consistent with mothers' report of their late talkers as socially withdrawn and low in compliance, both of which are relational problems. Expressive language deficits may be particularly taxing within the parent–child relationship, as difficulties in communication likely interfere with reciprocal social interactions.

In contrast, there were no differences between the groups on the PSI/SF maternal stress or perceived child difficulty scales. The Difficult Child scale has been linked to behavior problems in 2-year-olds and was more highly correlated with externalizing than internalizing behaviors in this age group on the ITSEA (Briggs-Gowan and Carter, 1998). Therefore, the concept of child difficulty on the PSI/SF may be more closely linked to "demanding" rather than withdrawn aspects of child behavior. Parental Distress on the PSI/SF may reflect stress external to the parent–child relationship, or the stress experienced by mothers of toddlers with language lags may not have been sufficient to show differences in the current sample.

Preliminary work with young children with expressive language delays has indicated greater externalizing and internalizing behaviors on the ITSEA (Irwin et al., unpublished, 2000). Although differences were found between the late-talking and control groups within the ITSEA Internalizing domain, no differences emerged between the groups for externalizing behaviors. Similarly, group differences on the CBCL were in Withdrawal, an internalizing behavior. As the receptive language functioning of the toddlers in the Irwin et al. (unpublished, 2000) study was not examined, it is possible that the profile of risk for both externalizing and internalizing problem behaviors is associated with more global linguistic deficits (i.e., Beitchman et al., 1996; Benasich et al., 1993). Recent empirical evidence suggests that higher rates of externalizing behaviors are present in young children with receptive language delays (Carson et al., 1998; Toppelberg and Shapiro, 2000).

It is surprising that the late-talking and control groups did not differ in measures of peer relationships on the ITSEA. Studies of older children indicate that language deficits are associated with poorer peer interactions (Fujiki et al., 1996; Gertner et al., 1994), but toddler play may require much less expressive language, such that language-delayed toddlers may not yet experience difficulty with peers. Alternatively, parent informants may not identify difficulty in peer relations in very young children. As fewer children in the late-talking group had complete data on peer relations, interpretation of this issue is difficult.

The current results indicate that poor expressive language skills are associated with impairment in early social-emotional functioning. Differences between late talkers and controls were found in parent-report measures of problem and competence behaviors, socialization, and the quality of the parent–child relationship. Observations of parent–child play corroborated a number of behaviors endorsed by the mothers of late-talking toddlers, including deficits in the quality of social interactions and greater depression/withdrawal. No differences emerged between the groups in the areas of peer interactions or externalizing behaviors.

These reported difficulties in early social-emotional functioning in toddlers with expressive language deficits might reflect a unique pattern of risk from those toddlers with more global linguistic or cognitive delays. In addition, parent–child dysfunction could contribute to both linguistic and social-emotional deficits.

The current findings do not distinguish between an underlying propensity for problem behavior and behavior problems that arise from limitations in language functioning (Redmond and Rice, 1998). Language delay and social-emotional functioning may be spuriously related, or an unexplored variable could contribute to reported differences between the groups. An important future consideration in the study of toddlers with expressive language delay is the etiology of the reported differences in social-emotional functioning. Among the factors that could be contributing to the differences between the late-talking and control toddlers are parental psychopathology, the quality of parent–child interactions, or child temperamental variables.

The best method of assessing the relationship between expressive language and social-emotional functioning is through prospective study, to assess whether amelioration in communicative deficits yields more positive parent ratings of social-emotional functioning. Toward this goal, a 1-year follow-up of the participants in the present study is under way.

Limitations

The late-talking and control groups in the current study were carefully matched on a number of sociodemographic variables, which allowed for an examination of the role of expressive language in social-emotional development. Outcomes of this matching are a small sample size and a loss in statistical power. Therefore, the reported differences between late-talking and control toddlers must be interpreted with caution.

Another limitation of the current design is the absence of a receptive and expressively delayed comparison group. In the sample from which subjects for these analyses were drawn, children with both receptive and expressive language delays evidenced significantly lower cognitive profiles compared with those with expressive delays only, including delays in visual-receptive skills on the MSEL. Despite a higher prevalence of combined receptive and expressive delay, there were not a sufficient number of children with average nonverbal cognitive functioning to form a distinct receptive/expressive comparison group.

The current results provide evidence that toddlers with expressive language delay exhibit more social-emotional problem behaviors and fewer competencies than controls. However, the causal relationship between expressive language lags and social-emotional problems has yet to be determined.

Clinical Summary

Delays in expressive language are associated with poor social-emotional functioning. Mothers of late talkers indicated that the quality of the parent–child relationship was more stressful than did mothers of control children, a pattern that may lead to the maintenance or exacerbation of social-emotional and behavioral problems.

Clinical Implications

Contrary to the "wait and see" approach that has been espoused by many professionals in the field with regard to language interventions in very young children (Whitehurst and Fischel, 1994), the current results suggest that children with expressive delays may suffer consequences in their social-emotional functioning as well (see also Carson et al., 1998). Early intervention may be warranted for children with only expressive language deficits, to address not only linguistic, but also social-emotional difficulties in young children (Carson et al., 1998; Robertson and Weismer, 1999).

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