

DEPENDENCY ON ELEMENTARY SCHOOL CAREGIVERS: THE ROLE OF PARENTAL INTRUSIVENESS AND CHILDREN'S SEPARATION ANXIETY

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A theoretical model of children's dependency on teachers and other caregivers in elementary school was tested and supported in this study. Based on attachment theory and social-cognitive theory, parental intrusiveness and children's separation anxiety were hypothesized to heighten dependent behaviors with school caregivers. Families of children in Grades K–5 participated. Parent- and child-report measures with good psychometric properties were employed. Parental intrusiveness and children's separation anxiety were associated with clingy, dependent relationships with school caregivers in cross-informant correlational analyses. Intrusiveness and separation anxiety jointly accounted for 18%–29% of the variance in dependency scores. Results are consistent with attachment models of continuity between parent–child relationships and relations with other caregivers. Practice recommendations for teachers and school providers are given. © 2007 Wiley Periodicals, Inc.

This study tests a theoretical model of teacher–student relationships that has not previously been examined in empirical research. According to attachment theory, relational patterns established in parent–child interactions are carried forward into new relationships developed outside the home (e.g., Sroufe, 2002; Sroufe & Fleeson, 1986). It has been proposed that some aspects of parent–child relationships are recapitulated in teacher–child relationships (e.g., Pianta, 1999). Parental intrusiveness is posited to be a risk factor for the development of children's dependency on school caregivers as a result of heightened separation anxiety (Wood, 2006a; Wood, McLeod, Sigman, Hwang, & Chu, 2003), but research to date has not tested these linkages. The current study advances the field by testing a theory-based model of interrelations among parental intrusiveness, separation anxiety, and dependency on school caregivers in typically developing elementary school children.

Children who are dependent on their teachers and other school caregivers tend to stay nearby these adults, seeking attention from them, clinging to them, and choosing their company over that of peers (Sroufe & Fleeson, 1986). Children exhibiting a high level of dependency can be very demanding of school caregivers' time (Coplan & Prakash, 2003; Murray & Murray, 2004) and interfere with the instruction or supervision of larger groups of children, proving to be frustrating as well as a practical impediment to teachers' professional responsibilities. Thus, understanding the ontogeny of dependency on school caregivers has significant practice implications for elementary school teachers, school psychologists, and other school providers. If the sources of dependency are better understood, appropriate responses, and, if necessary, interventions can be mounted that directly address the causes of the behavior. The present study aims to make an

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initial contribution by illustrating potential family- and child-level mechanisms underlying children's dependent behaviors with elementary school caregivers.

Parental Intrusiveness

Parental intrusiveness was first conceptualized in the attachment literature (Ainsworth, Blehar, Waters, & Hall, 1978). Parents who act intrusively tend to take over tasks that children are (or could be) doing independently, and they impose an immature level of functioning on their children (e.g., Carlson & Harwood, 2003; Egeland, Pianta, & O'Brien, 1993; Ispa *et al.*, 2004; Wood, 2006a). When defining parental intrusiveness, it is important to consider both the parent's behavior and the developmental level of the child, since parent-child interactions that are commonplace for certain age groups become atypical later in childhood. Among elementary school children, parental intrusiveness can manifest in at least three domains: unnecessary assistance with children's daily routines (e.g., dressing), infantilizing behavior (e.g., using baby words, excessive physical affection), and invasions of privacy (e.g., when parents open doors without knocking) (Wood, 2006a). Intrusive behaviors obligate children to function at an immature level when relating to parents, restricting them from engaging in age-appropriate roles and possibly leading to feelings of incompetence (Ispa *et al.*, 2004).

Intrusiveness and Children's Dependency on School Caregivers: The Hierarchical Model

According to attachment theory, internal working models of relationships are developed in parent-child interactions and subsequently carried forward into future relationships (Bowlby, 1969; Sroufe & Fleeson, 1986). For instance, children who expect to have their needs met in close relationships and who view themselves as worthy of love and support (i.e., those with a secure attachment style) may engage in social behaviors that tend to elicit positive responses and friendship from their peers (e.g., Wood, Emmerson, & Cowan, 2004). On the other hand, children who have experienced intrusive behavior and other kinds of boundary violations with caregivers may carry forward this style of interpersonal intimacy as an internal working model of future relationships (Sroufe, 2002). The hierarchical model of children's representations of multiple adult-child attachment relationships predicts continuity from parent-child relational patterns to children's relationships with new caregivers (see Howes, 1999). Children who expect to have daily routines performed for them at home, to be in close proximity to parents, or to be in physical contact with parents may elicit these caregiving patterns from teachers and staff at school, carrying forward aspects of the parent-child relationship (e.g., Sroufe & Fleeson, 1986). Attachment theory predicts coherence in the *meaning* of social behaviors in new close relationships, guided by the individual's internal working model (e.g., Pianta, 1999; Sroufe, 2002). Initiating physical affection with teachers and maintaining close physical proximity may be a meaningful transformation of a relationship with parents marked by intrusiveness. Children may also attempt to engage teachers at an increased rate to maintain social and emotional closeness. Although some social engagement of teachers is expectable and developmentally appropriate in the elementary school age group, high levels can interfere with peer relationships and engagement in the academic curriculum. According to the hierarchical model, children whose parents engage in more intrusive behavior at home are likely to seek more physical proximity and social contact with adult caregivers at school than other children.

There is an extensive literature on teacher-child relationships suggesting that children's adjustment and performance at school may be linked with the quality of these relationships (e.g., Peisner-Feinberg *et al.*, 2001). Although not as commonly studied as warmth/closeness or conflict in the teacher-child relationship, dependency on teachers has been the subject of some research (e.g., Howes, Phillipsen, & Peisner-Feinberg, 2000; Murray & Murray, 2004; Pianta, 1994), with results

showing a linkage with behavior problems, internalizing symptoms, and a lack of sociability with peers. Other studies have found that *current* positive parent–child relationships (but not *previous* infant attachment status) are associated with positive teacher–child relationships (Howes, Hamilton, & Phillipsen, 1998). However, these measures have not focused on children’s physical proximity seeking and social engagement of teachers and other caregivers at school—that is, the specific behaviors that the hierarchical model predicts in children of parents who act intrusively. Given the theoretical significance of these specific child–caregiver interaction patterns at school, it was necessary to develop a new measure to assess these behaviors in elementary school children: the Children’s Dependency Scale (CDS). Because little is known about physical proximity seeking and attempts at social engagement of school caregivers, an initial aim of inquiry in this study was descriptive (i.e., frequency of the target behaviors assessed on the CDS).

In short, a major goal of this study was to test a hypothesis based in attachment theory suggesting that intrusive parent–child interactions are carried forward into dependent relationships with school caregivers.

Separation Anxiety and Dependency on School Caregivers

Anxiety is characterized by negative affect, worry, and physiological arousal (e.g., McWilliams & Cox, 2001) and is conceptually related to emotional reactivity and behavioral inhibition in children (e.g., Kagan, Snidman, Zentner, & Peterson, 1999). Anxiety occurs in reaction to perceived threat, and it motivates self-preserving, harm-avoidant behavior. One specific manifestation of anxiety in childhood is separation anxiety, which includes fears about harm to oneself or one’s caregivers when separated from them (e.g., at school), avoidance of specific situations requiring separation, and physical symptoms such as nausea when separations are required (e.g., American Psychiatric Association, 1994). When students experience anxiety in the school setting, they tend to engage in behaviors that reduce their negative mood as rapidly as possible. For children upset by separation from adult attachment figures, a theoretically congruent coping strategy would include seeking alternative adult caregivers to increase feelings of safety and comfort. Because a significant component of separation anxiety is fear of harm to oneself, trusted adults at school—even if not ones’ own parents—might serve as effective regulators of children’s negative affect. Separation anxiety is thus hypothesized to be a mood state that motivates children to cling to or remain close to their teachers and other school caregivers. However, previous research has not addressed the role of separation anxiety in the teacher–child relationship. In the present study, we tested children’s separation anxiety as a second major predictor of dependency on school caregivers.

Parental Intrusiveness and Separation Anxiety in Children

Recent models in developmental psychopathology suggest that a chain reaction may occur, beginning with parental intrusiveness, followed by separation anxiety, and concluding with heightened dependency behaviors at school (e.g., Wood, 2006a; Wood et al., 2003). Social cognitive theories suggest that mastery experiences in novel or unfamiliar situations lead to enhanced feelings of control and efficacy and, hence, to reduced anxiety (Bandura, 1997; Chorpita & Barlow, 1998; Muris, 2002). But when parents routinely take over tasks for children that they are likely able to do for themselves, this may prevent the development of self-efficacy (i.e., perceptions of agency and competence with regard to specific tasks; Bandura, 1997), elevating risk for experiences of anxiety (Krohne & Hock, 1991). Because parental intrusiveness in children’s daily routines may create a sense of *dependence* on adult caregivers in children, in addition to low self-efficacy, separation anxiety may be especially likely to emerge, compared to other manifestations of childhood anxiety (e.g., social anxiety). Children of parents who act intrusively may come to associate conditions of safety (and feelings of comfort) with the presence of an adult who

is able to assist them with daily tasks and conditions of danger (and feelings of anxiety) with being away from adult caregivers and having to face such tasks (for which there have been few or no mastery experiences) independently. Because a child's anxiety about her/his lack of mastery may be temporarily diminished when caregivers are present to assist and comfort her/him, the child may develop avoidance of separation from caregivers, which is the key distinguishing behavioral feature of separation anxiety.

A linkage between parental intrusiveness and childhood separation anxiety has been documented in one study of a clinical sample of youth aged 6–13 years seeking intervention for elevated anxiety (Wood, 2006a). Other studies have tested the more general hypothesis that children's anxiety is linked with parenting practices, variously defined (Hudson & Rapee, 2001; Moore, Whaley, & Sigman, 2004; Whaley, Pinto, & Sigman, 1999), but there are significant problems with the validity coefficients of most parenting measures used in previous research, particularly with regard to convergent validity. Furthermore, intrusiveness *per se* has not been assessed in these other studies, and, hence, the theory-based hypothesis specified above has not been tested. In the current study, a psychometrically strong measure of intrusiveness was employed to test hypotheses.

A Conceptual Model

In summary, a conceptual model rooted in attachment theory and social cognitive theory was evaluated in this study. First, a linkage between parental intrusiveness and children's dependency on school caregivers was predicted, based on the hierarchical attachment model suggesting that patterns of early close relationships with parents are carried forward into teacher–student relationships. Second, reflecting current theory in developmental psychopathology, separation anxiety was posited to interrelate with dependency on school caregivers. Third, drawing on social cognitive theory, it was predicted that parental intrusiveness would also be associated with children's separation anxiety, reflecting feelings of low self-efficacy and vulnerability when away from caregivers.

METHOD

Participants

Participants were 87 families of children attending a public elementary school in a major metropolitan area of the western United States. Of these, 72 parents completed questionnaires (41 parents of students in Grades K–2 and 31 parents of students in Grades 3–5). All of the 31 students in Grades 3–5 whose parents completed questionnaires also completed their own forms. In addition, 14 students in Grades 3–5 completed forms, even though their parents did not return their questionnaires. Thus, in total, 45 children (Grades 3–5) completed questionnaires. Children in the younger age group (Grades K–2) were not asked to participate, due to expected difficulties with understanding the concepts presented. Overall, 15 (17.2%) students were in kindergarten, 27 (30.9%) were in Grade 1/2 classrooms, 20 (23.0%) were in Grade 3/4 classrooms, and 25 (28.7%) were in Grade 4/5 classrooms.

Demographic information is summarized in Table 1. Children ranged in age from 5 to 11 years old (although only those 8 or older participated in the child interview), families were generally middle-class based on parents' educational level, the majority of parents were currently married, and the sample was fairly heterogeneous with regard to child race/ethnicity. The parent who considered her/himself primarily responsible for the child's day-to-day care and well-being was asked to participate as the target parent. Most of the parents ($n = 68$) were mothers (eliminating fathers from the sample did not change any of the significant results; therefore, we report results for the entire sample of "primary caregiving" parents).

Table 1
Descriptive Statistics for Study Variables

Variable	<i>n</i> (%)	<i>M</i>	<i>SD</i>	Range
Child race/ethnicity				
African American	3 (3.4)			
Asian	26 (29.5)			
Caucasian	41 (46.6)			
Latino/Latina	10 (11.4)			
Mixed	8 (9.1)			
Child gender (% female)	36 (51.4)			
Child age (in years)		7.81	1.91	5–11
Parent education				
High school or less	3 (4.2)			
Some college only	17 (23.6)			
4 years college or more	52 (72.2)			
Parent married or remarried	56 (77.8)			
Intrusiveness (parent report)		13.56	3.36	8–22
Intrusiveness (child report)		10.62	2.37	8–18
CDS—Social Engagement		9.91	4.74	0–18
CDS—Physical Proximity		2.05	2.57	0–11
MASC-P Separation Anxiety		11.43	4.04	1–20
MASC-P Other Anxiety		17.11	8.03	6–37
MASC-C Separation Anxiety		8.83	5.12	1–20
MASC-C Other Anxiety		22.84	10.06	4–45

Note. MASC-P: parent MASC; MASC-C: child MASC.

Measures

Parent–Child Interaction Questionnaire (PCIQ). The PCIQ Intrusiveness scale is a psychometrically robust measure for both parent and child report comprised of eight items (Wood, 2006a). It addresses concrete, observable parent–child interactions that have occurred during a 1-week timeframe. Items focus on (a) parents providing help with private daily routines that most school-age children are capable of performing independently (e.g., dressing, bathing), (b) intrusions on children’s personal space (lying with child on his/her bed at night), and (c) infantilizing behavior (e.g., using baby words). The parent version uses a rating scale that is based on the frequency of each behavior: 1 (*This never or almost never occurred [0–1 days this week]*), 2 (*This sometimes occurred [2–5 days this week]*), or 3 (*This almost always occurred [6–7 days this week]*). In the child version, the frequency response scale is simplified to 1 (*never*), 2 (*some days*), or 3 (*every day*) (within the last week). In the development study, internal consistency reliability was good (alphas .70) and validity coefficients were strong (i.e., the average Pearson correlation between the child- and parent-report versions of the PCIQ and two separate measures of intrusiveness was .43 [range: .22–.62; 3 of 4 $ps < .05$], and the PCIQ correlated significantly with measures of separation anxiety in four of four statistical tests, providing evidence of concurrent validity) (Wood, 2006a). In the present sample, Cronbach’s alphas were acceptable (parent report: .72; child report: .61), and parent–child agreement was good ($ICC = .54, p < .05$).

Caregiver Dependency Scale (CDS). The CDS measures children’s dependency behaviors with adult caregivers at school (i.e., teachers, school staff). The measure is comprised of two

subscales (see Table 2 for items): Social Engagement and Physical Proximity. This measure was developed following recommendations for improving questionnaire measures of children’s interactions with caregivers (Holden & Edwards, 1989): Items are behaviorally specific, and the response scale is based on frequencies rather than vague descriptors. Initially, a review of the literature on teacher–child relationships (e.g., Howes et al., 2000; Pianta, 1994, 1999) and insecure attachment (e.g., Sroufe & Fleeson, 1986) was conducted. The themes of the PCIQ Intrusiveness scale (e.g., physical touch and proximity to adults) were also extrapolated in the process of item development, with emphasis on ways in which intrusive parent–child interactions might be carried forward into relationships with school caregivers (cf. Sroufe & Fleeson, 1986). Based on this literature review and consultation with experts, 15 initial items were developed. Subsequent analysis of intercorrelation patterns and Cronbach’s alphas led to the elimination of four items and the creation of the two subscales.

The Social Engagement subscale (six items) measures how frequently children initiate social interactions with teachers and other caregivers at school, including attention seeking (e.g., asking adults to watch the child perform an activity), conversation initiating, and help seeking (e.g., for cuts and scrapes). Although most children are expected to engage in such behaviors some of the time, high frequencies were presumed to reflect dependency. The Physical Proximity subscale (five items) assesses the frequency of children’s attempts to initiate physical contact (e.g., asking to be picked up) with school caregivers. Items are rated on a 0–3 response scale: 0 (*never or almost never occurs*), 1 (*occasionally; occurs several times per month*), 2 (*sometimes; occurs several times per week*), or 3 (*frequently; occurs almost every day*). Internal reliabilities were good (Cronbach’s alphas = .88 and .80, respectively). In a separate sample of typically developing elementary school children, parent-reported CDS—Physical Proximity scores were significantly

Table 2
Percentage of Parent Responses to Caregiver Dependency Scale (CDS) Items

Item	Never	Occasionally	Sometimes	Frequently
Social Engagement subscale:				
My child seeks attention from his/her teachers and other staff at school by				
Starting conversations with them	6.2%	18.5%	20.0%	55.4%
Asking them to watch him/her playing sports	22.2%	25.4%	34.9%	17.5%
Telling them jokes or stories	12.1%	21.2%	37.9%	28.8%
Asking them to watch him/her performing skills (like art, dancing, computer games, etc.)	22.7%	16.7%	39.4%	21.2%
Telling them about problems or bad feelings	29.2%	29.2%	26.2%	15.4%
Asking them for help with bruises or scrapes	17.5%	36.5%	28.6%	17.5%
Physical Proximity subscale:				
My child tries to be physically close to his/her teachers and other staff at school by				
Play fighting with them	67.2%	16.4%	11.9%	4.5%
Clinging to them	75.8%	18.2%	3.0%	3.0%
Sitting or standing very close to them	53.7%	40.3%	4.5%	1.5%
Asking to be picked up	83.6%	14.9%	1.5%	0%
Patting them on the arm or back	67.2%	23.4%	6.3%	3.1%

Note. *n* = 67.

correlated with behavioral observations of children's social and physical interactions with school caregivers during recess ($r = .47, p < .05$), providing evidence of the convergent validity of the CDS (Wood, 2006b).

Multidimensional Anxiety Scale for Children (MASC; March, 1998). The child-report MASC is a 39-item, 4-point Likert-type scale. In the development sample, Cronbach's alphas ranged from .74 to .85 (March, Parker, Sullivan, Stallings, & Conners, 1997). There is also evidence of good convergent validity, as each of the MASC subscales was uniquely associated with a corresponding anxiety disorder diagnosis (generated by a structured interview schedule administered by a trained diagnostician) in logistic regression analyses (Wood, Piacentini, Bergman, McCracken, & Barrios, 2002). A parent-report version of the MASC was also administered in this study, which has evidence of internal consistency, convergent validity (as evidenced by significant associations with clinician anxiety diagnoses; Wood et al., 2002), and concurrent validity (significant correlations with measures of parental intrusiveness in a clinical sample; Wood, 2006a). Both versions of the MASC are comprised of four subscales. Two of these have been found to be predictive of clinical separation anxiety disorder (the Separation Anxiety scale and the Harm Avoidance scale; Wood et al., 2002); however, one of these (Harm Avoidance) does not have good face validity as a measure of separation anxiety. Due to its ambiguity, the Harm Avoidance scale was not used in this study; the Separation Anxiety scale was selected as an indicator of separation anxiety (parent and child alphas = .78 and .66, respectively). The other two MASC subscales (Physical Symptoms and Social Anxiety) are unrelated to separation anxiety, and were thus combined into a single "Other Anxiety" scale for the present study (parent and child alphas = .84 and .86, respectively).

Procedures

The school principal sent an informational letter to parents in eight classrooms (two classrooms each for grade/combination: K, 1/2, 3/4, and 4/5) out of a total of 20 in the school. Classrooms were selected if teachers agreed to have their classrooms participate on a voluntary basis (14 of 20 did so); of the classrooms available to participate, two per grade level were randomly selected. The participation rate was 45.1%. Children who had consent and assent to participate were allowed to leave class for about 30 min during a nonacademic activity (e.g., art) during the school day. In a designated room, research assistants read each questionnaire item to the participant as he/she read along. Children responded to each item as it was read to them. Parents completed questionnaires at home and returned them by mail within a 2-week timeframe.

RESULTS

Table 1 presents means and standard deviations for all measured variables. To test whether the sample means for the CDS, PCIQ, and MASC presented in Table 1 are representative of both younger and older elementary school children, t tests were conducted comparing parent report scores for younger (Grades K–2) and older (Grades 3–5) students. A significant difference emerged on the parent PCIQ Intrusiveness scale ($t = 4.18, p < .001$), with younger students scoring higher ($M = 14.82, SD = 3.05$) than older students ($M = 11.80, SD = 2.89$). No age group differences emerged for the CDS or the MASC. And, there were no gender differences on any of the study variables.

Response Patterns on the Caregiver Dependency Scale

To illustrate the frequency of the behaviors assessed in the CDS in our typically developing elementary school sample, percentages of parents' responses at each level of the response scale are presented in Table 2. Because age differences were not found on the scale scores, aggregated

frequencies for the entire sample (Grades K–5) are presented. Inspection of the frequencies suggests that there was great individual variability on the Social Engagement subscale items and that parents used the entire response scale. Most children initiated conversations with caregivers at school “frequently (almost every day).” For all Social Engagement items other than “telling about problems or bad feelings” and “asking for help with bruises or scrapes,” the majority of children engaged in the behaviors with school caregivers “sometimes (several times per week)” or more frequently. Hence, positive attention seeking, conversation initiating, and help seeking from teachers and school caregivers were common in this typically developing sample (across the age range and among both boys and girls).

In contrast, the majority of parents responded “never” for each of the Physical Proximity items. Nonetheless, parents used the entire response scale, and a large minority of children (ranging from 16.4% to 46.3% per item) were rated as at least “occasionally (several times per month)” engaging in each behavior. For instance, about a quarter of the sample engaged in clinging to, play fighting with, or patting the arm or back of caregivers at school occasionally or more often, and 40.3% were reported to occasionally (or more frequently) sit or stand very close to school caregivers. Perhaps the most iconic item of this subscale—asking to be picked up by school caregivers—was endorsed by 16.4% of parents (again, with no age or gender differences found). The CDS Social Engagement and CDS Physical Proximity subscales were moderately intercorrelated ($r = .53, p < .01$).

Is Parental Intrusiveness Linked with Children’s Dependency on School Caregivers?

Both children’s and parents’ reports on the PCIQ Intrusiveness scale were statistically significantly correlated with CDS Physical Proximity scale scores ($r_s = .52$ and $.37$, respectively, $p_s < .01$). Correlations were weaker for the CDS Social Engagement scale ($r_s = .12$ and $.21$, $p_s = .54$ and $.09$, respectively). These results suggest that irrespective of informant, higher levels of parental intrusiveness in children’s activities at home were associated with children’s physical proximity seeking or “clinginess” to adult caregivers at school.

Follow-up correlational analyses at the item level were conducted to illustrate the statistically significant relations between dependency on school caregivers and separation anxiety. These analyses do not represent additional tests of the main hypotheses, and therefore significance tests were not performed. Rather, these follow-up analyses were intended to provide concrete illustrations of significant findings from the primary analyses. The CDS Physical Proximity items most strongly related to child PCIQ intrusiveness scores were “play fighting,” “clinging,” and “standing or sitting very close” ($r_s = .50$ – $.58$). For the parent PCIQ intrusiveness scale, the strongest correlations were with two Physical Proximity subscale items, “clinging” and “standing or sitting very close” ($r_s = .41$).

Is Separation Anxiety Linked with Dependency on School Caregivers?

Table 3 presents correlations between parent and child MASC scores, on the one hand, and CDS and PCIQ scores, on the other. Statistically significant correlations were obtained relating CDS Physical Proximity scores with both child and parent reports of MASC Separation Anxiety, in the expected direction (see Table 3). The correlation with the child MASC score provides evidence of cross-informant concurrent validity. Additionally, parents’ (but not children’s) reports of separation anxiety were linked with CDS Social Engagement scores.

The CDS items with the strongest associations to parent MASC Separation Anxiety scores were “clinging,” “standing or sitting very close,” “starting conversations,” “asking to be watched,” and “getting help for bruises or scrapes” ($r_s = .26$ – $.47$). For the child MASC Separation Anxiety

Table 3

Correlations and Partial Correlations among Intrusiveness, Anxiety, and Caregiver Dependency Measures

	CDS—Physical Proximity	CDS—Social Engagement	Intrusiveness- Parent Report	Intrusiveness- Child Report
Parent MASC				
Separation Anxiety	.35** (.33**)	.31** (.30**)	.42*** (.41***)	.58*** (.59***)
Other Anxiety	.30* (.35**)	.20	-.03	.22
Child MASC				
Separation Anxiety	.42* (.42*)	-.05	.00	.54*** (.56***)
Other Anxiety	.39* (.40*)	.02	-.02	.38** (.37*)

Note. All parameters are Pearson correlations except for parameters in parentheses, which are partial correlations controlling for child age. For analyses based on two parent-report measures, $n = 67\text{--}72$. For analyses based on two child-report measures, $n = 45$. For analyses based on one parent-report and one child-report measure, $n = 30$.

* $p < .05$, ** $p < .01$, *** $p < .001$.

scale, the strongest correlations were with two Physical Proximity subscale items, “clinging” and “play fighting” ($r_s = .52\text{--}.53$).

Is Separation Anxiety Linked with Parental Intrusiveness?

Consistent with our hypotheses, parent MASC Separation Anxiety scores were significantly associated with both parent and child reports of intrusiveness (see Table 3). Also consistent with hypotheses, the parent MASC Other Anxiety scale was *not* significantly linked with any of the DVs. Therefore, parents who rated their children as having more separation anxiety were viewed as more intrusive in their children’s daily activities, irrespective of informant.

Children’s MASC results were less consistent. Child MASC Separation Anxiety was linked with children’s—but not parents’—reports of parental intrusiveness. The same pattern of results was obtained for the Other Anxiety scale, as well.

Exploratory correlations at the item level for the child-report PCIQ items showed that the strongest correlations with parent and child MASC Separation Anxiety scores were “lap-sitting” (with parent), “help taking a bath” (from parent), and “[parent] lying down with me on my bed before bedtime” (r_s ranged from .40 to .54 for both the child and parent MASC). Children’s reports of parents’ use of “baby words” also had a fairly high correlation with parent-reported separation anxiety ($r = .37$). Parallel analyses for parent PCIQ items yielded the strongest correlations with parent MASC Separation Anxiety scores for “lap-sitting,” “help [child] in putting on/taking off clothes,” “lying down on the child’s bed before bedtime,” and “sleeping in parents’ room” ($r_s = .26\text{--}.34$).

Relative Contributions of Intrusiveness and Separation Anxiety to Dependency

Simultaneous linear regression was conducted to evaluate the unique contributions of intrusiveness and separation anxiety to children’s dependency on school caregivers. In this analysis, CDS-Physical Proximity scores were used as the dependent variable, given the consistent statistical relationship found between this subscale and the other study variables in the simple correlational analyses. In the first model, child-reported Intrusiveness and Separation Anxiety jointly accounted for 29% of the variance in CDS scores (see Table 4). Intrusiveness remained a significant predictor in the model, but the beta coefficient for Separation Anxiety was low and nonsignificant. A parallel model using parent-report measures to predict CDS-Physical Proximity scores

Table 4
*Simultaneous Linear Regression Analysis Predicting
CDS—Physical Proximity Scores*

Variables entered	β	t
Model 1: Child-Report Predictors		
Child-Report Intrusiveness Scale	.42	1.99*
Child MASC Separation Anxiety Scale	.16	.77
Model 2: Parent-Report Predictors		
Parent-Report Intrusiveness Scale	.27	2.09*
Parent MASC Separation Anxiety Scale	.23	1.79

Note. Model 1: $n = 30$. For the full model, $R^2 = .29, p < .05$.
Model 2: $n = 67$. For the full model, $R^2 = .18, p < .01$.
* $p < .05$.

obtained a parallel pattern, with 18% of the variance explained and a significant beta only for Intrusiveness (see Table 4).

Are the Findings Affected by Controlling for Age?

Due to the age differences found for parent-report PCIQ scores, it was deemed plausible that children’s age would affect the strength of the correlations between PCIQ scores and anxiety measures. For instance, because “intrusive” behaviors are more common among parents of younger children, potentially due to children’s reluctance (or parental preference) to perform self-help tasks at earlier ages, perhaps children’s age affects the magnitude of the relationship between intrusiveness and anxiety. Therefore, correlational analyses were repeated, controlling for age (see, e.g., Table 3). But in no case was an effect changed from a significant to a nonsignificant result.

DISCUSSION

A theoretical model based on attachment theory and social cognitive theory was employed to guide the present study, and there was support for each aspect of the proposed model. Parental intrusiveness and children’s separation anxiety were each associated with dependency on school caregivers, jointly accounting for 18%–29% of the variance in dependency behaviors related to seeking physical proximity with teachers and staff. Separation anxiety was also linked with parental intrusiveness. A socioemotional pathway may lead children who experience intrusive caregiving behaviors with their parents (i.e., getting help from parents in daily routines they could perform independently) to develop an internal working model of close relationships marked by dependency and physical proximity. When away from parents in elementary school, such children may feel anxious about engaging in typical schools tasks (e.g., classwork and peer interactions) independently, and their dependent relational style developed with parents may be recapitulated in relationships with available adult caregivers—teachers and school staff—which temporarily reduces their anxiety. Although longitudinal and experimental studies will be needed to test the direction of effects, this study is the first to document statistically significant linkages among the variables in this putative causal model.

Dependency on School Caregivers: The Role of Intrusiveness and Separation Anxiety

One expected outcome of parental intrusiveness was greater dependency on teachers and school caregivers, reflecting an internal working model of child–caregiver relationships being

“carried forward” into new relationships (e.g., Sroufe & Fleeson, 1986). Both children’s and parents’ reports of intrusiveness were significantly associated with parent’s reports of children’s initiations of physical proximity with school caregivers (e.g., clinging to them, standing very close, asking to be picked up). Interestingly, children’s tendency to seek social (but nonphysical) attention from school caregivers (e.g., initiating conversations, asking for help, demonstrating skills and abilities) was not strongly related with parental intrusiveness. This suggests that it is not merely orientation toward social engagement with teachers and school staff that is associated with parent–child relationships marked by a high level of intrusiveness. Rather, it is specifically dependent behaviors with school caregivers characterized by seeking physical touch or proximity that are predictable in children of parents who are highly intrusive. In fact, general social attention seeking was quite common among most participants on the CDS-Social Engagement scale, whereas initiating physical proximity and touch with school caregivers was relatively infrequent as reflected by the frequencies of the CDS-Physical Proximity items, suggesting that touch and proximity seeking may be a discriminating feature separating children high in dependency from those engaging in expectable sociability with their school caregivers.

This pattern of findings suggests that the close physical contact that children experienced in their daily interactions with parents in “intrusive” interactions at home (having clothes changed for them, being bathed, sitting on parents’ laps) was recapitulated in form (not in substance) in caregiver–child relationships at school. Although there are few or no situations at school in which teachers and school caregivers assist elementary school children with private daily routines, there appeared to be continuity in the quality of *intensity and physical touch* in both parent–child and teacher/caregiver–child relationships. This is consistent with the hierarchical view of multiple adult–child relationships (see Howes, 1999) in which parent–child relationships form a template that shapes new caregiver–child relationships. As predicted, there was also evidence linking children’s separation anxiety with their tendency to cling to and stay in close proximity of school caregivers. Potentially, separation anxiety could mediate the linkage between parental intrusiveness and children’s dependency on teachers and school staff. Separation anxiety may initially stem from low self-efficacy and dependence on parents who act intrusively (Wood, 2006a), leading to increased clingy behavior with school caregivers, resulting in physical proximity, which temporarily reduces children’s sense of vulnerability and threat. Further research exploring the direction of effects linking these variables would be very informative.

Interrelations among Intrusiveness and Separation Anxiety

Parental intrusiveness is an emerging construct in parenting research (Ispa et al., 2004) that is related to, but more specific than, the concept of parental control (cf. Barber, 1996). A second outcome hypothesized to emanate from a more intrusive parenting style was heightened separation anxiety. Three of four correlational analyses supported this hypothesis, including a strong cross-informant correlation of .58 (parent-reported separation anxiety and child-reported intrusiveness), adding to the certainty that factors other than method variance contributed to the obtained findings (cf. Fiske & Campbell, 1992). When comparing the association between intrusiveness and separation anxiety to that with other types of anxiety, the distinctiveness of separation anxiety was clear. These results provide support for emerging models that propose unique linkages between specific types of parenting (e.g., intrusiveness) and specific types of anxiety (e.g., separation anxiety) (Wood, 2006a; Wood et al., 2003), rather than a generalized relationship between parenting “style” (e.g., warmth, control) and unspecified anxiety symptoms. Potentially, parents who refrain from intrusiveness may foster children’s perceptions of agency in daily routines, thus reducing children’s anxiety about being away from caregivers who might otherwise be relied upon to perform these daily routines.

Practice Implications for Teachers, School Psychologists, and Other School Providers

Given the initial support for the theoretical model guiding this study, there are several practical implications for teachers, school psychologists, and other elementary school providers. Most importantly, high levels of dependency on school caregivers that include physical proximity seeking and clinging can be a sign of separation anxiety in some children, which may require intervention. This is because excessive separation anxiety can have significant consequences for children's social development and adaptation to school, such as school refusal (e.g., Egger, Costello, & Angold, 2003). In addition, intrusive parenting may underlie such separation anxiety and dependency, which offers one potential focus of intervention. Cognitive behavioral therapy (CBT) has been found to be efficacious for addressing child anxiety disorders, including separation anxiety, and has consistently yielded a high proportion of treatment responders (50%–80%) (e.g., Barrett, Dadds, & Rapee, 1996; Kendall, 1994; Wood, Piacentini, Southam-Gerow, Chu, & Sigman, 2006). Such interventions should be implemented by school psychologists or other education professionals who are trained to use them.

Teachers and other school providers can refer children exhibiting high levels of dependency to a school psychologist for evaluation. Prior to mounting an intervention, an assessment of anxiety is necessary to determine severity and clinical need. Evidence-based assessment procedures are recommended, such as the MASC (the child-report measure employed in the present study, which offers good standardized norms of separation anxiety for boys and girls in the elementary school age group; March, 1998). For a more thorough assessment, the Anxiety Disorders Interview Schedule for *DSM-IV*: Child and Parent Versions (ADIS-C/P; Silverman & Albano, 1996) or a similar structured interview can be employed. However, specific training is required for appropriate use of diagnostic interview schedules. MASC Separation Anxiety *T* scores in the clinical range or clinical separation anxiety disorder diagnoses generated by a structured interview often suggest that intervention is indicated.

In CBT, students with separation anxiety are given assistance by a mental health professional in learning to identify their own fearful beliefs about the negative consequences of being away from adult caregivers (e.g., that they will be in danger, that their parents will be in a car accident) and then learning to challenge these beliefs (e.g., What is the evidence? How likely is it to happen? How bad would it be if it did happen?). The most practical and effective aspect of cognitive behavioral interventions entails gradual exposure to anxieties while employing coping skills, involving step-by-step direct practice with feared situations (e.g., spending more time with peers than with the teacher), guided with care and scaffolding by a school provider with an eye toward promoting mastery and competence. Although school psychologists or counselors with expertise in CBT should direct such interventions, often teachers, playground supervisors, and other education professionals oversee crucial aspects of the intervention. As an example, the school psychologist may set up a program of exposures in which a child is first assigned to spend the first 10 min of recess or lunch without clinging to or interacting with a teacher or supervisor and, rather, is to engage in a specific peer activity that the child feels comfortable with. This would normally occur on a daily basis, with successes tallied by teachers and supervisors and rewarded with school privileges provided contingently (e.g., extra time on the class computer, having a chance to pass out papers, 10 min extra free reading) and sometimes a corresponding parent-directed rewards system (e.g., earning small items or privileges at home for a certain number of tallies). As the child gains confidence and experiences efficacy with brief periods of independence when he/she normally would cling to school providers, the length of time is often increased by the school psychologist until 100% independence is achieved (i.e., no clingy behavior or reliance on adults throughout the school day), often leading to substantial

improvements in children's internal experiences of separation anxiety, as well as, of course, improved functioning in school.

If parental intrusiveness is high, school psychologists and counselors can initiate brief parent education sessions focused on increasing children's independence and autonomy at home that can reduce intrusiveness and lead to anxiety remission (Wood et al., 2006). For instance, in the *Building Confidence* family-based CBT manual (Wood, McLeod, & Sigman, 2000), parent education sessions emphasize (a) giving choices when children are indecisive (rather than making choices for children), (b) allowing children to struggle and learn by trial and error rather than take over tasks for them, (c) labeling and accepting children's emotional responses (rather than criticizing them), and (d) promoting children's acquisition of novel self-help skills. Often, initial steps in increasing autonomy granting and reducing intrusiveness are selected by the child, such as showering on one's own or dressing oneself with a parent nearby but not in the same room as the child. To address parental ambivalence about these kinds of changes, several techniques can be employed: (a) empathizing with the parent's desire to retain the child's closeness to him/her; (b) concurrently warning parents that without becoming a *bit* more independent, the child's maladaptive anxiety-related behaviors (e.g., school refusal) are likely to only get worse; and (c) offering a plan of action that emphasizes *gradual* changes in parent-child interactions. All parent-training activities in family-based CBT are directly related to one of two goals: altering the targeted parent-child interaction patterns or enhancing the child's application/practice of CBT skills.

It should be noted that teachers have also been successful in implementing cognitive-behavioral *prevention* programs at the classroom level that can lead to reduced anxiety (e.g., Barrett & Turner, 2001), which may reduce current and future episodes of dependency in children who are at risk for developing excessive anxiety.

Limitations

There are several limitations in the present study. As with most studies in the developmental sciences, a convenience sample was used, which may limit the generalizability of the results. As a result, replication is essential with a larger probability sample of sufficient size. Although the present sample was racially diverse, it was too small to conduct meaningful group comparisons. Cultural variations in parenting may affect the significance of parental intrusiveness to children's outcomes. Patterns of caregiving vary widely among cultures, and parenting behavior must be viewed through a cultural lens. Teacher reports on the CDS would be useful to obtain in future research; however, there is evidence of convergent validity for parent-reported CDS-Physical Proximity scores, suggesting that present findings are valid and represent actual patterns of children's behavior at school. Furthermore, the CDS-Physical Proximity scale was also linked to other measures as predicted, including the CDS-Social Engagement scale, offering further evidence of construct validity. However, there was some ambiguity in the findings with the CDI-Social Engagement scale itself, and most children were reported to engage in many of the target behaviors frequently. It may be that only very high scores on the Social Engagement scale reflect dependency; therefore, further research will be needed to determine if the Social Engagement scale may measure dependency in a categorical rather than a continuous manner. Nonetheless, the study sample had a number of strengths, including equal representation of boys and girls, an age span covering the entire elementary school age range, and multiple informants, allowing for cross-informant validity analyses. Given the novelty of the study and the theoretical basis of the model that was tested, as well as the consistent support of each hypothesis in parent-report as well as child-report analyses, the modest sample size proved sufficient to address all aims in the study.

Conclusion

A theoretical model was presented and supported in this article, implicating parental intrusiveness and children's separation anxiety as risk factors for dependent behaviors with caregivers at school. These results are of particular interest because they were based, in part, on a measure of parental intrusiveness with good convergent validity, and because multiple informants were employed, yielding robust cross-informant findings. Future research testing the proposed model with longitudinal or experimental methods would be beneficial. School psychologists, teachers, and other providers in the elementary school setting may find it useful to consider the extent to which intrusiveness and anxiety affect the behavior of students with highly dependent behavior and the applicability of the cognitive-behavioral model to their responses to these students.

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