Published in final edited form as:

Monogr Soc Res Child Dev. 2017 September ; 82(3): 72–81. doi:10.1111/mono.12311.

Chapter V. Developmental Trajectories of Children's Attention Problems After the Birth of a Sibling

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Children show a dramatic change in the ability to sustain and reorient attention between two to five years of age (Jones, Rothbart, & Posner, 2003; Kopp, 1989). The ability to sustain attention is relevant for children's adjustment during normative transitions such as the transition to siblinghood. As children have increased opportunities to engage with others (e.g., siblings), coordinating behaviors and complying with adults' directions become important across multiple settings (Campbell, 2006), which requires the ability to sustain or redirect attention (Rothbart et al., 2011). Thus, children with attention problems may experience more difficulties meeting social demands in adjusting during the transition.

There may be two possible patterns of attention problems that children experience during the transition to siblinghood: (1) a developmental lag in attentional control or (2) deviations in temperamental characteristics such as low behavioral inhibition and poor effortful control (Ruff & Rothbart, 1996). Further, some children may display attention problems as a temporary stress reaction along with tantrums or oppositional behaviors, brought on by stress adjusting to the arrival of an infant sibling (Campbell, 2006; Stewart, 1990). Children may exhibit different trajectories of change in attention problems over this developmental period depending on whether they are exhibiting a developmental lag, a temperamental deviation, or a temporary stress reaction. Despite these possibilities, little research has investigated changes in firstborn children's attention problems during the transition to siblinghood. Although one study found that children's attention span did not change significantly following the birth of the sibling (e.g., (Stewart, 1990), more research is needed.

Development of Attention Problems in Early Childhood

From a developmental perspective, attention problems, along with other externalizing behavior problems, are often reported to be transient during the toddlerhood and preschool years (Mesman et al., 2009; Owens & Shaw, 2003), and show a general pattern of linear decline (van Aken, Junger, Verhoeven, van Aken, & Dekovi, 2008). One possible reason for the average decrease in attention problems is that children show dramatic development in abilities for directing and sustaining attention around 18 months, and these abilities are consolidated around 4 years with increasing skills to inhibit attention to irrelevant tasks (Ruff & Rothbart, 1996; van Aken et al., 2008). Despite this general pattern, there are some children who show stable or increasing patterns of externalizing behavior problems over the preschool years and are more likely to continue to have future problems with attention (Ruff & Rothbart, 1996), as well as socio-emotional and academic difficulties in childhood (Kingston & Prior, 1995).

Individual Differences in Young Children's Attention Problems

Although attention problems decrease during the toddler and preschool years at a group level, studies have found meaningful individual differences in the starting point (i.e., intercept) and the rate of change (i.e., slope) in attention problem trajectories during the preschool years (Mesman et al., 2009; van Aken et al., 2008). For example, van Aken and colleagues (2008) found that intercepts of attention problems at 17 months were concurrently related to supportive maternal parenting and maternal psychological control, whereas decreases in attention problems from 17 to 54 months were positively related to greater decreases in mothers' physical punishment and negatively related to faster decreases in fathers' supportive parenting. These findings suggest that although young children's attentional problems may be a reaction to distressing circumstances, attentional problems as a form of negative adjustment may be resolved with supportive parenting, or they may persist as more serious behavior problems when there are other family risks (Campbell, 2006).

In this chapter, we aimed to identify different trajectories of children's attention problems during the transition to siblinghood. We expected to identify different groups of children who showed heterogeneous patterns of change in attention problems over the period of the transition before and after the birth of a sibling. Based on the literature on the normative development of attentional control during this age period, the majority of children were expected to show a gradual decrease in attention problems over the transition from the initial prenatal timepoint (i.e., intercept); although there may be subgroups of children who differ with respect to their starting point with some fairly low on attention problems and others moderate to high on attention problems even before the birth of a sibling. We also expected to find a smaller group of children at greater risk for attention problems that might display a high stable pattern over time.

Risk and Protective Factors in the Prediction of Early Attention Problems

Risk and protective factors that are associated with attention problems can be grouped into characteristics of children, parents, and family situations. Several temperamental child characteristics have been identified as potential risks. Specifically, lower executive attention skills, lower effortful control, higher surgency (extraversion), and higher negative affect predicted mother-rated attention problems in preschool and early childhood (Brown, Weatherhol, & Burns, 2010).

Regarding parental factors, multiple studies have identified attachment security as an important risk factor for the development of attention problems (Fearon & Belsky, 2004). Because mothers of insecurely attached children are more intrusive, less sensitive, and less responsive (Campbell, 2006; De Wolff & van Ijzendoorn, 1997), an insecure attachment most likely reflects an antagonistic dynamic between the parent and child (Kochanska & Kim, 2012) that likely increases interpersonal stress and interferes with children's attentional control (Fearon & Belsky, 2004; Ruff & Rothbart, 1996; Tharner et al., 2012). On the other hand, maternal sensitivity across the first 4.5 years of life predicted children's attentional task performance at age 54 months (NICHD Early Child Care Research Network,

2003). Other dimensions of parenting quality are also reported as important risk and protective factors for the development of attention problems. For example, parental psychological control, physical punishment, and the lack of support positively predicted attention problems, whereas parental sensitivity, positive discipline, and structure (e.g., organized environment, being consistent) negatively predicted attention problems among toddlers and preschoolers (NICHD Early Child Care Research Network, 2003; van Aken et al., 2008). In addition, mothers' and fathers' emotional instability (van Aken et al., 2008) and high levels of childrearing-related parenting stress have been positively related to preschool children's attention problems (Crnic, Gaze, & Hoffman, 2005; Tharner et al., 2012). In regard to family context factors, high levels of family stress and lower SES predicted the continuation of children's externalizing problems including attention problems from preschool to middle childhood (Campbell, 2002; Moffitt, 1990). For the current analyses examining predictors of children's attention problem trajectories, we expected to find similar relations with children's temperament, parenting interactions, parental stress and household income as reported in these earlier studies.

Sibling Relationships and Early Attention Problems

Social impairment of children with attention problems has been studied mostly with respect to parent-child and peer relationships. Children with attention problems have a difficult time attending to conversations, following the rules of games, turn-taking, and inhibiting aggression (Whalen & Henker, 1992). What is less studied is how children's early attention problems and their poor self-regulation may be related to sibling relationship quality. A handful of clinical research studies suggest that the sibling relationships of children with ADHD are marked by increased conflict (Mikami & Piffner, 2008), presumably due to their lower inhibition (Barkley, 2003) and poor social skills (Wheeler & Carlson, 1994).

The transition to siblinghood may be a challenging developmental period for children with poor regulatory skills as a result of attention problems because the arrival of a sibling may challenge their abilities to cope with both the negative and positive changes co-occurring with the transition, including the jealousy of the new baby, the frustration of caregiver unavailability, and the joy of welcoming a new brother or sister (Dunn & Kendrick, 1980; Volling et al., 2014). Few studies, however, have examined children's emotion regulation and sibling relationship quality. Kolak and Volling (2011) did report that children's jealousy, as indicated by behavioral dysregulation when 16-month-old toddlers observed fathers interacting with their older siblings, predicted more sibling conflict 2.5 years later. Based on the findings that children with attention deficits are more likely to have emotion regulation difficulties (Melnick & Hinshaw, 2000; Walcott & Landau, 2004), the transition period may be particularly challenging for these children.

In the current study, we expected to find associations between children's attention problems over the year following the transition and sibling relationship quality at the end of the year. Specifically, we expected that children with high stable or increasing patterns of attention problems across the transition to siblinghood would also be engaged in more sibling conflict 12 months after the birth when compared to children who were low on attention problems or who declined in attention problems over time.

Results

Individual Differences in Trajectories of Attention Problems

As noted earlier, the unconditional linear model fit the attention problems data better than both the unconditional Adjustment and Adaptation Response and quadratic models, which was then used in our GMM analyses to identify the patterns of attention problems trajectories. The three-class model was considered the best fitting model based on fit indices because the three-class model had lower fit indices, AIC = 3055.06, BIC = 3109.99, LMR = .01, than the two-class model, AIC = 3066.25, BIC = 3110.89, and the four-class model, AIC = 3053.49, BIC = 3118.73, LMR = .239; the three-class model also had higher entropy (.820) than the four-class model (.763). Estimates and standard errors for the fixed effects along with the random effects of each of the three classes are presented in Table 6 and the trajectory patterns for the 3 classes are also displayed in Figure 5.

The first class, representing 75.1% of the sample ($n = 172$), was labeled the *low-decreasing* class, because children in this class were low on attention problems at the prenatal timepoint with a significant linear decrease throughout the first year postpartum. A second class was denoted as the *mid-decreasing* class, reflecting 22.7% of the sample ($n = 52$). This class had moderate levels of attention problems at the onset and showed a linear decrease over time. The third class was labeled the *high-stable* class, and consisted of only 2.2% of the sample ($n = 5$). Children in this class had high levels of attention problems prenatally, which remained stably high over time. Again, there is more support for linear or stable patterns of adjustment than curvilinear patterns (see Figure 1).

We also examined how children in each class fell within the within the normative (mean), borderline clinical (92.5 %) and the clinical cut-off range (97%) by examining the spaghetti plots showing the individual trajectories for each child in each class (see Figure 1 in supplemental materials). The intercepts for each class mapped well onto the cut-off ranges, with a majority of children in the low-decreasing class below the normative mean and some slightly above the mean. Most children in the mid-decreasing class fell between the normative mean and the borderline clinical cut-off. Only the five children in the high-stable class were near the clinical cut-off.

Predicting Attention Problem Trajectories

Based on the variable selection procedures, three variables emerged as candidate predictors of the attention problem trajectories: attachment security to mother, fathers' parenting self-efficacy, and mothers' parenting self-efficacy. The multinomial regression model with main effects in comparison to the model with all possible higher-order interactions was a significantly better fit, $LR \text{ Chisq} (df = 8) = 5.27, p = .73$, so we report the results from the reduced model with main effects only.

Results for the multinomial logistic regression using the large *low-decreasing* class as the reference group, are presented in Table 7. The z tests revealed significant main effects of only two variables: attachment security to mother and mothers' parenting self-efficacy. Odds ratios revealed that children's attachment security to the mother significantly predicted the differences between the mid-decreasing class and the low-decreasing reference class, as well

as between the high-stable class and the low-decreasing reference class. Children with lower attachment security to mother were more likely to be in the mid-decreasing class or high-stable class relative to the low decreasing reference class. Also, mothers' reports of parenting self-efficacy significantly predicted the difference between the mid-decreasing class and the low-decreasing reference class such that lower levels of mother-reported parenting self-efficacy was associated with a higher probability of being in the mid-decreasing class relative to the low-decreasing reference class. Treating the other two classes as the reference class in separate exploratory analyses yielded an additional significant comparison between the high-stable class and the mid-decreasing class. Specifically, children with lower attachment security to mother were more likely to be in the high-stable class than the mid-decreasing class, $b = -7.202$, $z = -2.012$, $p = .044$, $OR = .001$.

Consequences of Children's Attention Problems for Sibling Relationships at One Year

Regression analyses tested whether children's attention problem trajectories predicted the three dimensions of sibling relationship quality (i.e., positive engagement, conflict, and avoidance). The results indicated that children in the mid-decreasing class ($est. = .194$, $SE = .091$, $p = .036$) and the high-stable class ($est. = .498$, $SE = .242$, $p = .043$) were more likely to engage in sibling conflict at 12 months relative to children in the low-decreasing reference class.

Discussion of Children's Attention Problem Trajectories

The current chapter examined heterogeneity in children's attention problem trajectories after the birth of their infant sibling. We identified three trajectory patterns that were roughly consistent with the literature on the development of attention problems in the toddler and preschool period. The largest class of children, approximately 75% of the sample, showed a low-decreasing pattern, implying that they initially showed low levels of attention problems before the birth of the sibling with a further gradual linear decline over the year following the birth, which is in line with current findings showing declines in attention problems over the preschool period. The second largest class of children, nearly 23%, showed a mid-decreasing pattern, in which children had scores on attention problems in the moderate range starting prenatally that were higher than the low-decreasing class, but still well under the clinical level cut-off, and continued to show a decrease in attention problems over the first year of siblinghood. What these two classes have in common is that they both show a linearly decreasing pattern despite the difference in their initial prenatal scores (i.e., intercepts). This overall decreasing pattern for both classes is consistent with the normative decline in attention problems between the ages of 2 and 5 noted in prior studies, coinciding with a dramatic increase in children's abilities to direct and sustain attention (Jones et al., 2003; Rothbart et al., 2011). The smallest class of children, only 2%, showed a high-stable pattern, in which children initially started with significantly high levels of attention problems at the pre-birth timepoint and maintained this level without a noticeable change over time. The proportion of this small group of children resembles the prevalence of ADHD in the preschool years, which is reported to be approximately 3% (Egger & Angold, 2006). Overall, these results suggest that except for a small subgroup of children, children are mostly differentiated by their initial levels of attention problems before the birth of the

infant, and most children show linear declines in attention problems over the course of the year after the birth, which is consistent with developmental expectations of a normative linear decline in attention problems over the toddler and preschool years. In sum, the current results provide little evidence that children experience attention problems as a temporary stress reaction while adjusting to the arrival of an infant sibling. Instead, the results support a normative overall decline in attention problems, even though some children may have higher initial levels before the birth than other children.

We identified two important parenting factors at the prenatal timepoint that predicted the different classes and are most likely responsible, in part, for the intercept differences across classes of attention problems. First, children's attachment security to their mothers differentiated all three groups. Children with insecure attachments to their mothers were more likely to be in the mid-decreasing or the high-stable class in comparison to the low-decreasing class. This is consistent with a large body of literature on parenting and children's attention problems showing that poor parenting practices are associated with higher attention problems. For example, negative parent-child interactions and poor parenting characterized by high intrusiveness and low sensitivity predicted children's higher stress levels, which interfered with attentional control (Tharner et al., 2012). Attachment insecurity sets up a caregiving context for antagonistic interactions between the parent and the child (De Wolff & van Ijzendoorn, 1997; Fearon & Belsky, 2004; Kochanska & Kim, 2012), which then interferes with children's attentional focus (NICHD Early Child Care Research Network, 2003). The results of the current study on children's attention problems after the birth of an infant sibling corroborate these earlier reports. Because we measured both parenting and the CBCL attention problems scale at the prenatal timepoint, we are unable to confirm the direction of causality from the current findings and future research is needed to address this issue further.

Another pre-birth predictor for children's attention problems after their sibling's birth was mother-reported parenting self-efficacy, which indicates the level of competence mothers felt as a parent, including how well they believed they could control their children's difficult behaviors. Children whose mothers reported low levels of parenting self-efficacy were more likely to be in the mid-decreasing class as opposed to the low-decreasing class with respect to attention problems. This finding is somewhat consistent with earlier reports finding that high levels of childrearing stress were positively associated with more attention problems (Crnic et al., 2005; Tharner et al., 2012). This relation may be partly mediated by parenting behavior and reflect a bidirectional process in which mothers feeling less efficacious as a parent engage in more coercive and less competent parenting practices with their children, although having to discipline children with attention problems during a stressful transition after the birth of an infant sibling may stress mothers' capacities to effectively parent these children and decrease mothers' sense of parenting efficacy over time.

Besides these two predictors, fathers' parenting self-efficacy also emerged as a potential predictor in our variable selection procedure, but did not pass the more stringent criterion of statistical significance in the multinomial logistic regression by accounting for unique variance above the other predictors. Fathers' self-efficacy in child-rearing may play a role in predicting children's attention problems after the birth of a sibling in ways that we were not

able to discern here, and we recommend that future studies examine this possibility further given that earlier research has found that fathers' decrease in supportive parenting was related to a slower decrease in preschool children's attention problems (van Aken et al., 2008).

Unlike earlier studies, child characteristics were not significant predictors for the different trajectory classes of attention problems. Several temperamental characteristics, such as negative affect, high surgency, or low effortful control have been identified as risk factors for attention problems in children from low-income households during the early school years (Brown et al., 2010). One reason why we did not find children's temperamental characteristics as predictors may be due to the low-risk nature of our community-based sample of predominantly middle-income families. It may be the combination of temperamental risk with such family risk factors as low SES and a chaotic home environment that predict attention problems (Brown et al., 2010).

When we considered the sibling relationship outcomes for children in the different classes, we found that children in the mid-decreasing and the high-stable class engaged in significantly more sibling conflict at 12 months compared to children in the low-decreasing class. This is consistent with the finding that the sibling relationships of children with ADHD are characterized by increased disruptive interactions (Mikami & Pfiffner, 2008). Having high levels of conflict is not surprising for children with stably high attention problems if one considers that interaction with a sibling requires children to regulate their behavior and emotion (e.g., taking turns, inhibit aggression), and use social skills (e.g., attending to conversation) that children with attention problems often struggle to achieve (Whalen & Henker, 1992). Also, given that young siblings are not yet linguistically sophisticated, children's attention problems may have played a key role in contributing to less positive interactions and more opportunities for disputes. Therefore, although the birth of a sibling did not seem to change the trajectories of children's attention problems, these problems did appear to have consequences for the developing sibling relationship. Given that early sibling interaction during the first year of siblinghood continues to predict sibling relationship quality 3 to 4 years later (Stillwell & Dunn, 1985), our findings suggest that children's difficulties with early attention regulation may play a role in the development of conflictual sibling relationships as early as the first year after the sibling's birth.

Acknowledgments

This research was supported by grants from the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD: R01HD042607, K02HD047423) to Volling. Matthew M. Stevenson was supported by the Developmental Psychology Training Grant (T32HD007109) from NICHD during the writing of this project.

References

- Acebo C, Sadeh A, Seifer R, Tzischinsky O, Hafer A, Carskadon MA. Sleep/wake patterns derived from activity monitoring and maternal report for healthy 1-to 5-year-old children. *Sleep-New York then Westchester*. 2005; 28(12):1568.
- Achenbach, TM., Rescorla, L. Manual for the ASEBA Preschool Forms & Profiles. Burlington, VT: University of Vermont, Research Center for Children, Youth & Families; 2000.
- Adler A. Characteristics of the first, second and third child. *Children*. 1928; 3(5):14.

- Affonso DD, Mayberry LJ, Sheptak S. Multiparity and stressful events. *Journal of Perinatology*. 1988; 8:312–317. [PubMed: 3266238]
- Ainsworth, MDS., Blehar, MC., Waters, E., Wall, S. Patterns of attachment: A psychological study of the strange situation. Hillsdale, NJ: Erlbaum; 1978.
- Akaike H. Factor analysis and AIC. *Psychometrika*. 1987; 52(3):317–332. <http://doi.org/10.1007/BF02294359>.
- Alink LRA, Mesman J, Van Zeijl J, Stolk MN, Juffer F, Koot HM, ... Van IJzendoorn MH. The early childhood aggression curve: Development of physical aggression in 10- to 50-month-old children. *Child Development*. 2006; 77(4):954–966. <http://doi.org/10.1111/j.1467-8624.2006.00912.x>. [PubMed: 16942499]
- Amato PR, Cheadle JE. Parental divorce, marital conflict and children's behavior problems: A comparison of adopted and biological children. *Social Forces*. 2008; 86(3):1139–1161. <http://doi.org/10.1353/sof.0.0025>.
- Anders TF, Keener MA. Developmental course of nighttime sleep-wake patterns in full-term and premature infants during the first year of life: I. Sleep: *Journal of Sleep Research & Sleep Medicine*. 1985; 8(3):173–192.
- Aro H. Stress, development and psychosomatic symptoms in adolescence: A comparison of the sexes. *Psychiatria Fennica*. 1989; 20:101–109.
- Aro H, Paronen O, Aro S. Psychosomatic symptoms among 14- to 16-year old Finnish adolescents. *Social Psychiatry*. 1987; 22(3):171–176. <http://doi.org/10.1007/BF00583852>. [PubMed: 3498225]
- Barkley RA. Assessment of teens with ADHD. *The ADHD Report*. 2003; 11(4):1–7. <http://doi.org/10.1521/adhd.11.4.1.23485>.
- Baruch GK, Barnett RC. Role quality, multiple role involvement, and psychological well-being in midlife women. *Journal of Personality and Social Psychology*. 1986; 51(3):578–585. <http://doi.org/10.1037/0022-3514.51.3.578>.
- Bates JE, Maslin CA, Frankel KA. Attachment security, mother-child interaction, and temperament as predictors of behavior problem ratings at age three years. *Monographs of the Society for Research in Child Development*. 1985; 50(1/2):167–193. <http://doi.org/10.2307/3333832>. [PubMed: 4069127]
- Bates JE, Pettit GS, Dodge KA, Ridge B. Interaction of temperamental resistance to control and restrictive parenting in the development of externalizing behavior. *Developmental Psychology*. 1998; 34(5):982–995. <http://doi.org/10.1037/0012-1649.34.5.982>. [PubMed: 9779744]
- Battaglia M, Touchette É, Garon-Carrier G, Dionne G, Côté SM, Vitaro F, ... Boivin M. Distinct trajectories of separation anxiety in the preschool years: persistence at school entry and early-life associated factors. *Journal of Child Psychology and Psychiatry*. 2016; 57(1):39–46. <http://doi.org/10.1111/jcpp.12424>.
- Baydar N, Hyle P, Brooks-Gunn J. A longitudinal study of the effects of the birth of a sibling during preschool and early grade school years. *Journal of Marriage and Family*. 1997; 59(4):957–965. <http://doi.org/10.2307/353795>.
- Beck AT, Steer RA, Carbin MG. Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review*. 1988; 8(1):77–100. [http://doi.org/10.1016/0272-7358\(88\)90050-5](http://doi.org/10.1016/0272-7358(88)90050-5).
- Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. An inventory for measuring depression. *Archives of General Psychiatry*. 1961; 4(6):561–571. <http://doi.org/10.1001/archpsyc.1961.01710120031004>. [PubMed: 13688369]
- Beck JE. A Developmental Perspective on Functional Somatic Symptoms. *Journal of Pediatric Psychology*. 2008; 33(5):547–562. <http://doi.org/10.1093/jpepsy/jsm113>. [PubMed: 18056142]
- Bedford, VH., Volling, BL. A Dynamic Ecological Systems Perspective on Emotion Regulation Development within the Sibling Relationship Context. In: Lang, FR., Fingerman, KL., Lang, FR., Fingerman, KL., editors. *Growing together: Personal relationships across the lifespan*. New York, NY, US: Cambridge University Press; 2004. p. 76–102.
- Bélanger M-È, Bernier A, Simard V, Bordeleau S, Carrier J. Chapter VIII. Attachment and sleep among toddlers: Disentangling attachment security and dependency. *Monographs of the Society*

- for Research in Child Development. 2015; 80(1):125–140. <http://doi.org/10.1111/mono.12148>. [PubMed: 25704739]
- Belsky J. The determinants of parenting: A process model. Child Development. 1984; 55:83–96. <http://doi.org/10.2307/1129836>. [PubMed: 6705636]
- Belsky, J., Hsieh, K.-H., Crnic, K. Mothering, fathering, and infant negativity as antecedents of boys' externalizing problems and inhibition at age 3 years: Differential susceptibility to rearing experience?; Development and Psychopathology. 1998. p. 301-319. <http://doi.org/10.1017/S0954579498001736>. [PubMed: 19883141]
- Belsky J, Pluess M. Beyond diathesis stress: Differential susceptibility to environmental influences. Psychological Bulletin. 2009; 135(6):885–908. <http://doi.org/10.1037/a0017376>. [PubMed: 19883141]
- Belsky J, Spanier GB, Rovine M. Stability and Change in Marriage across the Transition to Parenthood. Journal of Marriage and Family. 1983; 45(3):567–577. <http://doi.org/10.2307/351661>.
- Belsky J, Woodworth S, Crnic K. Trouble in the Second Year: Three Questions about Family Interaction. Child Development. 1996; 67(2):556–578. <http://doi.org/10.1111/j.1467-8624.1996.tb01751.x>. [PubMed: 8625728]
- Blandon AY, Calkins SD, Keane SP, O'Brien M. Individual differences in trajectories of emotion regulation processes: The effects of maternal depressive symptomatology and children's physiological regulation. Developmental Psychology. 2008; 44(4):1110–1123. <http://doi.org/10.1037/0012-1649.44.4.1110>. [PubMed: 18605838]
- Boey CCM, Goh KL. The significance of life-events as contributing factors in childhood recurrent abdominal pain in an urban community in Malaysia. Journal of Psychosomatic Research. 2001; 51(4):559–562. [http://doi.org/10.1016/S0022-3999\(01\)00232-X](http://doi.org/10.1016/S0022-3999(01)00232-X). [PubMed: 11595243]
- Boldt LJ, Kochanska G, Yoon JE, Koenig Nordling J. Children's attachment to both parents from toddler age to middle childhood: links to adaptive and maladaptive outcomes. Attachment & Human Development. 2014; 16(3):211–229. <http://doi.org/10.1080/14616734.2014.889181>. [PubMed: 24605850]
- Bonds DD, Gondoli DM, Sturge-Apple ML, Salem LN. Parenting stress as a mediator of the relation between parenting support and optimal parenting. Parenting. 2002; 2(4):409–435. http://doi.org/10.1207/S15327922PAR0204_04.
- Booth A, Amato PR. Parental marital quality, parental divorce, and relations with parents. Journal of Marriage and Family. 1994; 56(1):21–34. <http://doi.org/10.2307/352698>.
- Booth-LaForce C, Oxford ML. Trajectories of social withdrawal from grades 1 to 6: Prediction from early parenting, attachment, and temperament. Developmental Psychology. 2008; 44(5):1298–1313. <http://doi.org/10.1037/a0012954>. [PubMed: 18793064]
- Borge A, Nordhagen R, Moe B, Botten G, Bakkteteig L. Prevalence and persistence of stomach ache and headache among children. Follow-up of a cohort of Norwegian children from 4 to 10 years of age. Acta Paediatrica. 1994; 83(4):433–437. <http://doi.org/10.1111/j.1651-2227.1994.tb18137.x>.
- Bowlby, J. Attachment and loss. New York: Basic Books; 1969.
- Boyd, H. Preparing Your Child for the Birth of a Sibling | Education.com. 2009 Mar 6. Retrieved June 16, 2015, from http://www.education.com/magazine/article/Preparing_Child_Birth_Sibling/
- Braiker, HB., Kelley, HH. Social exchange in developing relationships. New York, NY, US: Academic Press; 1979. p. 135-168.
- Breiman L. Random Forests. Machine Learning. 2001; 45(1):5–32. <http://doi.org/10.1023/A:1010933404324>.
- Breiman, L., Friedman, J., Stone, CJ., Olshen, RA. Classification and Regression Trees. 1. Boca Raton: Chapman and Hall/CRC; 1984.
- Broeren S, Muris P, Diamantopoulou S, Baker JR. The course of childhood anxiety symptoms: Developmental trajectories and child-related factors in normal children. Journal of Abnormal Child Psychology. 2013; 41(1):81–95. <http://doi.org/10.1007/s10802-012-9669-9>. [PubMed: 22836287]
- Bronfenbrenner, U. The ecology of human development: Experiments by nature and design. Cambridge, Mass: Harvard University Press; 1979.
- Brown DD, Weatherhol TN, Burns BM. Understanding parent reports of children's attention behaviors: Role of children's attention skills, temperament, and home environment. Journal of Early Childhood and Infant Psychology. 2010; 6:41.

- Brownell CA, Kopp CB. Socioemotional development in the toddler years: Transitions and transformations. 2007;261–284.
- Buist KL, Dekovi M, Prinzie P. Sibling relationship quality and psychopathology of children and adolescents: A meta-analysis. *Clinical Psychology Review*. 2013; 33(1):97–106. <http://doi.org/10.1016/j.cpr.2012.10.007>. [PubMed: 23159327]
- Buist KL, Vermande M. Sibling relationship patterns and their associations with child competence and problem behavior. *Journal of Family Psychology*. 2014; 28(4):529–537. <http://doi.org/10.1037/a0036990>. [PubMed: 24866727]
- Burr, WR., Klein, SR. Reexamining family stress: new theory and research. Thousand Oaks, Calif: Sage Publications; 1994.
- Calkins SD. Origins and outcomes of individual differences in emotion regulation. *Monographs of the Society for Research in Child Development*. 1994; 59(2–3):53–72. <http://doi.org/10.1111/j.1540-5834.1994.tb01277.x>. [PubMed: 7984167]
- Calkins SD, Fox NA. The relations among infant temperament, security of attachment, and behavioral inhibition at twenty-four months. *Child Development*. 1992; 63(6):1456–1472. <http://doi.org/10.1111/j.1467-8624.1992.tb01707.x>. [PubMed: 1446562]
- Campbell, SB. Behavior problems in preschool children: Clinical and developmental issues. New York: Guilford Press; 2002.
- Campbell, SB. Maladjustment in preschool children: A developmental psychopathology perspective. In: McCartney, K., Phillips, D., editors. *Blackwell handbook of early childhood development*. Blackwell Publishing Ltd; 2006. p. 358–377.
- Campbell, SB. A developmental and family systems perspective on mental health in young children. In: Groark, C., editor. *Early childhood intervention: Shaping the future for children with special needs and their families*. Vol. 2. Santa Barbara: Praeger; 2011. p. 205–229.
- Campbell SB, Matestic P, von Stauffenberg C, Mohan R, Kirchner T. Trajectories of maternal depressive symptoms, maternal sensitivity, and children's functioning at school entry. *Developmental Psychology*. 2007; 43(5):1202–1215. <http://doi.org/10.1037/0012-1649.43.5.1202>. [PubMed: 17723045]
- Campis LK, Lyman RD, Prentice-Dunn S. The parental locus of control scale: Development and validation. *Journal of Clinical Child Psychology*. 1986; 15(3):260–267. http://doi.org/10.1207/s15374424jccp1503_10.
- Campo JV, Fritsch SL. Somatization in children and adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1994; 33(9):1223–1235. <http://doi.org/10.1097/00004583-199411000-00003>. [PubMed: 7995788]
- Carter AS, Godoy L, Wagmiller RL, Veliz P, Marakovitz S, Briggs-Gowan MJ. Internalizing trajectories in young boys and girls: The whole is not a simple sum of its parts. *Journal of Abnormal Child Psychology*. 2010; 38(1):19–31. <http://doi.org/10.1007/s10802-009-9342-0>. [PubMed: 19662525]
- Caspi A, Harrington H, Milne B, Amell JW, Theodore RF, Moffitt TE. Children's behavioral styles at age 3 are linked to their adult personality traits at age 26. *Journal of Personality*. 2003; 71(4):495–514. <http://doi.org/10.1111/1467-6494.7104001>. [PubMed: 12901429]
- Census Bureau, U. S. American FactFinder. Retrieved May 13, 2015, from <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>
- Chao, EL., Utgoff, KP. The National Compensation Survey: Employee benefits in private industry in the United States, 2000. Washington, DC: US Department of Labor; 2003. Retrieved from <http://stats.bls.gov/ncs/ebs/sp/ebbl0021.pdf>
- Chen N, Deater-Deckard K, Bell MA. The role of temperament by family environment interactions in child maladjustment. *Journal of Abnormal Child Psychology*. 2014; 42(8):1251–1262. <http://doi.org/10.1007/s10802-014-9872-y>. [PubMed: 24691836]
- Chen X, Wang L, Cao R. Shyness-sensitivity and unsociability in rural Chinese children: Relations with social, school, and psychological adjustment. *Child Development*. 2011; 82(5):1531–1543. <http://doi.org/10.1111/j.1467-8624.2011.01616.x>. [PubMed: 21790539]

- Choe DE, Olson SL, Sameroff AJ. The interplay of externalizing problems and physical and inductive discipline during childhood. *Developmental Psychology*. 2013; 49(11):2029–2039. <http://doi.org/10.1037/a0032054>. [PubMed: 23458660]
- Cicchetti D. The emergence of developmental psychopathology. *Child Development*. 1984; 55(1):1–7. <http://doi.org/10.2307/1129830>. [PubMed: 6705613]
- Ciechanowski PS, Walker E, Katon W, Russo J. Attachment theory: A model for health care utilization and somatization. *Psychosomatic Medicine*. 2002; 64(4):660–667. <http://doi.org/10.1097/01.PSY.0000021948.90613.76>. [PubMed: 12140356]
- Collins WA, Maccoby EE, Steinberg L, Hetherington EM, Bornstein MH. Contemporary research on parenting: The case for nature and nurture. *American Psychologist*. 2000; 55(2):218–232. <http://doi.org/10.1037/0003-066X.55.2.218>. [PubMed: 10717969]
- Combs-Ronto LA, Olson SL, Lunkenheimer ES, Sameroff AJ. Interactions between maternal parenting and children's early disruptive behavior: Bidirectional associations across the transition from preschool to school entry. *Journal of Abnormal Child Psychology*. 2009; 37(8):1151–1163. <http://doi.org/10.1007/s10802-009-9332-2>. [PubMed: 19533326]
- Connell AM, Goodman SH. The association between psychopathology in fathers versus mothers and children's internalizing and externalizing behavior problems: A meta-analysis. *Psychological Bulletin*. 2002; 128(5):746–773. <http://doi.org/10.1037/0033-2909.128.5.746>. [PubMed: 12206193]
- Coplan RJ, Arbeau KA, Armer M. Don't fret, be supportive! Maternal characteristics linking child shyness to psychosocial and school adjustment in kindergarten. *Journal of Abnormal Child Psychology*. 2007; 36(3):359–371. <http://doi.org/10.1007/s10802-007-9183-7>. [PubMed: 17899358]
- Coplan RJ, Hughes K, Bosacki S, Rose-Krasnor L. Is silence golden? Elementary school teachers' strategies and beliefs regarding hypothetical shy/quiet and exuberant/talkative children. *Journal of Educational Psychology*. 2011; 103(4):939–951. <http://doi.org/10.1037/a0024551>.
- Cowan, CP., Cowan, PA. When partners become parents: The big life change for couples. Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers; 2000.
- Cox MJ, Paley B. Understanding families as systems. *Current Directions in Psychological Science*. 2003; 12(5):193–196. <http://doi.org/10.1111/1467-8721.01259>.
- Crawford NA, Schrock M, Woodruff-Borden J. Child internalizing symptoms: Contributions of child temperament, maternal negative affect, and family functioning. *Child Psychiatry & Human Development*. 2010; 42(1):53–64. <http://doi.org/10.1007/s10578-010-0202-5>.
- Crick NR, Dodge KA. A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin*. 1994; 115(1):74–101. <http://doi.org/10.1037/0033-2909.115.1.74>.
- Crnic KA, Gaze C, Hoffman C. Cumulative parenting stress across the preschool period: Relations to maternal parenting and child behaviour at age 5. *Infant and Child Development*. 2005; 14(2):117–132. <http://doi.org/10.1002/icd.384>.
- Crnic KA, Greenberg MT. Minor parenting stresses with young children. *Child Development*. 1990; 61(5):1628–1637. <http://doi.org/10.1111/j.1467-8624.1990.tb02889.x>. [PubMed: 2245752]
- Cummings EM, Davies PT. Maternal depression and child development. *Journal of Child Psychology and Psychiatry*. 1994; 35(1):73–122. <http://doi.org/10.1111/j.1469-7610.1994.tb01133.x>. [PubMed: 8163630]
- Cummings EM, Davies PT. Effects of marital conflict on children: Recent advances and emerging themes in process-oriented research. *Journal of Child Psychology and Psychiatry*. 2002; 43(1):31–63. <http://doi.org/10.1111/1469-7610.00003>. [PubMed: 11848336]
- Cummings, EM., Davies, PT. Marital conflict and children: An emotional security perspective. Guilford Press; 2011.
- Cummings, EM., Davies, PT., Campbell, SB. Developmental psychopathology and family process: Theory, research, and clinical implications. New York, NY, US: Guilford Press; 2000.
- Cummings EM, Goeke-Morey MC, Papp LM. Everyday marital conflict and child aggression. *Journal of Abnormal Child Psychology*. 2004; 32(2):191–202. <http://doi.org/10.1023/B:JACP.0000019770.13216.be>. [PubMed: 15164860]

- Cummings, EM., Merrilees, CE., George, MW. The role of the father in child development. 5. Hoboken, NJ, US: John Wiley & Sons Inc; 2010. Fathers, marriages, and families: Revisiting and updating the framework for fathering in family context; p. 154-176.
- Dahl RE, El-Sheikh M. Considering sleep in a family context: Introduction to the special issue. *Journal of Family Psychology*. 2007; 21(1):1–3. <http://doi.org/10.1037/0893-3200.21.1.1>. [PubMed: 17371104]
- Dallaire DH, Weinraub M. Predicting children's separation anxiety at age 6: The contributions of infant–mother attachment security, maternal sensitivity, and maternal separation anxiety. *Attachment & Human Development*. 2005; 7(4):393–408. <http://doi.org/10.1080/14616730500365894>. [PubMed: 16332583]
- Davies PT, Cicchetti D, Martin MJ. Toward greater specificity in identifying associations among interparental aggression, child emotional reactivity to conflict, and child problems. *Child Development*. 2012; 83(5):1789–1804. <http://doi.org/10.1111/j.1467-8624.2012.01804.x>. [PubMed: 22716918]
- Davies PT, Cummings EM. Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin*. 1994; 116(3):387–411. <http://doi.org/10.1037/0033-2909.116.3.387>. [PubMed: 7809306]
- Davies PT, Sturge-Apple ML, Winter MA, Cummings EM, Farrell D. Child adaptational development in contexts of interparental conflict over time. *Child Development*. 2006; 77(1):218–233. <http://doi.org/10.1111/j.1467-8624.2006.00866.x>. [PubMed: 16460535]
- Davies PT, Sturge-Apple ML, Woitach MJ, Cummings M. A process analysis of the transmission of distress from interparental conflict to parenting: Adult relationship security as an explanatory mechanism. *Developmental Psychology*. 2009; 45(6):1761–1773. <http://doi.org/10.1037/a0016426>. [PubMed: 19899930]
- Deater-Deckard, K., Dodge, KA., Bates, JE., Pettit, GS. Multiple risk factors in the development of externalizing behavior problems: Group and individual differences; *Development and Psychopathology*. 1998. p. 469-493. <http://doi.org/10.1017/S0954579407000363>. [PubMed: 17705900]
- DeGarmo DS, Patras J, Eap S. Social support for divorced fathers' parenting: Testing a stress-buffering model. *Family Relations*. 2008; 57(1):35–48. <http://doi.org/10.1111/j.1741-3729.2007.00481.x>. [PubMed: 19177181]
- Degnan KA, Fox NA. Behavioral inhibition and anxiety disorders: Multiple levels of a resilience process. *Development and Psychopathology*. 2007; 19(03):729–746. <http://doi.org/10.1017/S0954579407000363>. [PubMed: 17705900]
- Degnan KA, Henderson HA, Fox NA, Rubin KH. Predicting social wariness in middle childhood: The moderating roles of childcare history, maternal personality and maternal behavior. *Social Development*. 2008; 17(3):471–487. <http://doi.org/10.1111/j.1467-9507.2007.00437.x>. [PubMed: 20463856]
- DeKlyen M, Biernbaum MA, Speltz ML, Greenberg MT. Fathers and preschool behavior problems. *Developmental Psychology*. 1998; 34(2):264–275. <http://doi.org/10.1037/0012-1649.34.2.264>. [PubMed: 9541779]
- DeKlyen M, Speltz ML, Greenberg MT. Fathering and early onset conduct problems: Positive and negative parenting, father–son attachment, and the marital context. *Clinical Child and Family Psychology Review*. 1998; 1(1):3–21. <http://doi.org/10.1023/A:1021844214633>. [PubMed: 11324076]
- DeLeon CW, Karraker KH. Intrinsic and extrinsic factors associated with night waking in 9-month-old infants. *Infant Behavior and Development*. 2007; 30(4):596–605. <http://doi.org/10.1016/j.infbeh.2007.03.009>. [PubMed: 17416420]
- Denham SA. Social cognition, prosocial behavior, and emotion in preschoolers: Contextual validation. *Child Development*. 1986; 57(1):194–201. <http://doi.org/10.2307/1130651>.
- De Wolff MS, van Ijzendoorn MH. Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development*. 1997; 68(4):571–591. <http://doi.org/10.1111/j.1467-8624.1997.tb04218.x>. [PubMed: 9306636]

- Dhossche D, Ferdinand R, van der Ende J, Verhulst F. Outcome of self-reported functional-somatic symptoms in a community sample of adolescents. *Annals of Clinical Psychiatry*. 2001; 13(4):191–199. <http://doi.org/10.3109/10401230109147383>. [PubMed: 11958361]
- Dirks MA, Persram R, Recchia HE, Howe N. Sibling relationships as sources of risk and resilience in the development and maintenance of internalizing and externalizing problems during childhood and adolescence. *Clinical Psychology Review*. 2015; 42:145–155. <http://doi.org/10.1016/j.cpr.2015.07.003>. [PubMed: 26254557]
- Dishion, TJ., Patterson, GR. The development and ecology of antisocial behavior in children and adolescents. In: Cicchetti, D., Cohen, DJ., editors. *Developmental psychopathology, Vol 3: Risk, disorder, and adaptation*. 2. Hoboken, NJ, US: John Wiley & Sons Inc; 2006. p. 503–541.
- Dix T, Yan N. Mothers' depressive symptoms and infant negative emotionality in the prediction of child adjustment at age 3: Testing the maternal reactivity and child vulnerability hypotheses. *Development and Psychopathology*. 2014; 26(01):111–124. <http://doi.org/10.1017/S0954579413000898>. [PubMed: 24280416]
- Domènech-Llaberia E, Jané C, Canals J, Ballespí S, Esparó G, Garralda E. Parental reports of somatic symptoms in preschool children: Prevalence and associations in a Spanish sample. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2004; 43(5):598–604. <http://doi.org/10.1097/00004583-200405000-00013>. [PubMed: 15100566]
- Dunn J. Sibling relationships in early childhood. *Child Development*. 1983; 54(4):787–811. <http://doi.org/10.2307/1129886>.
- Dunn J. Sibling influences on childhood development. *Journal of Child Psychology and Psychiatry*. 1988; 29(2):119–127. <http://doi.org/10.1111/j.1469-7610.1988.tb00697.x>. [PubMed: 3286666]
- Dunn J, Brown J, Slomkowski C, Tesla C, Youngblade L. Young children's understanding of other people's feelings and beliefs: Individual differences and their antecedents. *Child Development*. 1991; 62(6):1352–1366. <http://doi.org/10.2307/1130811>. [PubMed: 1786720]
- Dunn J, Kendrick C. The arrival of a sibling: Changes in patterns of interaction between mother and first-born child. *Journal of Child Psychology and Psychiatry*. 1980; 21(2):119–132. <http://doi.org/10.1111/j.1469-7610.1980.tb00024.x>. [PubMed: 7372742]
- Dunn, J., Kendrick, C. *Siblings: love, envy, & understanding*. Cambridge, Mass: Harvard University Press; 1982.
- Dunn J, Kendrick C, MacNamee R. The reaction of first-born children to the birth of a sibling: Mothers' reports. *Journal of Child Psychology and Psychiatry*. 1981; 22(1):1–18. <http://doi.org/10.1111/j.1469-7610.1981.tb00527.x>. [PubMed: 7451583]
- Dunn J, Munn P. Becoming a family member: Family conflict and the development of social understanding in the second year. *Child Development*. 1985; 56(2):480–492. <http://doi.org/10.2307/1129735>.
- Dunn J, Munn P. Siblings and the development of prosocial behaviour. *International Journal of Behavioral Development*. 1986; 9(3):265–284. <http://doi.org/10.1177/016502548600900301>.
- Dunn J, Slomkowski C, Beardsall L. Sibling relationships from the preschool period through middle childhood and early adolescence. *Developmental Psychology*. 1994; 30(3):315–324. <http://doi.org/10.1037/0012-1649.30.3.315>.
- Dunst CJ, Tivette CM, Hamby DW. Measuring the help giving practices of Human Services Program Practitioners. *Human Relations*. 1996; 49(6):815–835. <http://doi.org/10.1177/001872679604900605>.
- Egger HL, Angold A. Common emotional and behavioral disorders in preschool children: Presentation, nosology, and epidemiology. *Journal of Child Psychology and Psychiatry*. 2006; 47(3–4):313–337. <http://doi.org/10.1111/j.1469-7610.2006.01618.x>. [PubMed: 16492262]
- Egger HL, Costello EJ, Erkanli A, Angold A. Somatic complaints and psychopathology in children and adolescents: Stomach aches, musculoskeletal pains, and headaches. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1999; 38(7):852–860. <http://doi.org/10.1097/00004583-199907000-00015>. [PubMed: 10405503]
- Eggum ND, Eisenberg N, Spinrad TL, Valiente C, Edwards A, Kupfer AS, Reiser M. Predictors of withdrawal: Possible precursors of avoidant personality disorder. *Development and*

- Psychopathology. 2009; 21(Special Issue 03):815–838. <http://doi.org/10.1017/S0954579409000443>. [PubMed: 19583885]
- Ehrenberg MF, Gearing-Small M, Hunter MA, Small BJ. Childcare task division and shared parenting attitudes in dual-earner families with young children. *Family Relations*. 2001; 50(2):143–153. <http://doi.org/10.1111/j.1741-3729.2001.00143.x>.
- Eisenberg, N., Fabes, RA. Emotion regulation and children's socioemotional competence. In: Balter, L., Tamis-LeMonda, CS., editors. *Child psychology: A handbook of contemporary issues*. 2. New York, NY, US: Psychology Press; 2006. p. 357-381.
- Elder, GH., Jr, Caspi, A. Human development and social change: An emerging perspective on the life course. In: Bolger, N, Caspi, A, Downey, G., Moorehouse, M., editors. *Persons in context: Developmental processes*. New York, NY, US: Cambridge University Press; 1988. p. 77-113.
- El-Sheikh M, Buckhalt JA, Cummings E, Keller P. Sleep disruptions and emotional insecurity are pathways of risk for children. *Journal of Child Psychology and Psychiatry*. 2007; 48(1):88–96. <http://doi.org/10.1111/j.1469-7610.2006.01604.x>. [PubMed: 17244274]
- El-Sheikh M, Hinnant JB, Erath SA. Marital conflict, vagal regulation, and children's sleep: A longitudinal investigation. *Monographs of the Society for Research in Child Development*. 2015; 80(1):89–106. <http://doi.org/10.1111/mono.12146>. [PubMed: 25704737]
- El-Sheikh M, Sadeh A. I. Sleep and Development: Introduction to the Monograph. *Monographs of the Society for Research in Child Development*. 2015; 80(1):1–14. <http://doi.org/10.1111/mono.12141>.
- Eminson DM. Medically unexplained symptoms in children and adolescents. *Clinical Psychology Review*. 2007; 27(7):855–871. <http://doi.org/10.1016/j.cpr.2007.07.007>. [PubMed: 17804131]
- Fearon RP, Bakermans-Kranenburg MJ, Van IJzendoorn MH, Lapsley AM, Roisman GI. The significance of insecure attachment and disorganization in the development of children's externalizing behavior: A meta-analytic study. *Child Development*. 2010; 81(2):435–456. <http://doi.org/10.1111/j.1467-8624.2009.01405.x>. [PubMed: 20438450]
- Fearon RP, Belsky J. Attachment and attention: Protection in relation to gender and cumulative social-contextual adversity. *Child Development*. 2004; 75(6):1677–1693. <http://doi.org/10.1111/j.1467-8624.2004.00809.x>. [PubMed: 15566372]
- Fearon RP, Belsky J. Infant–mother attachment and the growth of externalizing problems across the primary-school years. *Journal of Child Psychology and Psychiatry*. 2011; 52(7):782–791. <http://doi.org/10.1111/j.1469-7610.2010.02350.x>. [PubMed: 21214546]
- Feng X, Shaw DS, Silk JS. Developmental trajectories of anxiety symptoms among boys across early and middle childhood. *Journal of Abnormal Psychology*. 2008; 117(1):32–47. <http://doi.org/10.1037/0021-843X.117.1.32>. [PubMed: 18266484]
- Field T. Infants of depressed mothers. *Development and Psychopathology*. 1992; 4(01):49–66. <http://doi.org/10.1017/S0954579400005551>.
- Field T, Reite M. Children's responses to separation from mother during the birth of another child. *Child Development*. 1984; 55(4):1308–1316. <http://doi.org/10.2307/1130000>. [PubMed: 6488959]
- Fox NA, Henderson HA, Marshall PJ, Nichols KE, Ghera MM. Behavioral inhibition: Linking biology and behavior within a developmental framework. *Annual Review of Psychology*. 2005; 56(1):235–262. <http://doi.org/10.1146/annurev.psych.55.090902.141532>.
- Fox NA, Henderson HA, Rubin KH, Calkins SD, Schmidt LA. Continuity and discontinuity of behavioral inhibition and exuberance: Psychophysiological and behavioral influences across the first four years of life. *Child Development*. 2001; 72(1):1–21. <http://doi.org/10.1111/1467-8624.00262>. [PubMed: 11280472]
- Galli F, D'Antuono G, Tarantino S, Viviano F, Borrelli O, Chirumbolo A, ... Guidetti V. Headache and recurrent abdominal pain: A controlled study by the means of the Child Behaviour Checklist (CBCL). *Cephalalgia*. 2007; 27(3):211–219. <http://doi.org/10.1111/j.1468-2982.2006.01271.x>. [PubMed: 17381555]
- Garber J, Zeman J, Walker LS. Recurrent abdominal pain in children: Psychiatric diagnoses and parental psychopathology. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1990; 29(4):648–656. <http://doi.org/10.1097/00004583-199007000-00021>. [PubMed: 2387802]

- Garcia MM, Shaw DS, Winslow EB, Yaggi KE. Destructive sibling conflict and the development of conduct problems in young boys. *Developmental Psychology*. 2000; 36(1):44–53. <http://doi.org/10.1037/0012-1649.36.1.44>. [PubMed: 10645743]
- Gardner, F., Shaw, DS. Behavioral problems of infancy and preschool children (0–5). In: Rutter, M., editor. *Child and adolescent psychiatry*. Malden, Mass: Blackwell Pub; 2008. p. 882–893.
- Gartstein MA, Putnam SP, Rothbart MK. Etiology of preschool behavior problems: Contributions of temperament attributes in early childhood. *Infant Mental Health Journal*. 2012; 33(2):197–211. <http://doi.org/10.1002/imhj.21312>. [PubMed: 28520102]
- Gazelle H, Ladd GW. Anxious solitude and peer exclusion: A diathesis–stress model of internalizing trajectories in childhood. *Child Development*. 2003; 74(1):257–278. <http://doi.org/10.1111/1467-8624.00534>. [PubMed: 12625449]
- Gershoff ET, Grogan-Kaylor A. Spanking and child outcomes: Old controversies and new meta-analyses. *Journal of Family Psychology*. 2016; 30:453–469. <http://doi.org/10.1037/fam0000191>. [PubMed: 27055181]
- Gilliom, M., Shaw, DS. Codevelopment of externalizing and internalizing problems in early childhood; *Development and Psychopathology*. 2004. p. 313–333. <http://doi.org/10.1017/S0954579404044530>
- Goeke-Morey MC, Cummings EM. Impact of father involvement: A closer look at indirect effects models involving marriage and child adjustment. *Applied Developmental Science*. 2007; 11(4): 221–225. <http://doi.org/10.1080/10888690701762126>.
- Goeke-Morey MC, Papp LM, Cummings EM. Changes in marital conflict and youths' responses across childhood and adolescence: A test of sensitization. *Development and Psychopathology*. 2013; 25:241–251. <http://doi.org/10.1017/S0954579412000995>. [PubMed: 23398762]
- Goodman SH, Rouse MH, Connell AM, Broth MR, Hall CM, Heyward D. Maternal depression and child psychopathology: A meta-analytic review. *Clinical Child and Family Psychology Review*. 2011; 14(1):1–27. <http://doi.org/10.1007/s10567-010-0080-1>. [PubMed: 21052833]
- Gordis, FW., Others, A. Young children's understanding of simultaneous conflicting emotions. 1989. Retrieved from <http://eric.ed.gov/?id=ED306038>
- Gottlieb LN, Mendelson MJ. Parental support and firstborn girls' adaptation to the birth of a sibling. *Journal of Applied Developmental Psychology*. 1990; 11(1):29–48. [http://doi.org/10.1016/0193-3973\(90\)90030-N](http://doi.org/10.1016/0193-3973(90)90030-N).
- Gottlieb LN, Mendelson MJ. Mothers' moods and social support when a second child is born. *Maternal-Child Nursing Journal*. 1995; 23(1):3–14. [PubMed: 7791380]
- Graham AA, Coplan RJ. Shyness, sibling relationships, and young children's socioemotional adjustment at preschool. *Journal of Research in Childhood Education*. 2012; 26(4):435–449. <http://doi.org/10.1080/02568543.2012.711802>.
- Gregory AM, Eley TC, O'Connor TG, Rijdsdijk FV, Plomin R. Family influences on the association between sleep problems and anxiety in a large sample of pre-school aged twins. *Personality and Individual Differences*. 2005; 39(8):1337–1348. <http://doi.org/10.1016/j.paid.2005.06.008>.
- Grist RM, Field AP. The mediating effect of cognitive development on children's worry elaboration. *Journal of Behavior Therapy and Experimental Psychiatry*. 2012; 43(2):801–807. <http://doi.org/10.1016/j.jbtep.2011.11.002>. [PubMed: 22178472]
- Groh AM, Roisman GI, van IJendoorn MH, Bakermans-Kranenburg MJ, Fearon RP. The significance of insecure and disorganized attachment for children's internalizing symptoms: A meta-analytic study. *Child Development*. 2012; 83(2):591–610. <http://doi.org/10.1111/j.1467-8624.2011.01711.x>. [PubMed: 22235928]
- Gross DD, Tucker SMS. Parenting confidence during toddlerhood: A comparison of mothers and fathers. *Nurse Practitioner*. 1994; 19(10)
- Grunau R, Whitfield M, Petrie J, Fryer L. Extremely low birth weight (ELBW) toddlers are relatively responsive to pain at 18 months corrected age compared to larger birth weight children. *Early Human Development*. 1993; 35(3):232–233. [http://doi.org/10.1016/0378-3782\(93\)90126-F](http://doi.org/10.1016/0378-3782(93)90126-F).
- Gullicks JN, Crase SJ. Sibling behavior with a newborn: Parents' expectations and observations. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*. 1993; 22(5):438–444. <http://doi.org/10.1111/j.1552-6909.1993.tb01827.x>.

- Guralnick MJ, Hammond MA, Neville B, Connor RT. The relationship between sources and functions of social support and dimensions of child- and parent-related stress. *Journal of Intellectual Disability Research*. 2008; 52(12):1138–1154. <http://doi.org/10.1111/j.1365-2788.2008.01073.x>. [PubMed: 18507703]
- Haan LD, Hawley DR, Deal JE. Operationalizing family resilience: A methodological strategy. *The American Journal of Family Therapy*. 2002; 30(4):275–291. <http://doi.org/10.1080/01926180290033439>.
- Hall WA, Zubrick SR, Silburn SR, Parsons DE, Kurinczuk JJ. A model for predicting behavioural sleep problems in a random sample of Australian pre-schoolers. *Infant and Child Development*. 2007; 16(5):509–523. <http://doi.org/10.1002/icd.527>.
- Hart MS, Kelley ML. Fathers' and mothers' work and family issues as related to internalizing and externalizing behavior of children attending day care. *Journal of Family Issues*. 2006; 27(2):252–270. <http://doi.org/10.1177/0192513X05280992>.
- Hastings, PD., Nuselovici, JN., Rubin, KH., Cheah, C. Shyness, parenting, and parent-child relationships. In: Rubin, KH., Coplan, RJ., editors. *The development of shyness and social withdrawal*. New York, NY, US: Guilford Press; 2010. p. 107-130.
- Hastings PD, Ruttle PL, Serbin LA, Mills RSL, Stack DM, Schwartzman AE. Adrenocortical responses to strangers in preschoolers: Relations with parenting, temperament, and psychopathology. *Developmental Psychobiology*. 2011; 53(7):694–710. <http://doi.org/10.1002/dev.20545>. [PubMed: 21432849]
- Hay DF, Waters CS, Perra O, Swift N, Kairis V, Phillips R, ... van Goozen S. Precursors to aggression are evident by 6 months of age. *Developmental Science*. 2014; 17(3):471–480. <http://doi.org/10.1111/desc.12133>. [PubMed: 24612281]
- Heinicke, CM., Westheimer, I. *Brief separations*. Oxford, England: International U. Press; 1966.
- Herba CM, Tremblay RE, Boivin M, et al. Maternal depressive symptoms and children's emotional problems: Can early child care help children of depressed mothers? *JAMA Psychiatry*. 2013; 70(8):830–838. <http://doi.org/10.1001/jamapsychiatry.2013.1361>. [PubMed: 23784556]
- Herbert SD, Harvey EA, Lugo-Candelas CI, Breaux RP. Early fathering as a predictor of later psychosocial functioning among preschool children with behavior problems. *Journal of Abnormal Child Psychology*. 2013; 41(5):691–703. <http://doi.org/10.1007/s10802-012-9706-8>. [PubMed: 23269560]
- Herrera C, Dunn J. Early experiences with family conflict: Implications for arguments with a close friend. *Developmental Psychology*. 1997; 33(5):869–881. <http://doi.org/10.1037/0012-1649.33.5.869>. [PubMed: 9300220]
- Hill AL, Degnan KA, Calkins SD, Keane SP. Profiles of externalizing behavior problems for boys and girls across preschool: The roles of emotion regulation and inattention. *Developmental Psychology*. 2006; 42(5):913–928. <http://doi.org/10.1037/0012-1649.42.5.913>. [PubMed: 16953696]
- Hill NE, Bush KR. Relationships between parenting environment and children's mental health among African American and European American mothers and children. *Journal of Marriage and Family*. 2001; 63(4):954–966. <http://doi.org/10.1111/j.1741-3737.2001.00954.x>.
- Hill R. Generic features of families under stress. *Social Casework*. 1958; 39:139–150.
- Hinde RA, Stevenson-Hinde J. Interpersonal relationships and child development. *Annual Progress in Child Psychiatry & Child Development*. 1988:5–26.
- Hinde RA, Stevenson-Hinde J, Tamplin A. Characteristics of 3- to 4-year-olds assessed at home and their interactions in preschool. *Developmental Psychology*. 1985; 21(1):130–140. <http://doi.org/10.1037/0012-1649.21.1.130>.
- Hoagwood KE, Cavaleri MA, Olin SS, Burns BJ, Slaton E, Gruttadaro D, Hughes R. Family support in children's mental health: A review and synthesis. *Clinical Child and Family Psychology Review*. 2010; 13(1):1–45. <http://doi.org/10.1007/s10567-009-0060-5>. [PubMed: 20012893]
- Holden, GW., Zambano, RJ. Passing the rod: Similarities between parents and their young children in orientations toward physical punishment. In: Sigel, IE, McGillicuddy-DeLisi, AV., Goodnow, JJ., editors. *Parental belief systems: The psychological consequences for children*. 2. Hillsdale, NJ, England: Lawrence Erlbaum Associates, Inc; 1992. p. 143-172.

- Ivanova MY, Achenbach TM, Rescorla LA, Harder VS, Ang RP, Bilenberg N, ... Verhulst FC. Preschool psychopathology reported by parents in 23 societies: Testing the seven-syndrome model of the Child Behavior Checklist for ages 1.5–5. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2010; 49(12):1215–1224. <http://doi.org/10.1016/j.jaac.2010.08.019>. [PubMed: 21093771]
- Jacobvitz, D., Hazen, N., Curran, M., Hitchens, K. Observations of early triadic family interactions: Boundary disturbances in the family predict symptoms of depression, anxiety, and attention-deficit/hyperactivity disorder in middle childhood; *Development and Psychopathology*. 2004. p. 577–592. <http://doi.org/10.1017/S0954579404004675>
- Jamshidian M, Jalal S. Tests of homoscedasticity, normality, and missing completely at random for incomplete multivariate data. *Psychometrika*. 2010; 75(4):649–674. <http://doi.org/10.1007/s11336-010-9175-3>. [PubMed: 21720450]
- Jenni OG, Achermann P, Carskadon MA. Homeostatic sleep regulation in adolescents. *Sleep-New York then Westchester*. 2005; 28(11):1446.
- Jenni OG, Carskadon MA. Sleep behavior and sleep regulation from infancy through adolescence: Normative aspects. *Sleep Medicine Clinics*. 2007; 2(3):321–329. <http://doi.org/10.1016/j.jsmc.2007.05.001>.
- Jenni OG, Fuhrer HZ, Iglowstein I, Molinari L, Largo RH. A longitudinal study of bed sharing and sleep problems among Swiss children in the first 10 years of life. *Pediatrics*. 2005; 115:233–240. <http://doi.org/10.1542/peds.2004-0815E>. [PubMed: 15866857]
- Johnston JR, González R, Campbell LEG. Ongoing postdivorce conflict and child disturbance. *Journal of Abnormal Child Psychology*. 1987; 15(4):493–509. <http://doi.org/10.1007/BF00917236>. [PubMed: 3437086]
- Jones DC, Abbey BB, Cumberland A. The development of display rule knowledge: Linkages with family expressiveness and social competence. *Child Development*. 1998; 69(4):1209–1222. <http://doi.org/10.1111/j.1467-8624.1998.tb06168.x>. [PubMed: 9768494]
- Jones LB, Rothbart MK, Posner MI. Development of executive attention in preschool children. *Developmental Science*. 2003; 6(5):498–504. <http://doi.org/10.1111/1467-7687.00307>.
- Jordan PL. Support behaviors identified as helpful and desired by second-time parents over the perinatal period. *Maternal-Child Nursing Journal*. 1989; 18(2):133–145. [PubMed: 2490740]
- Jouriles EN, Farris AM. Effects of marital conflict on subsequent parent-son interactions. *Behavior Therapy*. 1992; 23(3):355–374. [http://doi.org/10.1016/S0005-7894\(05\)80163-7](http://doi.org/10.1016/S0005-7894(05)80163-7).
- Kaczynski KJ, Lindahl KM, Malik NM, Laurenceau JP. Marital conflict, maternal and paternal parenting, and child adjustment: A test of mediation and moderation. *Journal of Family Psychology*. 2006; 20(2):199–208. <http://doi.org/10.1037/0893-3200.20.2.199>. [PubMed: 16756395]
- Kagan J. Temperament and the reactions to unfamiliarity. *Child Development*. 1997; 68(1):139–143. <http://doi.org/10.1111/j.1467-8624.1997.tb01931.x>. [PubMed: 9084130]
- Kagan J, Reznick JS, Snidman N. The physiology and psychology of behavioral inhibition in children. *Child Development*. 1987; 58(6):1459–1473. [PubMed: 3691195]
- Kagan J, Reznick JS, Snidman N. Biological bases of childhood shyness. *Science*. 1988; 240(4849):167–171. <http://doi.org/10.1126/science.3353713>. [PubMed: 3353713]
- Kagan J, Snidman N. Temperamental factors in human development. *American Psychologist*. 1991; 46(8):856–862. <http://doi.org/10.1037/0003-066X.46.8.856>. [PubMed: 1928938]
- Kataria S, Swanson MS, Trevathan GE. Persistence of sleep disturbances in preschool children. *The Journal of Pediatrics*. 1987; 110(4):642–646. [http://doi.org/10.1016/S0022-3476\(87\)80571-1](http://doi.org/10.1016/S0022-3476(87)80571-1). [PubMed: 3559818]
- Kearney CA, Sims KE, Pursell CR, Tillotson CA. Separation anxiety disorder in young children: A longitudinal and family analysis. *Journal of Clinical Child & Adolescent Psychology*. 2003; 32(4):593–598. http://doi.org/10.1207/S15374424JCCP3204_12. [PubMed: 14710468]
- Keenan K, Shaw D. Developmental and social influences on young girls' early problem behavior. *Psychological Bulletin*. 1997; 121(1):95–113. <http://doi.org/10.1037/0033-2909.121.1.95>. [PubMed: 9000893]

- Kelloway EK, Gottlieb BH, Barham L. The source, nature, and direction of work and family conflict: A longitudinal investigation. *Journal of Occupational Health Psychology*. 1999; 4(4):337–346. <http://doi.org/10.1037/1076-8998.4.4.337>. [PubMed: 10526838]
- Kendrick C, Dunn J. Protest or pleasure? The response of first-born children to interactions between their mothers and infant siblings. *Journal of Child Psychology and Psychiatry*. 1982; 23(2):117–129. <http://doi.org/10.1111/j.1469-7610.1982.tb00057.x>. [PubMed: 7068789]
- Kingston L, Prior M. The development of patterns of stable, transient, and school-age onset aggressive behavior in young children. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1995; 34(3):348–358. <http://doi.org/10.1097/00004583-199503000-00021>. [PubMed: 7896677]
- Klackenberg G. Sleep behaviour studied longitudinally. *Acta Pædiatrica*. 1982; 71(3):501–506. <http://doi.org/10.1111/j.1651-2227.1982.tb09459.x>.
- Kline GH, Julien D, Baucom B, Hartman S, Gilbert K, Gonzales T, Markman HJ. The Interactional Dimensions Coding System: A global system for couple interactions. *Couple observational coding systems*. 2004:113–126.
- Kochanska G. Toward a synthesis of parental socialization and child temperament in early development of conscience. *Child Development*. 1993; 64(2):325–347. <http://doi.org/10.2307/1131254>.
- Kochanska G, Kim S. Toward a new understanding of legacy of early attachments for future antisocial trajectories: Evidence from two longitudinal studies. *Development and Psychopathology*. 2012; 24(3):783–806. <http://doi.org/10.1017/S0954579412000375>. [PubMed: 22781855]
- Kojima Y, Irisawa M, Wakita M. The impact of a second infant on interactions of mothers and firstborn children. *Journal of Reproductive and Infant Psychology*. 2005; 23(1):103–114. <http://doi.org/10.1080/02646830512331330910>.
- Kolak AM, Volling BL. Sibling jealousy in early childhood: longitudinal links to sibling relationship quality. *Infant and Child Development*. 2011; 20(2):213–226. <http://doi.org/10.1002/icd.690>.
- Kolak AM, Volling BL. Coparenting moderates the association between firstborn children's temperament and problem behavior across the transition to siblinghood. *Journal of Family Psychology*. 2013; 27(3):355–364. <http://doi.org/10.1037/a0032864>. [PubMed: 23750518]
- Koos, EL. *Families in trouble*. Morningside Heights, NY: King's Crown Press; 1946.
- Kopp CB. Regulation of distress and negative emotions: A developmental view. *Developmental Psychology*. 1989; 25(3):343–354. <http://doi.org/10.1037/0012-1649.25.3.343>.
- Kramer L, Gottman JM. Becoming a sibling: "With a little help from my friends. *Developmental Psychology*. 1992; 28(4):685–699. <http://doi.org/10.1037/0012-1649.28.4.685>.
- Kramer L, Kowal AK. Sibling relationship quality from birth to adolescence: the enduring contributions of friends. *Journal of Family Psychology*. 2005; 19(4):503–511. <http://doi.org/10.1037/0893-3200.19.4.503>. [PubMed: 16402865]
- Kreppner K, Paulsen S, Schuetze Y. Infant and family development: From triads to tetrads. *Human Development*. 1982; 25(6):373–391. <http://doi.org/10.1159/000272821>. [PubMed: 7152503]
- Lagattuta KH. Thinking about the future because of the past: Young children's knowledge about the causes of worry and preventative decisions. *Child Development*. 2007; 78(5):1492–1509. <http://doi.org/10.1111/j.1467-8624.2007.01079.x>. [PubMed: 17883444]
- Lam P, Hiscock H, Wake M. Outcomes of infant sleep problems: A longitudinal study of sleep, behavior, and maternal well-being. *Pediatrics*. 2003; 111(3):e203–e207. <http://doi.org/10.1542/peds.111.3.e203>. [PubMed: 12612272]
- Lane, JD., Song, J-H. *International encyclopedia of social and behavioral sciences*. 2. Vol. 2. Oxford, England: Elsevier; 2015. Behavioral inhibition and social withdrawal across cultures; p. 456–462.
- Leahy-Warren P, McCarthy G, Corcoran P. First-time mothers: social support, maternal parental self-efficacy and postnatal depression. *Journal of Clinical Nursing*. 2012; 21(3–4):388–397. <http://doi.org/10.1111/j.1365-2702.2011.03701.x>. [PubMed: 21435059]
- Lee CYS, Anderson JR, Horowitz JL, August GJ. Family income and parenting: The role of parental depression and social support. *Family Relations*. 2009; 58(4):417–430. <http://doi.org/10.1111/j.1741-3729.2009.00563.x>.

- Legg MC, Sherick DI, Wadland W. Reaction of preschool children to the birth of a sibling. *Child Psychiatry and Human Development*. 1974; 5(1):3–39. <http://doi.org/10.1007/BF01441311>. [PubMed: 4477058]
- Lemerise EA, Arsenio WF. An integrated model of emotion processes and cognition in social information processing. *Child Development*. 2000; 71(1):107–118. [PubMed: 10836564]
- Letourneau NL, Dennis CL, Benzies K, Duffett-Leger L, Stewart M, Tryphonopoulos PD, ... Watson W. Postpartum depression is a family affair: Addressing the impact on mothers, fathers, and children. *Issues in Mental Health Nursing*. 2012; 33(7):445–457. <http://doi.org/10.3109/01612840.2012.673054>. [PubMed: 22757597]
- Leve LD, Kim HK, Pears KC. Childhood temperament and family environment as predictors of internalizing and externalizing trajectories from ages 5 to 17. *Journal of Abnormal Child Psychology*. 2005; 33(5):505–520. <http://doi.org/10.1007/s10802-005-6734-7>. [PubMed: 16195947]
- Levy DM. Rivalry between children in the same family. *Child Study*. 1934; 11:233–261.
- Levy, DM. *Studies in sibling rivalry*. New York: The American Orthopsychiatric Association; 1937.
- Lindsey EW, Caldera YM, Tankersley L. Marital conflict and the quality of young children's peer play behavior: The mediating and moderating role of parent-child emotional reciprocity and attachment security. *Journal of Family Psychology*. 2009; 23(2):130–145. <http://doi.org/10.1037/a0014972>. [PubMed: 19364208]
- Little, RJA., Rubin, DB. *Statistical analysis with missing data*. John Wiley & Sons; 2014.
- Liu, L., Wang, M. Parenting stress and children's problem behavior in China: The mediating role of parental psychological aggression. *Journal of Family Psychology*. 2014. <http://doi.org/10.1037/fam0000047>
- Löhr B, Siegmund R. Ultradian and circadian rhythms of sleep-wake and food-intake behavior during early infancy. *Chronobiology International*. 1999; 16(2):129–148. <http://doi.org/10.3109/07420529909019081>. [PubMed: 10219486]
- Lovejoy MC, Graczyk PA, O'Hare E, Neuman G. Maternal depression and parenting behavior: A meta-analytic review. *Clinical Psychology Review*. 2000; 20(5):561–592. [http://doi.org/10.1016/S0272-7358\(98\)00100-7](http://doi.org/10.1016/S0272-7358(98)00100-7). [PubMed: 10860167]
- Mackenbach JD, Ringoot AP, van der Ende J, Verhulst FC, Jaddoe VWV, Hofman A, ... Tiemeier HW. Exploring the relation of harsh parental discipline with child emotional and behavioral problems by using multiple informants. The Generation R study. *PLOS ONE*. 2014; 9(8):e104793. <http://doi.org/10.1371/journal.pone.0104793>. [PubMed: 25120014]
- Maguire MC, Dunn J. Friendships in early childhood and social understanding. *International Journal of Behavioral Development*. 1997; 21(4):669–686. <http://doi.org/10.1080/016502597384613>.
- Margolin G, Gordis EB, John RS. Coparenting: A link between marital conflict and parenting in two-parent families. *Journal of Family Psychology*. 2001; 15(1):3–21. <http://doi.org/10.1037/0893-3200.15.1.3>. [PubMed: 11322083]
- Mathiesen KS, Sanson A. Dimensions of early childhood behavior problems: Stability and predictors of change from 18 to 30 Months. *Journal of Abnormal Child Psychology*. 2000; 28(1):15–31. <http://doi.org/10.1023/A:1005165916906>. [PubMed: 10772347]
- McArdle, JJ., Ritschard, G. *Contemporary issues in exploratory data mining in the behavioral sciences*. NY: Routledge; 2013.
- McCubbin HI, Patterson JM. The family stress process. *Marriage & Family Review*. 1983; 6(1–2):7–37. http://doi.org/10.1300/J002v06n01_02.
- McElwain NL, Volling BL. Preschool children's interactions with friends and older siblings: relationship specificity and joint contributions to problem behavior. *Journal of Family Psychology*. 2005; 19(4):486–496. <http://doi.org/10.1037/0893-3200.19.4.486>. [PubMed: 16402863]
- McShane, KE., Hastings, PD. The New Friends Vignettes: Measuring parental psychological control that confers risk for anxious adjustment in preschoolers. *International Journal of Behavioral Development*. 2009. <http://doi.org/10.1177/0165025409103874>

- Meijer AM, van den Wittenboer GLH. Contribution of infants' sleep and crying to marital relationship of first-time parent couples in the 1st year after childbirth. *Journal of Family Psychology*. 2007; 21(1):49–57. <http://doi.org/10.1037/0893-3200.21.1.49>. [PubMed: 17371109]
- Melnick SM, Hinshaw SP. Emotion regulation and parenting in AD/HD and comparison boys: Linkages with social behaviors and peer preference. *Journal of Abnormal Child Psychology*. 2000; 28(1):73–86. <http://doi.org/10.1023/A:1005174102794>. [PubMed: 10772351]
- Meltzer LJ, Mindell JA. Relationship between child sleep disturbances and maternal sleep, mood, and parenting stress: A pilot study. *Journal of Family Psychology*. 2007; 21(1):67–73. <http://doi.org/10.1037/0893-3200.21.1.67>. [PubMed: 17371111]
- Mercer RTRN. She's a multip.... She knows the ropes. *Journal of Maternal Child Nursing*. 1979; 4(5): 301–304.
- Mesman J, Stoel R, Bakermans-Kranenburg MJ, van IJzendoorn MH, Juffer F, Koot HM, Alink LRA. Predicting growth curves of early childhood externalizing problems: Differential susceptibility of children with difficult temperament. *Journal of Abnormal Child Psychology*. 2009; 37(5):625–636. <http://doi.org/10.1007/s10802-009-9298-0>. [PubMed: 19184403]
- Mezulis AH, Hyde JS, Clark R. Father involvement moderates the effect of maternal depression during a child's infancy on child behavior problems in kindergarten. *Journal of Family Psychology*. 2004; 18(4):575–588. <http://doi.org/10.1037/0893-3200.18.4.575>. [PubMed: 15598163]
- Mikami AY, Pfiffner LJ. Sibling relationships among children with ADHD. *Journal of Attention Disorders*. 2008; 11(4):482–492. <http://doi.org/10.1177/1087054706295670>. [PubMed: 17494830]
- Mindell JA, Sadeh A, Kohyama J, How TH. Parental behaviors and sleep outcomes in infants and toddlers: A cross-cultural comparison. *Sleep Medicine*. 2010; 11(4):393–399. <http://doi.org/10.1016/j.sleep.2009.11.011>. [PubMed: 20223706]
- Miner JL, Clarke-Stewart KA. Trajectories of externalizing behavior from age 2 to age 9: Relations with gender, temperament, ethnicity, parenting, and rater. *Developmental Psychology*. 2008; 44(3):771–786. <http://doi.org/10.1037/0012-1649.44.3.771>. [PubMed: 18473643]
- Moffitt TE. Juvenile delinquency and attention deficit disorder: Boys' developmental trajectories from age 3 to age 15. *Child Development*. 1990; 61(3):893–910. <http://doi.org/10.1111/j.1467-8624.1990.tb02830.x>. [PubMed: 2364762]
- Morris N, Keane S, Calkins S, Shanahan L, O'Brien M. Differential components of reactivity and attentional control predicting externalizing behavior. *Journal of Applied Developmental Psychology*. 2014; 35(3):121–127. <http://doi.org/10.1016/j.appdev.2014.02.002>. [PubMed: 27076694]
- Moss E, Bureau JF, Cyr C, Dubois-Comtois K. Is the maternal Q-Set a valid measure of preschool child attachment behavior? *International Journal of Behavioral Development*. 2006; 30(6):488–497. <http://doi.org/10.1177/0165025406071908>.
- Mulvaney S, Lambert EW, Garber J, Walker LS. Trajectories of symptoms and impairment for pediatric patients with functional abdominal pain: A 5-year longitudinal study. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2006; 45(6):737–744. <http://doi.org/10.1097/10.chi.0000214192.57993.06>. [PubMed: 16721324]
- Muris P, Merckelbach H, Gadget B, Moulaert V. Fears, worries, and scary dreams in 4- to 12-year-old children: Their content, developmental pattern, and origins. *Journal of Clinical Child Psychology*. 2000; 29(1):43–52. http://doi.org/10.1207/S15374424jccp2901_5. [PubMed: 10693031]
- Muris P, Merckelbach H, Meesters C, van den Brand K. Cognitive development and worry in normal children. *Cognitive Therapy and Research*. 2002; 26(6):775–787. <http://doi.org/10.1023/A:1021241517274>.
- Muthén, B. Latent variable analysis: Growth Mixture Modeling and related techniques for longitudinal data. In: Kaplan, D., editor. *The Sage handbook of quantitative methodology for the social sciences*. Thousand Oaks, CA: Sage Publications, Inc; 2004. p. 345–68.
- Muthén B, Muthén LK. Integrating person-centered and variable-centered analyses: Growth mixture modeling with latent trajectory classes. *Alcoholism: Clinical and Experimental Research*. 2000; 24(6):882–891. <http://doi.org/10.1111/j.1530-0277.2000.tb02070.x>.
- Muthén, LK., Muthén, BO. *Mplus User's Guide*. 7. Los Angeles, Calif: 1998–2012.

- Nadelman, L., Begun, A. The effect of the newborn on the older sibling: Mothers' questionnaires. In: Lamb, ME., Sutton-Smith, B., editors. *Sibling relationships: Their nature and significance across the lifespan*. Hillsdale, NJ: Erlbaum; 1982. p. 13-38.
- Nagin DS. Analyzing developmental trajectories: A semiparametric, group-based approach. *Psychological Methods*. 1999; 4(2):139–157. <http://doi.org/10.1037/1082-989X.4.2.139>.
- Nylund KL, Asparouhov T, Muthén BO. Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling: A Multidisciplinary Journal*. 2007; 14(4):535–569. <http://doi.org/10.1080/10705510701575396>.
- Oh W, Rubin KH, Bowker JC, Booth-LaForce C, Rose-Krasnor L, Laursen B. Trajectories of social withdrawal from middle childhood to early adolescence. *Journal of Abnormal Child Psychology*. 2008; 36(4):553–566. <http://doi.org/10.1007/s10802-007-9199-z>. [PubMed: 18193479]
- Oh W, Volling BL, Gonzalez R. Trajectories of children's social interactions with their infant sibling in the first year: A multidimensional approach. *Journal of Family Psychology*. 2015; 29(1):119–129. <http://doi.org/10.1037/fam0000051>. [PubMed: 25664367]
- Owens EB, Shaw DS. Predicting growth curves of externalizing behavior across the preschool years. *Journal of Abnormal Child Psychology*. 2003; 31(6):575–590. <http://doi.org/10.1023/A:1026254005632>. [PubMed: 14658739]
- Owens-Stively JMD, Frank N, Smith AMS, Hagino OMD, Spirito A, Arrigan MBS, Alario AJMD. Child temperament, parenting discipline style, and daytime behavior in childhood sleep disorders. *Journal of Developmental and Behavioral Pediatrics*. 1997; 18(5):314–321. [PubMed: 9349974]
- Patterson GR. Performance models for antisocial boys. *American Psychologist*. 1986; 41(4):432–444. <http://doi.org/10.1037/0003-066X.41.4.432>. [PubMed: 3717751]
- Paulus FW, Backes A, Sander CS, Weber M, von Gontard A. Anxiety disorders and behavioral inhibition in preschool children: A population-based study. *Child Psychiatry & Human Development*. 2015; 46(1):150–157. <http://doi.org/10.1007/s10578-014-0460-8>. [PubMed: 24659133]
- Perlman M, Ross HS. The benefits of parent intervention in children's disputes: An Examination of concurrent changes in children's fighting styles. *Child Development*. 1997; 68(4):690–700. <http://doi.org/10.1111/j.1467-8624.1997.tb04230.x>.
- Peterson JL, Zill N. Marital disruption, parent-child relationships, and behavior problems in children. *Journal of Marriage and Family*. 1986; 48(2):295–307. <http://doi.org/10.2307/352397>.
- Petrus, H., Masyn, K. General growth mixture analysis with antecedents and consequences of change. In: Piquero, AR., Weisburd, D., editors. *Handbook of Quantitative Criminology*. Springer; New York: 2010. p. 69-100.
- Petty TA. The tragedy of humpty dumpty. *Psychoanalytic Study of the Child*. 1953; 8:404–412.
- Pons F, Harris PL, de Rosnay M. Emotion comprehension between 3 and 11 years: Developmental periods and hierarchical organization. *European Journal of Developmental Psychology*. 2004; 1(2):127–152. <http://doi.org/10.1080/17405620344000022>.
- Quine L. Severity of sleep problems in children with severe learning difficulties: Description and correlates. *Journal of Community & Applied Social Psychology*. 1992; 2(4):247–268. <http://doi.org/10.1002/casp.2450020404>.
- Renk K, Roddenberry A, Oliveros A, Sieger K. The relationship of maternal characteristics and perceptions of children's emotional and behavioral problems. *Child and Family Behavior Therapy*. 2007; 29(1):37–57. http://doi.org/10.1300/J019v29n01_03.
- Richardson P. Women's perceptions of change in relationships shared with children during pregnancy. *Maternal-Child Nursing Journal*. 1983; 12(2):75–88. [PubMed: 6554427]
- Robertson J, Robertson J. Young children in brief separation: A fresh look. *The Psychoanalytic Study of the Child*. 1971; 26:264–315. [PubMed: 5163230]
- Rocha EM, Prkachin KM. Temperament and pain reactivity predict health behavior seven years later. *Journal of Pediatric Psychology*. 2007; 32(4):393–399. <http://doi.org/10.1093/jpepsy/jsl036>. [PubMed: 17038414]

- Rothbart MK, Ahadi SA, Hershey KL, Fisher P. Investigations of temperament at three to seven years: The Children's Behavior Questionnaire. *Child Development*. 2001; 72(5):1394–1408. <http://doi.org/10.1111/1467-8624.00355>. [PubMed: 11699677]
- Rothbart, MK., Bates, JE. Temperament. In: Eisenberg, N., Eisenberg, N., editors. *Handbook of child psychology*, 5th ed.: Vol 3. Social, emotional, and personality development. Hoboken, NJ, US: John Wiley & Sons Inc; 1998. p. 105-176.
- Rothbart, MK., Bates, JE. Temperament in children's development. In: Damon, W., Lerner, R., editors. *Handbook of child psychology: Vol. 3. Social, emotional, and personality development*. 6. Vol. 3. New York, N.Y., U.S.A: Wiley; 2006. p. 99-166.
- Rothbart MK, Sheese BE, Rueda MR, Posner MI. Developing mechanisms of self-regulation in early life. *Emotion Review*. 2011; 3(2):207–213. <http://doi.org/10.1177/1754073910387943>. [PubMed: 21892360]
- Rubin KH, Burgess KB, Hastings PD. Stability and social-behavioral consequences of toddlers' inhibited temperament and parenting behaviors. *Child Development*. 2002; 73(2):483–495. [PubMed: 11949904]
- Rubin, KH., Burgess, KB., Kennedy, AE., Stewart, SL. Social withdrawal in childhood. In: Mash, EJ., Barkley, RA., editors. *Child psychopathology*. 2. New York, NY, US: Guilford Press; 2003. p. 372-406.
- Rubin KH, Chen X, McDougall P, Bowker A, McKinnon J. The Waterloo Longitudinal Project: Predicting internalizing and externalizing problems in adolescence. *Development and Psychopathology*. 1995; 7(04):751–764. <http://doi.org/10.1017/S0954579400006829>.
- Rubin KH, Coplan RJ, Bowker JC. Social withdrawal in childhood. *Annual Review of Psychology*. 2009; 60(1):141–171. <http://doi.org/10.1146/annurev.psych.60.110707.163642>.
- Rubin KH, Hastings PD, Stewart SL, Henderson HA, Chen X. The consistency and concomitants of Inhibition: Some of the children, all of the time. *Child Development*. 1997; 68(3):467–483. <http://doi.org/10.1111/j.1467-8624.1997.tb01952.x>. [PubMed: 9249961]
- Ruff, HA., Rothbart, MK. *Attention in early development: Themes and variations*. New York, NY, US: Oxford University Press; 1996. Retrieved from <http://proxy.lib.umich.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=1996-98232-000&site=ehost-live&scope=site>
- Rushton PJ, Brainerd CJ, Pressley M. Behavioral development and construct validity: The principle of aggregation. *Psychological Bulletin*. 1983; 94(1):18–38. <http://doi.org/10.1037/0033-2909.94.1.18>.
- Rutter M. Transitions and turning points in developmental psychopathology: As applied to the age span between childhood and mid-adulthood. *International Journal of Behavioral Development*. 1996; 19(3):603–626. <http://doi.org/10.1177/016502549601900309>.
- Rydell AM, Bohlin G, Thorell LB. Representations of attachment to parents and shyness as predictors of children's relationships with teachers and peer competence in preschool. *Attachment & Human Development*. 2005; 7(2):187–204. <http://doi.org/10.1080/14616730500134282>. [PubMed: 16096193]
- Sadeh A, Lavie P, Scher A. Sleep and temperament: Maternal perceptions of temperament of sleep-disturbed toddlers. *Early Education and Development*. 1994; 5(4):311–322. http://doi.org/10.1207/s15566935eed0504_6.
- Sadeh A, Mindell JA, Luedtke K, Wiegand B. Sleep and sleep ecology in the first 3 years: a web-based study. *Journal of Sleep Research*. 2009; 18(1):60–73. <http://doi.org/10.1111/j.1365-2869.2008.00699.x>. [PubMed: 19021850]
- Sadeh A, Raviv A, Gruber R. Sleep patterns and sleep disruptions in school-age children. *Developmental Psychology*. 2000; 36(3):291–301. <http://doi.org/10.1037/0012-1649.36.3.291>. [PubMed: 10830974]
- Sameroff AJ. Developmental systems and psychopathology. *Development and Psychopathology*. 2000; 12:297–312. [PubMed: 11014740]
- Sanders MR, Woolley ML. The relationship between maternal self-efficacy and parenting practices: Implications for parent training. *Child: Care, Health and Development*. 2005; 31(1):65–73. <http://doi.org/10.1111/j.1365-2214.2005.00487.x>.

- Schacht PM, Cummings EM, Davies PT. Fathering in family context and child adjustment: A longitudinal analysis. *Journal of Family Psychology*. 2009; 23(6):790–797. <http://doi.org/10.1037/a0016741>. [PubMed: 20001137]
- Schaefer C. Night waking and temperament in early childhood. *Psychological Reports*. 1990; 67(1): 192–194. [PubMed: 2236396]
- Schafer JL, Graham JW. Missing data: Our view of the state of the art. *Psychological Methods*. 2002; 7(2):147–177. <http://doi.org/10.1037/1082-989X.7.2.147>. [PubMed: 12090408]
- Scher A, Asher R. Is attachment security related to sleep–wake regulation?: Mothers' reports and objective sleep recordings. *Infant Behavior and Development*. 2004; 27(3):288–302. <http://doi.org/10.1016/j.infbeh.2003.12.002>.
- Schoppe SJ, Mangelsdorf SC, Frosch CA. Coparenting, family process, and family structure: Implications for preschoolers' externalizing behavior problems. *Journal of Family Psychology*. 2001; 15(3):526–545. <http://doi.org/10.1037/0893-3200.15.3.526>. [PubMed: 11584800]
- Schoppe-Sullivan SJ, Mangelsdorf SC, Frosch CA, McHale JL. Associations between coparenting and marital behavior from infancy to the preschool years. *Journal of Family Psychology*. 2004; 18(1): 194–207. <http://doi.org/10.1037/0893-3200.18.1.194>. [PubMed: 14992621]
- Schoppe-Sullivan SJ, Weldon AH, Claire Cook J, Davis EF, Buckley CK. Coparenting behavior moderates longitudinal relations between effortful control and preschool children's externalizing behavior. *Journal of Child Psychology and Psychiatry*. 2009; 50(6):698–706. <http://doi.org/10.1111/j.1469-7610.2008.02009.x>. [PubMed: 19207627]
- Schwarz G. Estimating the dimension of a model. *The Annals of Statistics*. 1978; 6(2):461–464. <http://doi.org/10.1214/aos/1176344136>.
- Slovce SL. Application of model-selection criteria to some problems in multivariate analysis. *Psychometrika*. 1987; 52(3):333–343. <http://doi.org/10.1007/BF02294360>.
- Seidman E, French SE. Developmental trajectories and ecological transitions: A two-step procedure to aid in the choice of prevention and promotion interventions. *Development and Psychopathology*. 2004; 16:1141–1159. <http://doi.org/10.1017/S0954579404040179>. [PubMed: 15704831]
- Seifer R, Sameroff AJ, Dickstein S, Hayden LC. Parental psychopathology and sleep variation in children. *Child and Adolescent Psychiatric Clinics of North America*. 1996; 5(3):715–727.
- Shapiro AF, Nahm EY, Gottman JM, Content K. Bringing baby home together: Examining the impact of a couple-focused intervention on the dynamics within family play. *American Journal of Orthopsychiatry*. 2011; 81(3):337–350. <http://doi.org/10.1111/j.1939-0025.2011.01102.x>. [PubMed: 21729014]
- Shaw DS, Keenan K, Vondra JI. Developmental precursors of externalizing behavior: Ages 1 to 3. *Developmental Psychology*. 1994; 30(3):355–364. <http://doi.org/10.1037/0012-1649.30.3.355>.
- Shaw DS, Keenan K, Vondra JI, Delliquardi E, Giovannelli J. Antecedents of preschool children's internalizing problems: A longitudinal study of low-income families. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1997; 36(12):1760–1767. <http://doi.org/10.1097/00004583-199712000-00025>. [PubMed: 9401338]
- Shaw DS, Owens EB, Giovannelli J, Winslow EB. Infant and toddler pathways leading to early externalizing disorders. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2001; 40(1):36–43. <http://doi.org/10.1097/00004583-200101000-00014>. [PubMed: 11195559]
- Song JH, Volling BL. Coparenting and children's temperament predict firstborns' cooperation in the care of an infant sibling. *Journal of Family Psychology*. 2015; 29(1):130–135. <http://doi.org/10.1037/fam0000052>. [PubMed: 25581467]
- Sroufe LA, Rutter M. The domain of developmental psychopathology. *Child Development*. 1984; 55(1):17–29. <http://doi.org/10.2307/1129832>. [PubMed: 6705619]
- Staples AD, Bates JE, Petersen IT. IX. Bedtime routines in early childhood: Prevalence, consistency, and associations with nighttime sleep. *Monographs of the Society for Research in Child Development*. 2015; 80(1):141–159. <http://doi.org/10.1111/mono.12149>. [PubMed: 25704740]
- Steinhausen HC. Developmental psychopathology in adolescence: Findings from a Swiss study – the NAPE Lecture 2005. *Acta Psychiatrica Scandinavica*. 2006; 113(1):6–12. <http://doi.org/10.1111/j.1600-0447.2005.00706.x>. [PubMed: 16390363]

- Stevenson-Hinde J, Shouldice A, Chicot R. Maternal anxiety, behavioral inhibition, and attachment. *Attachment & Human Development*. 2011; 13(3):199–215. <http://doi.org/10.1080/14616734.2011.562409>. [PubMed: 21506027]
- Stevenson MM, Fabricius WV, Cookston JT, Parke RD, Coltrane S, Braver SL, Saenz DS. Marital problems, maternal gatekeeping attitudes, and father–child relationships in adolescence. *Developmental Psychology*. 2014; 50(4):1208–1218. <http://doi.org/10.1037/a0035327>. [PubMed: 24364832]
- Stewart, RB. *The second child: Family transition and adjustment*. Thousand Oaks, CA, US: Sage Publications, Inc; 1990.
- Stewart RB, Mobley LA, van Tuyl SS, Salvador MA. The firstborn's adjustment to the birth of a sibling: A longitudinal assessment. *Child Development*. 1987; 58(2):341–355. <http://doi.org/10.2307/1130511>. [PubMed: 3829782]
- Stillwell R, Dunn J. Continuities in sibling relationships: Patterns of aggression and friendliness. *Journal of Child Psychology and Psychiatry*. 1985; 26(4):627–637. <http://doi.org/10.1111/j.1469-7610.1985.tb01645.x>. [PubMed: 4019620]
- Strobl C, Malley J, Tutz G. An introduction to recursive partitioning: Rationale, application, and characteristics of classification and regression trees, bagging, and random forests. *Psychological Methods*. 2009; 14(4):323–348. <http://doi.org/10.1037/a0016973>. [PubMed: 19968396]
- Stuart S, Noyes R Jr. Attachment and interpersonal communication in somatization. *Psychosomatics*. 1999; 40(1):34–43. [http://doi.org/10.1016/S0033-3182\(99\)71269-7](http://doi.org/10.1016/S0033-3182(99)71269-7). [PubMed: 9989119]
- Tarabulsky GM, Provost MA, Larose S, Moss E, Lemelin JP, Moran G, ... Pederson DR. Similarities and differences in mothers' and observers' ratings of infant security on the Attachment Q-Sort. *Infant Behavior and Development*. 2008; 31(1):10–22. <http://doi.org/10.1016/j.infbeh.2007.05.002>. [PubMed: 17624438]
- Terre L, Ghiselli W. A developmental perspective on family risk factors in somatization. *Journal of Psychosomatic Research*. 1997; 42(2):197–208. [http://doi.org/10.1016/S0022-3999\(96\)00237-1](http://doi.org/10.1016/S0022-3999(96)00237-1). [PubMed: 9076647]
- Teti DM, McGourty S. Using mothers versus trained observers in assessing children's secure base behavior: Theoretical and methodological considerations. *Child Development*. 1996; 67(2):597–605. <http://doi.org/10.1111/j.1467-8624.1996.tb01753.x>. [PubMed: 8625730]
- Teti DM, Sakin JW, Kucera E, Corns KM, Eiden RD. And baby makes four: Predictors of attachment security among preschool-age firstborns during the transition to siblinghood. *Child Development*. 1996; 67(2):579–596. [PubMed: 8625729]
- Teubert D, Pinquart M. The association between coparenting and child adjustment: A meta-analysis. *Parenting*. 2010; 10(4):286–307. <http://doi.org/10.1080/15295192.2010.492040>.
- Tharner A, Luijk MPCM, van IJzendoorn MH, Bakermans-Kranenburg MJ, Jaddoe VWV, Hofman A, ... Tiemeier H. Infant attachment, parenting stress, and child emotional and behavioral problems at age 3 years. *Parenting*. 2012; 12(4):261–281. <http://doi.org/10.1080/15295192.2012.709150>.
- Thomason E, Volling BL, Flynn HA, McDonough SC, Marcus SM, Lopez JF, Vazquez DM. Parenting stress and depressive symptoms in postpartum mothers: Bidirectional or unidirectional effects? *Infant Behavior and Development*. 2014; 37(3):406–415. <http://doi.org/10.1016/j.infbeh.2014.05.009>. [PubMed: 24956500]
- Thompson, RA., Meyer, S. Socialization of emotion regulation in the family. In: Gross, JJ., Gross, JJ., editors. *Handbook of emotion regulation*. New York, NY, US: Guilford Press; 2007. p. 249–268.
- Tikotzky L, Sadeh A. Maternal sleep-related cognitions and infant sleep: A longitudinal study from pregnancy through the 1st Year. *Child Development*. 2009; 80(3):860–874. <http://doi.org/10.1111/j.1467-8624.2009.01302.x>. [PubMed: 19489908]
- Tikotzky L, Sadeh A, Volkovich E, Manber R, Meiri G, Shahar G. Vii. Infant sleep development from 3 to 6 months postpartum: Links with maternal sleep and paternal involvement. *Monographs of the Society for Research in Child Development*. 2015; 80(1):107–124. <http://doi.org/10.1111/mono.12147>. [PubMed: 25704738]
- Touchette É, Petit D, Paquet J, Boivin M, Japel C, Tremblay RE, Montplaisir JY. Factors associated with fragmented sleep at night across early childhood. *Archives of Pediatrics & Adolescent Medicine*. 2005; 159(3):242–249. [PubMed: 15753267]

- Towe-Goodman NR, Teti DM. Power assertive discipline, maternal emotional involvement, and child adjustment. *Journal of Family Psychology*. 2008; 22(4):648–651. <http://doi.org/10.1037/a0012661>. [PubMed: 18729679]
- Trause MA. Birth in the hospital: The effect on the sibling. *Birth*. 1978; 5(4):207–210. <http://doi.org/10.1111/j.1523-536X.1978.tb01281.x>.
- Trause MA, Voos D, Rudd C, Klaus M, Kennell J, Boslett M. Separation for childbirth: The effect on the sibling. *Child Psychiatry and Human Development*. 1981; 12(1):32–39. <http://doi.org/10.1007/BF00706671>. [PubMed: 7273911]
- Tremblay RE, Japel C, Perusse D, McDuff P, Boivin M, Zoccolillo M, Montplaisir J. The search for the age of “onset” of physical aggression: Rousseau and Bandura revisited. *Criminal Behaviour and Mental Health*. 1999; 9(1):8–23. <http://doi.org/10.1002/cbm.288>.
- Tremblay RE, Nagin DS, Séguin JR, Zoccolillo M, Zelazo PD, Boivin M, ... Japel C. Physical aggression during early childhood: Trajectories and predictors. *Pediatrics*. 2004; 114(1):e43–e50. <http://doi.org/10.1542/peds.114.1.e43>. [PubMed: 15231972]
- van Aken C, Junger M, Verhoeven M, van Aken MAG, Deković M. The longitudinal relations between parenting and toddlers’ attention problems and aggressive behaviors. *Infant Behavior and Development*. 2008; 31(3):432–446. <http://doi.org/10.1016/j.infbeh.2007.12.016>. [PubMed: 18279968]
- Vasey MW, Crnic KA, Carter WG. Worry in childhood: A developmental perspective. *Cognitive Therapy and Research*. 1994; 18(6):529–549. <http://doi.org/10.1007/BF02355667>.
- Vinden PG. Children’s understanding of mind and emotion: A multi-culture study. *Cognition & Emotion*. 1999; 13(1):19–48. <http://doi.org/10.1080/026999399379357>.
- Volling BL. The transition to siblinghood: A developmental ecological systems perspective and directions for future research. *Journal of Family Psychology*. 2005; 19(4):542–549. <http://doi.org/10.1037/0893-3200.19.4.542>. [PubMed: 16402869]
- Volling, BL. Family transitions following the birth of a sibling: An empirical review of changes in the firstborn’s adjustment. *Psychological Bulletin*. 2012. <http://doi.org/10.1037/a0026921>
- Volling BL, Elins JL. Family relationships and children’s emotional adjustment as correlates of maternal and paternal differential treatment: A replication with toddler and preschool Siblings. *Child Development*. 1998; 69(6):1640–1656. <http://doi.org/10.2307/1132137>. [PubMed: 9914644]
- Volling BL, McElwain NL, Miller AL. Emotion regulation in context: The jealousy complex between young siblings and its relations with child and family characteristics. *Child Development*. 2002; 73(2):581–600. [PubMed: 11949910]
- Volling, BL., Oh, W., Gonzalez, R. Attachments to mother and father predict sibling relationship quality following the birth of a sibling. In: Mesman, J., Chair, editor. *Observing mothers and fathers with their young children: Unique patterns, predictors, and consequences presented at the International Society for the Study of Behavioral Development*; Edmonton, Canada. 2012 Jul.
- Volling BL, Yu T, Gonzalez R, Kennedy DE, Rosenberg L, Oh W. Children’s responses to mother–infant and father–infant interaction with a baby sibling: Jealousy or joy? *Journal of Family Psychology*. 2014; 28(5):634–644. <http://doi.org/10.1037/a0037811>. [PubMed: 25150371]
- Walcott CM, Landau S. The relations between disinhibition and emotion regulation in boys with attention deficit hyperactivity disorder. *Journal of Clinical Child & Adolescent Psychology*. 2004; 33(4):772–782. http://doi.org/10.1207/s15374424jccp3304_12. [PubMed: 15498744]
- Walker LS, Garber J, Greene JW. Psychosocial correlates of recurrent childhood pain: A comparison of pediatric patients with recurrent abdominal pain, organic illness, and psychiatric disorders. *Journal of Abnormal Psychology*. 1993; 102(2):248–258. <http://doi.org/10.1037/0021-843X.102.2.248>. [PubMed: 8315137]
- Walker LS, Greene JW. Children with recurrent abdominal pain and their parents: More somatic complaints, anxiety, and depression than other patient families? *Journal of Pediatric Psychology*. 1989; 14(2):231–243. <http://doi.org/10.1093/jpepsy/14.2.231>. [PubMed: 2754574]
- Warren SL, Simmens SJ. Predicting toddler anxiety/depressive symptoms: Effects of caregiver sensitivity on temperamentally vulnerable children. *Infant Mental Health Journal*. 2005; 26(1): 40–55. <http://doi.org/10.1002/imhj.20034>. [PubMed: 28682514]

- Waters E, Deane KE. Defining and assessing individual differences in attachment relationships: Q-methodology and the organization of behavior in infancy and early childhood. *Monographs of the Society for Research in Child Development*. 1985; 50(1/2):41–65. <http://doi.org/10.2307/3333826>.
- Weinraub M, Bender RH, Friedman SL, Susman EJ, Knoke B, Bradley R, ... Williams J. Patterns of developmental change in infants' nighttime sleep awakenings from 6 through 36 months of age. *Developmental Psychology*. 2012; 48(6):1511–1528. <http://doi.org/10.1037/a0027680>. [PubMed: 22448981]
- Wellman HM, Liu D. Scaling of theory-of-mind tasks. *Child Development*. 2004; 75(2):523–541. <http://doi.org/10.1111/j.1467-8624.2004.00691.x>. [PubMed: 15056204]
- Wellman HM, Woolley JD. From simple desires to ordinary beliefs: The early development of everyday psychology. *Cognition*. 1990; 35(3):245–275. [http://doi.org/10.1016/0010-0277\(90\)90024-E](http://doi.org/10.1016/0010-0277(90)90024-E). [PubMed: 2364653]
- Whalen CK, Henker B. The social profile of attention deficit hyperactivity disorder: Five fundamental facets. *Child and Adolescent Psychiatric Clinics of North America*. 1992; 1:395–410.
- Wheeler J, Carlson CL. The social functioning of children with ADD with hyperactivity and ADD without hyperactivity: A comparison of their peer relations and social deficits. *Journal of Emotional and Behavioral Disorders*. 1994; 2(1):2–12. <http://doi.org/10.1177/106342669400200101>.
- Williams LR, Degnan KA, Perez-Edgar KE, Henderson HA, Rubin KH, Pine DS, ... Fox NA. Impact of behavioral inhibition and parenting style on internalizing and externalizing problems from early childhood through adolescence. *Journal of Abnormal Child Psychology*. 2009; 37(8):1063–1075. <http://doi.org/10.1007/s10802-009-9331-3>. [PubMed: 19521761]
- Wilson S, Durbin CE. Effects of paternal depression on fathers' parenting behaviors: A meta-analytic review. *Clinical Psychology Review*. 2010; 30(2):167–180. <http://doi.org/10.1016/j.cpr.2009.10.007>. [PubMed: 19926376]
- Winnicott, DW. *The child, the family and the outside world*. Harmondsworth, Middlesex, England: Penguin Books; 1964.
- Winnicott, DW. *The piggle: An account of the psychoanalytic treatment of a little girl*. London: The Hogarth Press and the Institute of Psycho-Analysis; 1978.
- Wolff N, Darlington AS, Hunfeld J, Verhulst F, Jaddoe V, Hofman A, ... Tiemeier H. Determinants of somatic complaints in 18-month-old children: The Generation R Study. *Journal of Pediatric Psychology*. 2010; 35(3):306–316. <http://doi.org/10.1093/jpepsy/jsp058>. [PubMed: 19737841]
- Wolff NJ, Darlington ASE, MA, Verhulst FC, VW, Moll HA, ... Tiemeier H. The association of parent behaviors, chronic pain, and psychological problems with venipuncture distress in infants: The Generation R study. *Health Psychology*. 2009; 28(5):605–613. <http://doi.org/10.1037/a0015202>. [PubMed: 19751087]
- Youngblade LM, Dunn J. Individual differences in young children's pretend play with mother and sibling: Links to relationships and understanding of other people's feelings and beliefs. *Child Development*. 1995; 66(5):1472–1492. <http://doi.org/10.1111/j.1467-8624.1995.tb00946.x>. [PubMed: 7555225]
- Zemp M, Bodenmann G, Cummings EM. The role of skin conductance level reactivity in the impact of children's exposure to interparental conflict on their attention performance. *Journal of Experimental Child Psychology*. 2014; 118:1–12. <http://doi.org/10.1016/j.jecp.2013.09.007>. [PubMed: 24184777]
- Zuckerman B, Stevenson J, Bailey V. Sleep problems in early childhood: Continuities, predictive factors, and behavioral correlates. *Pediatrics*. 1987; 80(5):664–671. [PubMed: 3670967]

FIGURE 1.

Theorized trajectory patterns of change reflecting adjustment and adaptation, stability, and linear increase

FIGURE 5. Trajectory classes for attention problems from the Growth Mixture Model ($n=229$).

Table 6

Growth Mixture Model Results for Attention Problems: Parameter Estimates and Standard Errors for Fixed Effects

Classes	Low-decreasing	Mid-decreasing	High-stable
Parameters	n = 172 (75.1%)	n = 52 (22.7%)	n = 5 (2.2%)
Intercept	1.616*** (.084)	3.685*** (.182)	6.403*** (.407)
Linear slope	-.039* (.015)	-.105** (.036)	-.022 (.096)

Note. Standard errors in parentheses. The random effect (variance) of intercept est. = .374, $SE = .080$, $p < .001$; the random effect of linear slope est. = .007, $SE = .004$, $p = .070$.

*
 $p < .05$,

**
 $p < .01$,

 $p < .001$.

Results of Multinomial Logistic Regression Analysis Examining Class Differences for Children's Attention Problems with the Low-Decreasing Class as the Reference Class

Table 7

Predictor	Low-decreasing vs.	<i>b</i>	<i>SE</i>	<i>z</i>	<i>P</i>	<i>OR</i>
Attachment security to mother	Mid-decreasing	-2.74	1.02	-2.68	0.007	0.06
	High-stable	-9.94	3.61	-2.76	0.006	0.00
Fathers' parenting self-efficacy ^a	Mid-decreasing	1.07	0.54	1.96	n.s.	2.90
	High-stable	1.67	1.60	1.05	n.s.	5.33
Mothers' parenting self-efficacy ^a	Mid-decreasing	1.37	0.56	2.46	0.014	3.94
	High-stable	1.03	1.48	0.69	n.s.	2.79

Note: n.s. = nonsignificant. *OR*= Odds Ratio.

^a higher scores indicate lower sense of efficacy as a parent