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Contributions of Early Parenting in the Development of Self-Regulation, Prosocial, and Aggressive Behavior

Daniel S. Shaw
University of Pittsburgh
danielshaw@pitt.edu

In many ways the monograph written by Hay and colleagues (2021), entitled [Prosocial and Aggressive Behavior: A Longitudinal Study](#), represents a landmark contribution to our understanding of children's early social development. Whereas the vast majority of knowledge about the development of early prosocial behavior has been gathered independently of studying the development of early aggression and vice versa, the current study takes advantage of these "parallel processes" to examine the potential importance of their association (e.g., do high levels of prosocial behavior buffer children from developing aggression?); the prediction of homotypic and heterotypic continuity; and in the case of prosocial behavior, the potential protective effects of prosocial behavior from early to middle childhood.

The authors' substantive focus on the parallel development of prosocial and aggressive behavior is complemented by exceptionally strong methods, using multiple informants and methods across several waves of assessments beginning when infants were 6 months old. Importantly, assessments of prosocial and disruptive behavior, including physical aggression, were observed on repeated occasions using both unfamiliar (two time points) and familiar peers in the lab and at families' homes. Observationally based assessments were supplemented by reports from mothers, fathers, a third home-based informant, and teacher reports to also evaluate child prosocial and disruptive behavior, including callous-unemotional (i.e., uncaring behavior) behavior at the middle childhood assessment. Parents also provided data about their own histories of antisocial and prosocial behavior and when the child was 6 months old, social adversities the family had experienced. Use of direct observations of children with peers and reports from multiple informants was further enhanced by child input about hypothetical prosocial and aggressive behavior during two separate video vignettes at middle childhood.

In addition, overall attrition was minimal for many of the individual studies across the seven years of data collection, especially when relying on parent reports. And by UK standards, the sample turned out to be highly representative. The consistently strong methodological rigor, particularly the multi-wave longitudinal design and consistent use of multiple informants and methods, makes the results highly credible. Substantively, findings involving the developmental and transactional interplay between child prosocial behavior and aggression are particularly

novel, including the potential protective role of high prosocial behavior in reducing levels of aggression from early to middle childhood.

Among the many notable contributions, a couple are worth highlighting. First, somewhat surprisingly, using observational methods base rates of prosocial behavior and aggression were comparable at both the age-1 lab and age-1.5 home assessments. Second and relatedly, observing the interplay in the valence of associations between children's sharing and use of force longitudinally indicated that associations were positive at both the age-1 and age-2.5 lab-based, birthday party observations, but nonsignificant when playing with familiar peers at age-1.5 home assessments. Interestingly and consistent with prior research, associations between sharing and use of force becoming negatively correlated by age 7 based on observations and both parent and teacher reports. Children's lack of cognitive and social maturity during infancy and toddlerhood, relative to the school-age period, might account for both the comparable base rates of prosocial and aggressive behavior and their positive correlations during infancy and toddlerhood. These prosocial and disruptive behaviors become differentiated only as children move into the later toddler and preschool periods. As the authors acknowledge, having observations of these unfolding processes during the preschool period in future studies might shed light on the covariation between sharing and use of physical force. We do know that rates of physical aggression decrease rapidly between toddlerhood and school age (Cummings, Iannotti, & Zahn-Waxler, 1989), particularly for girls (Brennan & Shaw, 2013), in contrast to significant increases in sharing beginning in the toddler period (Brownell, Iesue, Nichols, & Svetlova, 2013). As children move through early childhood, socialization within family, child care, and preschool contexts promotes higher rates of children's prosocial behavior and discourages children's use of physical force to resolve conflicts.

Contributions of Early Parenting to the Development of Children's Self-Regulation

In terms of how future research might be able to complement and build on the critical research presented in the current *Monograph*, the role of how children's prosocial behavior and aggression are influenced by proximal social forces in early childhood would make a prominent and logical addition, most notably the contribution of parents to children's social behavior. Moreover, as both prosocial and aggressive (and other disruptive) behaviors have been consistently related to skills encompassed by the broader construct of self-regulation (Moriguchi, Shinohara, Todo, & Meng, 2020; Williams & Berthelsen, 2017), including components of effortful control, more intensive research on how components of self-regulation relate to both prosocial and aggressive behavior from infancy through the school-age period would help to account for their change in valence across early development.

In addition, multiple dimensions of parenting, including responsiveness, harsh, and intrusive caregiving, have been linked consistently to the development of multiple components of self-regulation during early childhood (Chang, Shaw, Dishion, Gardner, & Wilson, 2015; Martin, 1981; Taylor, Eisenberg, Spinrad, & Widamer, 2013), including both prosocial behaviors (Brownell, Svetlova, Anderson, Nichols, & Drummond, 2013; Hastings, Rubin, & DeRose, 2005) and aggressive behaviors (NICHD Early Child Care Research Network, 2004; Shaw, Ingoldsby, Gilliom, & Nagin, 2003; Shaw et al., 1998; Sitnick et al., 2017). Thus, it would behoove future researchers to assess how these dimensions of caregiving are related to broader indices of

3 Shaw

emerging self-regulation and the independent occurrence and co-occurrence of prosocial and aggressive behavior.

Importantly, associations between early dimensions of parenting and prosocial and aggressive behavior have been evident using genetically sensitive and experimental designs. In the case of the former, after accounting for heritable influences using twin, in vitro, and adoption designs (Harold et al., 2013; Knafo, & Plomin, 2006; Reuben et al., 2016), parenting was consistently found to contribute independent variance to the development of prosocial and disruptive behavior during early childhood. In the case of the latter, randomized controlled trials examining the impact of parenting interventions during early childhood have consistently shown that improvements in parents' positive caregiving are linked to later increases in children's prosocial behavior and to later decreases in children's aggressive behavior (Chang et al., 2017; Dishion et al., 2008; Webster-Stratton, 1998).

Understandably, within the constraints of a study that originated during the prenatal period with the goal of assessing the social development of first-born children, it is not possible to incorporate measurement of all heritable and shared environmental influences. However, based on the results described above linking parenting to young children's emerging self-regulation (including prosocial and aggressive behavior), and findings from the current *Monograph* demonstrating how the valence of associations between prosocial and aggressive behavior changes from infancy to school-age, adding caregiving as both a direct and moderating influence on the development of prosocial and aggressive behavior is recommended.

Ideally, such investigations would be carried out using genetically sensitive designs because of the confound of having genetically related parents raise their own offspring. For example, it would be important to know whether children initially low on prosocial behavior and high on use of physical force demonstrate faster growth in prosocial behavior and faster reductions in aggressive behavior in the context of more supportive parenting, especially within an adoption research design where adoptive parents would be rearing the children. These kinds of research issues are important for understanding basic processes, but they also have important implications for translational applications to early prevention and intervention.

Implications for Early Prevention and Intervention

As parenting has been found to be relatively malleable during early childhood, basic research on social processes such as the research carried out in the current study can identify malleable targets to promote child prosocial behavior and to reduce physical aggression. In addition, and as highlighted by differential susceptibility models of child development (Belsky & Pluess, 2009), those children with greater genetic susceptibility, as exemplified in the current study by lower levels of early prosocial behavior and higher levels of physical aggression, might respond more favorably to parenting interventions than do those children at lower genetic susceptibility. As an example, we recently found a genetic by intervention effect for trajectories of child conduct problems (including physical aggression) spanning from child ages 2 to 14 years (Shaw et al., 2019). An intention-to-treat effect of the family-centered intervention (called the Family Check-Up) was found for children with Persistently Low versus Persistently High trajectories of conduct problems, but this intervention effect was qualified by an interaction involving polygenic risk for aggression. Specifically, among children with *low* polygenic scores,

those children randomly assigned to the Family Check-Up and control conditions did not differ with respect to their trajectory of conduct problems from ages 2 to 14. However, at *high* polygenic risk for aggression, children in the Family Check-Up group were significantly more likely to be in the Persistently Low versus Persistently High conduct problems group, whereas control children with high genetic risk were more likely to follow a Persistently High trajectory.

In conclusion, the findings reported by Hay and colleagues (2021) offer a critical first chapter of a book about child and more distal environmental influences on the development and early prosocial and aggressive behavior, and about how these two kinds of social behaviors covary across ontogenetic development. To finish writing a book that advances our understanding of children's emerging prosocial and aggressive behavior more fully, later chapters will need to draw on future research that incorporates more proximal and developmentally salient contextual factors and genetic influences, and that models transactional processes which address parenting and child factors (Sameroff, 2009; Smith et al., 2014) as well as genetic by environmental interactions (Caspi et al., 2002; Elam et al., 2020).

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5 Shaw

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