Children with traumatic brain injury: Associations between parenting and social adjustment

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ABSTRACT

Similarities and differences in parenting practices of children (M_{age} = 10; range, 8–13 years) with traumatic brain injury (TBI) and socially-typical controls were examined. In addition, parenting practices were examined as moderators between injury group status (TBI or socially typical) and social adjustment in the peer group. Mothers completed assessments of parenting practices; children's peers reported about children's social adjustment. The mothers of children with TBI reported significantly lower levels of nurturance and significantly higher levels of restrictiveness than mothers of socially-typical children. In addition, mothers' nurturance moderated the relation between injury group and peer rejection, such that children with TBI were more rejected by classmates compared to their socially-typical peers at low levels of maternal nurturance. The findings are interpreted as supporting the important role parents play in the development of children with a history of TBI, as well as the implications for family level interventions.

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Parents are arguably the most significant influence on children's and adolescents' socialization (see Grusec & Davidov, 2007; Steinberg & Silk, 2002). The extant literature suggests that parents who are warm, sensitive, and responsive in interactions with their children also form a trusting, supportive bond with them. This loving, trusting bond fosters children's beliefs that: (1) they are worthy of healthy, loving relationships with others and (2) potential social others (i.e., friends, peers) are trustworthy and the social world is safe to explore (Bowlby, 1969). Empirical work has documented that a positive, nurturing relationship with a primary caregiver is associated with successful functioning in the peer group in early (Brophy-Herb et al., 2011) and middle childhood (Booth-LaForce, Oh, Kim, Rubin, Rose-Krasnor, & Burgess, 2006), as well as during adolescence (Swanson, Valiente, Lemery-Chalfant, & O'Brien, 2011). However, children who have an insecure relationship with their parents are more likely to have difficulties both intra- and interpersonally (e.g., Booth-LaForce et al., 2012; Fearon, Bakermans-Kranenburg, Van IJzendoorn, Lapsley & Roisman, 2010). In addition, children whose parents are intrusive, unresponsive, and harsh develop a negative view of themselves (e.g., unworthy of love) and a perception that the social world is unsafe to explore (and social others are not trustworthy). Indeed, harsh, insensitive parenting is associated with a host of difficulties in the peer group from early childhood through adolescence, including peer victimization (Ladd & Kochenderfer Ladd, 1998), aggression (Park et al., 2005), unsupportive friendships (Cook, Buehler, & Fletcher, 2012), and anxious withdrawal (McShane & Hastings, 2009).

While much is known about general patterns in parenting, many factors affect parenting and moderate the relation between parenting and social competence, including child characteristics (e.g., Kochanska, Aksan, & Joy, 2007). This body of work includes investigations of parenting with respect to children's gender (e.g., Schuster, Mermelstein, & Wakschalg, 2013), temperament (e.g., van der Voort, Linting, Juffer, Bakersman-Kranenburg, & van Ijzendoorn, 2013), ordinal position (e.g., Bumpus, Crouter, & McHale, 2001), and health status (Hullmann et al., 2010), as well

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as moderating effects of parenting on the relation between child characteristics and later adjustment (e.g., Lewis-Morrarty, et al., 2012; Rubin, Burgess, Dwyer, & Hastings, 2003). One emerging area of study is focused on the relations between parenting and adjustment in children who have experienced a traumatic brain injury (TBI).

Approximately 30% of children will sustain a TBI by the age of 25 years (McKinlay et al., 2008), often resulting in long-term physical, cognitive, and socio-emotional difficulties (Taylor et al., 2002). The effects of TBI on children's development has been of considerable interest to researchers, with much focus on health and cognitive outcomes (see Yeates et al., 2007). Findings from this research indicate that children with TBI, and especially those with more severe injuries, are more likely to develop behavioral problems of both an externalizing (Chapman, Wade, Walz, Taylor, & Stancin, 2010) and internalizing (Karver et al., 2012) nature when compared to control children with a history of orthopedic injuries (Yeates et al., 2013; 2014). Moderators of injury outcomes, in addition to TBI severity, include the quality of their family relationships and the types of parenting they experience.

Most researchers who have examined the parenting styles of children with TBI have focused on preschool- and school-aged children. To control for the effects of hospitalization and behavioral predisposition to injury, many studies have compared the parents of these children to parents of children with orthopedic injuries (OI). Findings from these investigations indicate that mothers of children with TBI are less warm and responsive and more directive in their interactions with their children than mothers of children with OI. For instance, Wade & colleagues (2008) observed parent–child interactions during free play and a teaching task in a sample of families with preschool-aged children with TBI and OI in the weeks following injury. They found that the parents of children with moderate and complicated mild TBI displayed lower levels of warmth and responsiveness compared to parents of children with OI, and that the parents of children with severe TBI were more directive than the control parents. Other studies have failed to report differences in parenting, including subsequent research by Wade and colleagues (Kurowski et al., 2011). Studies of adolescents have also failed to demonstrate significant differences in parent–adolescent interactions or conflicts between parents of youth with TBI and parents of youth with OI (Wade et al., 2003).

While the effects of TBI on parent–child interactions across childhood are unclear, there is consistent evidence that parenting characteristics are associated with children's adjustment post-injury. Potter & colleagues (2011) reported that children with moderate TBI whose parents reported high levels of harsh, punitive parenting had significantly higher ratings of behavioral and cognitive dysregulation than children with OI whose parents reported the highest levels of authoritarian parenting. Other researchers have reported that permissive parenting is associated with poor functioning for children with TBI. In a study of young children (3–7 years), Yeates and colleagues (2010) found that parenting practices moderated the relation between injury status (severe TBI, moderate TBI, and OI) and adjustment 18 months post-injury. Specifically, children with severe TBI who had highly permissive or highly restrictive parents had the highest levels of parent-reported behavioral difficulties. Wade et al. (2011) also reported that children with severe TBI whose parents were responsive and displayed low levels of negative interactions during free-play had fewer externalizing difficulties six months post-injury than children with severe TBI whose parents were relatively unresponsive and highly negative.

In sum, it seems clear that children with TBI are at risk for the development of maladaptive outcomes, and that parents can influence their adjustment. While several studies have examined the moderating effects of parenting on behavioral outcomes following TBI, the majority of these investigations have utilized global ratings of socio-emotional well-being, such as ratings on the Child Behavior Checklist (CBCL). Few researchers have examined whether parental behavior is associated specifically with peer group functioning in children with TBI.

Examination of peer-related functioning is critical as difficulties in peer interactions may serve as a precursor to the development of interpersonal and intrapersonal maladaptation (e.g., Ladd, 2006; Pedersen, Vitaro, Barker, & Borge, 2007; Sentse, Lindenberg, Omvlee, Ormel, & Veenstra, 2010). In support of the relevance of peer group interactions, peer-rated and teacher-rated maladaptive behaviors within the peer group are associated with problems of an internalizing and externalizing nature, and children's behavioral characteristics (e.g., aggression, social withdrawal) predicting rejection, exclusion, and victimization by peers (Rubin, Bowker, McDonald, & Menzer, 2013). Recent work has indicated that children with TBI are more likely to be rejected by peers than OI children (Yeates et al., 2013).

Moreover, peer processes may be particularly important to study during the middle childhood period. Indeed, from a developmental perspective, middle childhood provides a critical window on social relationships because of the growing importance of peer relationships and friendships at that age (Grusec, Chaparro, Johnston, & Sherman, 2013; Parker & Gottman, 1989). A recent study indicated that social relationships in middle childhood were associated with self-esteem and well-being (Guhn et al., 2013). In view of the importance of social adjustment with peers, we focused our investigation on the middle childhood period.

Although children with OI frequently serve as a comparison group in examining the effects of pediatric TBI, these children may be predisposed to behavioral characteristics that affect their social relationships, including relationships with their parents, and for this reason may be less appropriate in examining the effects of TBI on peer relationships. Brehaut et al. (2003) reported that children with behavioral difficulties were at an increased risk for orthopedic injuries and other studies indicate that children with OI are at higher risk for behavior problems than children from the general child population or those without physical injuries (Goldstrohm & Arffa, 2005; Uslu & Uslu, 2008). Thus, it would be fruitful to examine how parents of children with TBI compare in their parenting practices to parents of socially-typical controls, as well as how parenting moderates the relation between injury group (TBI or socially typical) and peer social adjustment in the school context.

The primary aim of the current investigation was to compare the parenting practices of children with TBI and socially-typical controls. The second aim was to examine parenting style as a moderator between injury group and social adjustment within the peer group. Data were drawn from two larger studies: a study of the social outcomes of children with TBI Yeates et al., 2013 and a study of friendship across the transition from elementary-to-middle school Booth La Force et al., 2012; Wojslawowicz Bowker et al., 2006. Importantly, we used peer-informants as raters of children's behaviors in order to assess children's behaviors in the school environment. Thus, we obtained assessments of children's functioning outside of the family unit, something that has rarely been done in this area of study. We hypothesized that: (1) the parents of socially-typical controls would report higher levels of nurturing and lower levels of restrictive parenting than parents of children with TBI; and (2) parenting practices would moderate the relation between injury group and behavior in the peer group. More specifically, we expected that relative to socially-typical controls, TBI would be more strongly associated with poor peer outcomes in the context of restrictive parenting, and less strongly associated with poor peer outcomes in the context of more supportive, warm parenting.

Method

Participants

Data were drawn from two samples. The first was a sample of children with TBI who participated in a larger study on the social outcomes of TBI. The participants with TBI were recruited from children's hospitals at three metropolitan sites, including the Hospital for Sick Children in Toronto (Canada), Nationwide Children's Hospital in Columbus (US),