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Chaos, poverty, and parenting: Predictors of early language development☆

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ABSTRACT

Studies have shown that distal family risk factors like poverty and maternal education are strongly related to children's early language development. Yet, few studies have examined these risk factors in combination with more proximal day-to-day experiences of children that might be critical to understanding variation in early language. Young children's exposure to a chronically chaotic household may be one critical experience that is related to poorer language, beyond the contribution of SES and other demographic variables. In addition, it is not clear whether parenting might mediate the relationship between chaos and language. The purpose of this study was to understand how multiple indicators of chaos over children's first three years of life, in a representative sample of children living in low wealth rural communities, were related to child expressive and receptive language at 36 months. Factor analysis of 10 chaos indicators over five time periods suggested two factors that were named household *disorganization* and *instability*. Results suggested that after accounting for thirteen covariates like maternal education and poverty, one of two chaos composites (*household disorganization*) accounted for significant variance in receptive and expressive language. Parenting partially mediated this relationship although *household disorganization* continued to account for unique variance in predicting early language.

Many household and family characteristics have been linked to poorer language development in children. Distal risk characteristics, including young maternal age, family size, poverty, and especially low maternal education have been linked to poorer language development in young children in a variety of research studies (Brody & Flor, 1998; Brooks-Gunn & Duncan, 1997; Hoff, 2003; Pan, Rowe, Spier, & Tamis-Lemonda, 2004; Westerlund & Lagerberg, 2008). Many of these studies suggest that parenting mediates or partially mediates the relationship between risk and early language. Parents who were less sensitive, engaged, and verbally stimulating in interactions with their young children were more likely to be poor, less educated, and know less about parenting, and, in turn, had children with poorer language skills (Bradley & Corwyn, 2005; Brody & Flor, 1997; Hart & Risley, 1995; NICHD Early Childcare Network, 2000; Raviv, Kessenich, & Morrison, 2004).

Although these studies have documented that family poverty and other related risk characteristics are related to poorer parenting and later compromised child language, few studies have addressed other home characteristics that might be related to children's poorer language. A construct that may tap an important stressful experience of children in these low-wealth communities is household chaos. According to Bronfenbrenner and Evans (2000), the household chaos construct can be described as "systems of frenetic activity, lack of structure, unpredictability in everyday activities, and high levels of ambient stimulation" (p. 121). Although this definition has been useful, there has been a need for a more conceptual and operational definition that encompasses the research done in this area. Among the contributors to a new edited volume on chaos (Evans & Wachs, 2010), there seemed to be some consensus on two important constructs within the definition of chaos: turbulence/instability and disorder. Instability/turbulence was related to changes in settings and relationships in the home and the unpredictability of routines. Disorder, on the other hand, included "high levels of noise, excessive crowding, clutter, and lack of structure" (Sameroff, 2010, p. 258). Although instability and disorder are useful in the current study as the core constructs involved in defining chaos, most of the previous literature reviewed here referred to particular indicators of chaos.

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The literature on chaos and child development has included a variety of specific features of household chaos in examining links to poorer parenting and child outcomes. These chaos indicators cut across the instability and disorder constructs. For instance, ambient noise in the home/neighborhood, TV watching in the home, household crowding, and disorganized family routines have been used to index disorganization, while household moves, number of people moving in and out of the home, and changes in parent figures in the home have been used to index instability (Adam, 2004; Evans, Maxwell, & Hart, 1999; Johnson, Martin, Brooks-Gunn, & Petrill, 2008; Matheny, Wachs, Ludwig, & Phillips, 1995). These previous studies have used a parent report of chaos or particular indicators of chaos at one point in time to examine the relationship between chaos and children's outcomes. The purpose of the current study was to add to this literature on family chaos by examining whether objective measures of chaos over time could be represented by the molar constructs of disorganization and instability that were discussed as central to defining chaos (Evans & Wachs, 2010). We were also interested in examining whether the accumulation of chaos in early childhood might be related to early child language in a representative sample of children living in low-wealth rural communities. In addition, we were interested in whether observed poorer parenting might be a partial mediator of the relationship between chaos and poorer early language.

1. Chaos and rural low-wealth communities

Over the last 30 years, there have been dramatic changes in the lives of families who live in rural low-wealth communities. For instance, jobs are no longer strongly linked to farming but have moved to the service sector where there are more irregular and non-standard work hours as well as lower wages (Lichter & Jensen, 2002). These jobs are generally not close to where the families live so many parents must commute long distances to work and childcare. There has also been outmigration of young upwardly mobile adults from rural communities, leaving behind a less-educated and more at-risk population of childbearing age (Duncan, 1999; Lichter & Jensen, 2002; O'Hare & Johnson, 2004; Vernon-Feagans, Gallagher, & Kainz, 2010). One of the consequences of these shifts in jobs and people has been an increase in child poverty and an increasing gap between child poverty in urban areas relative to non-urban areas. Over half the children in rural areas live in families whose incomes are below 200% of the federal poverty threshold. In comparison, only 37% of children in urban areas live in families whose incomes are below 200% of the poverty threshold (Rivers, 2005). This increase in poverty, irregular jobs, and the distance between work and services may have created the context for the experience of greater chaos in the lives of children. Greater economic insecurity may lead families to move frequently from one household to another in order to sustain the family living together and may also require adding more people to the household to increase or sustain the economic viability of the family. Demands for childcare at irregular hours and jobs that require long commutes also may add to the family's moves and add more people in the household to care for young children. These economic strategies have been documented in ethnographic studies of working class and low-income families (Duncan, 1999; Edin & Lein, 1997; Shipler, 2004; Ward & Turner, 2005). For instance, in a study of 75 low-income families over a four-year period, Roy, Tubbs, and Burton (2004) found that family adaptations to the demands of daily life were associated with more chaos, including higher household density (i.e., # of rooms per person), more people in the household, and more changes in the household members. These changes due to economic insecurity have been shown to be exacerbated by changes in maternal partners that can alter the economics and emotional climate in the family through partner entrances and departures (Lichter & Jensen, 2002). Overall, it has been shown that these chaos indicators appear to be increasing more in low-income families than middle-income families because poverty is associated with more instability of families, more nonstandard work hours, and less access to reliable transportation, childcare, etc. (Evans, Gonnella, Marcynyszyn, Gentile, & Salpekar, 2005; Evans & Wachs, 2010) and may be increasing even more in rural low-wealth families who must deal with the stress of geographic isolation with less access to key resources like transportation and long distances to work and childcare (O'Hare, 2009).

1.1. Chaos and early language development

Early language development, especially early word learning, has been shown to be faster and more efficient when children are engaged in joint-attention activities with their mothers or other caregivers (Tomasello & Farrar, 1986) and where caregivers are responsive to the attention and vocalizations of their young children (Tamis-LeMonda, Bornstein, Kahana-Kalman, Baumwell, & Cyphers, 1998; Tomasello & Todd, 1983). Adult language that helps the child to understand the relationships between spoken words and what they represent in the environment, coupled with sustained conversational dialogue between adult and child, promotes better word learning and language development (Arterberry, Midgett, Putnick, & Bornstein, 2007; Brooks & Meltzoff, 2008; Watt, Wetherby, & Shumway, 2006).

Parents with lower levels of education have been shown to be less responsive to their children's language and to provide a less optimal environment for word learning and grammatical development (Hoff, 2009; Raviv et al., 2004). In addition, there is evidence that chaotic family environments also provide children with less optimal environments for language development. In general, this may mean that parents are just less sensitive and effective because of chaos but both Matheny et al. (1995) and Evans, Lepore, Shejwal, and Palsane (1998) have argued that household chaos could directly influence children's development, especially early cognitive and language development, by overwhelming children with too much stimulation. As a consequence, both articles speculated that children may cope with this overstimulation by blocking out and withdrawing from the overstimulation in the home. For instance, in a home with lots of background noise and many people going in and out of the house, a young child might not be able to process the language that is directed to him/her because of the many ambient distractions. Rather than try to persist and concentrate on the language directed toward the child, the child might turn away and avert their eyes from the overstimulation. The child might play by himself/herself and/or begin an activity that blocks out the stimulation, such as pounding a hammer or singing to himself/herself. This withdrawal would likely diminish children's ability to engage in joint-attentional activities and other parent/child interactions that promote language development. There is support for this overstimulation hypothesis in some of the chaos literature that has examined the relationship of ambient noise and overcrowding to language and literacy. Maxwell and Evans (2000) found that a single indicator of chaos, exposure to chronic noise in the neighborhood, was negatively related to children's preschool language development, while Evans et al. (1998) found that residential crowding was negatively related to children's language, even after controlling for SES. In further studies, household and school density (crowding) were negatively linked to poorer language/literacy and academic performance in older children (Evans, 2006; Evans, Kliewer, & Martin, 1991; Evans et al., 1998; Maxwell, 2003). These studies of particular indicators of crowding/noise that are often associated with disorganization at one point may be linked to poorer language in children.