

Social Dominance in Childhood and Its Evolutionary Underpinnings: Why It Matters and What We Can Do

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Bullying is a common and familiar manifestation of power differentials and social hierarchy. Much has been written lately about bullying in schools, in the workplace, and even in the National Football League. Such hierarchies are pervasive in nature. They can be subtly, almost imperceptibly, managed (by glances, gestures, or implicit cultural expectations), brutally enforced (authoritarian rule, vicious attacks, or explicit edicts), or anything in between. These power differentials affect our daily behavior and thought processes, are a large source of our psychosocial stress, and influence our health and well-being.

As an evolutionary developmental psychologist focusing on aggression and peer relationships in childhood, I present for this article an evolutionary view to children's social functioning as it relates to power differentials. First, 3 common errors in thinking about dominance are dispelled. The discussion next focuses on social dominance in childhood, including how humans appear to be prepared to think about and navigate these relationships, how aggression plays a starring role, and the unfortunate costs associated with competitive losses. (Bullying is a case in point.) The more positive side to power is then introduced; namely, the counterintuitive role of prosocial (other-oriented, friendly) behavior. Finally, in closing, some thoughts about remediation are offered.

THREE COMMON ERRORS IN THINKING ABOUT DOMINANCE

Error #1: Because Hierarchies Are Natural (ie, Pervasive in Nature), They Must Be Good

In this context, "good" can have at least 2 distinct meanings: "morally correct" or "good for us" (as in bestowing well-being benefits). It is both fallacious and dangerous, however, to equate what is natural with what is good in either sense of the word. There are at least 2 classes of argument, 1 philosophical and 1 practical, which show why this assumption is incorrect.

The Naturalistic Fallacy

The philosophical angle involves the naturalistic fallacy (as compared with appeal to nature); it is fallacious to conclude that simply because something is found in nature, it must also be inherently good. The flipside is also incorrect; that is, what is unnatural is bad. Some might argue, for example, that true egalitarianism is not found in nature and, therefore, egalitarianism is unnatural and thus bad. One may or may not defend egalitarianism as a political or moral principle, but the argument must be based on something other than whether egalitarianism exists in nature. Moral philosophies or treatises cannot be found in natural systems, which are often brutal and cruel.

Psychological and Physical Costs

Dominance hierarchies often exact both psychological and physiologic costs on the creatures who live within them. Cardiovascular effects,

depressed immune functioning, reproductive suppression, anxiety, and social withdrawal are all patently “bad things.” Depending on various factors (eg, the species, the social system, the local cultural climate), these costs may be borne by those of very high rank (eg, when the system is unstable or rank must be constantly aggressively defended) or by those of very low rank¹ (eg, when low rank is stable and associated with victimization).

Error #2: Hierarchies Evolved to “Keep the Peace”

Status-seeking and resource acquisitiveness seem to be basic human motivations that have important evolutionary consequences. If such behavior is put in a social group (where, by definition, hierarchies arise), within-group competition occurs. If we rank-order individuals in terms of success and failure, a hierarchy results. This ordering has not evolved, but the behavior of the constituents within the ordering has. This distinction is important because this faulty assumption (ie, hierarchies have evolved) erroneously leads one to conclude that aggression within the group is maladaptive (eg, peace is subverted, the individual is acting against nature); that claim is not necessarily so. (I elaborate on the adaptive value of aggression later in the article.)

Conflict and aggression can be reduced, however, when hierarchies stabilize.² Why? The answer has important implications for the well-being of children. After multiple encounters with competitors (ie, peers and friends), effective learners (versus ineffective learners) come to understand their competitive ability relative to peers and the constraints these asymmetric relationships impose. Although children may prefer to affiliate with children of equal rank (less conflict, more egalitarian), these constraints mediate behavior. The adaptive rule of thumb in such social situations is

this: Assert yourself when you have a history of prevailing, yield when you do not. Success depends on being able to size up your adversary quickly. A net result of this sort of assessment, when it is successful, is that there is less conflict. However, that does not demonstrate that hierarchies evolved to keep the peace in the group. Instead, it shows that conflict is usually the result of testing one’s own strengths against the strengths of one’s peers within hierarchies. Conflict is diminished because children are adjusting their behavior to reduce reckless energy expenditures and risks of injury borne by fight-at-all-costs strategies.

Error #3: Winning and Losing Do Not Matter Very Much

The previous discussion may seem to be purely academic and inconsequential at first glance. On the contrary, the inequity has been cast squarely within the context of interpersonal relationships (rather than within some group abstraction). Doing so fundamentally shapes our questions as psychologists, especially as these questions relate to children’s social functioning and mental health. For example, what qualities do children possess that predict their win–loss history with peers and, therefore, their standing in the social group? Do the aforementioned asymmetries shape a child’s pattern of social interactions? What are the costs borne by the individual when competitive interactions are routinely lost?

Because social dominance is a fundamental aspect of primate relationships, we should see adaptive negotiation of these relationships at a very early age and be able to predict their outcomes with psychological variables. Early ethological research set us in the right direction by considering the predictors of social dominance in terms of visible attributes such as gender, size, strength, physical attractiveness from childhood through adolescence,³ and more subtle cues

such as posture⁴ and facial gestures.⁵ My laboratory elaborated on this research by including psychological variables such as intelligence, goal directedness (as reflected in a temperament facet persistence), and experience with the physical and social environments.

Because we couched social dominance (ie, relative competitive ability) explicitly as an aspect of interpersonal relationships, we employed what was at that time a little-used paradigm borrowed from social psychology; namely, the social relations model.⁶ This model requires that interactions be explored among each and every social pair in a group. To this end, we filmed the children interacting with classmates and captured 5-minute semicontrolled interactions with every possible dyadic partner in their class (eg, in a laboratory room with a 1-way mirror). We then carefully coded the children’s behavior from the films. Through careful statistical analysis, we could then break down the contributions of an interaction to that which was due to characteristics of the individual and that which was due to the interactions within each unique relationship (ie, individual variance and relationship variance, respectively). We found that social dominance in these young children was less about size and more about cognitive age, temperament (persistence), and experience with the classroom environment (ie, confidence or skill). Girls, all things being equal, had an advantage over boys in the playgroup we observed.

Very important for our present purposes, we showed that a child’s rank within his or her classroom’s social hierarchy (as rated by teachers) affected social and play behavior outside of competition, including such behaviors as directing a peer, imitating a peer, passively onlooking, and complying with requests and demands. Importantly, whether they engaged in these behaviors changed according to the identity (and social dominance rank) of their social partner.

Dominant children did not modify their behavior across partners; they engaged in more active toy engagement, issued more directives, and engaged in less passive onlooking with everyone. Conversely, very subordinate children adopted a passive stance and deferred to all. Those of middle rank deferred to those above them, and directed those below them. It is noteworthy that all of this political sophistication was well developed before the age of 3 years.

SOCIAL DOMINANCE IN CHILDHOOD

We Are Prepared for Hierarchical Living

Natural selection has apparently provided us with a cognitive architecture able to solve problems associated with power differentials; that is, as a species, we are prepared for hierarchical living, and this preparedness manifests in infancy. Studies that quantify the ways in which infants look at people and things show that infants expect dominance structures to be linearly organized and expect asymmetric relationships between individuals to be stable.⁷ Moreover, infants as young as 10 months mentally represent social dominance and use size as a cue to predict outcome of a conflict of interest.⁸ In adults, hierarchical relationships are easier to process than other types of orderings, leading Zitek and Tiedens⁹ to conclude that asymmetries are a “fluent” form of social relationship; they are easy to recognize, easy to process, and, as a consequence, are preferred over nonhierarchical organizations (eg, equality). The implications of this research are profound; we may claim that we prefer equality, but our cognitive skills betray our readiness to deal with (and favor) hierarchy.

The Role of Aggression: The Bright Side to Bad Behavior

The role of aggression for establishing and maintaining dominance status is well documented in many fields, including

biology, ethology, and anthropology. Aggression has been clearly associated with reproductive success. Thus, aggression is a naturally selected behavioral category (ie, an adaptation), across which we differ in tendency to perform.

Traditional Thinking Follows a Medical Model

Most of us in the helping professions have been trained to think of aggression largely in terms of maladaptation. We see it as a perturbation to healthy development. By this view, children become aggressive if they experience harsh environments in early child, including low-quality parenting, poverty, or the sort of urban ecology that leads to crime. Clinical work in psychology is explicitly inspired by medical models and accordingly uses disease-related terms to denote aggression-related behaviors.¹⁰ We speak of “externalizing symptoms” and “behavioral contagion,” and we “treat” these “disordered” children with psychotherapy or psychopharmacology.

Evolution and Development: Adapting to the Local Ecology

In contrast, an evolutionary view sees aggression in adaptive rather than maladaptive terms. The developmental angle adds the importance of early experience. Harsh environments are seen to “calibrate” aggressive behavior or to provide the conditions in the local ecology under which aggression is likely to be a successful strategy. Here, “local ecology” can mean a country, community, school, or family. In each case, we can ask questions such as, is the ecology warm and supportive or fractious and coercive? Does it have a culture of honor? Is it run by warlords? Is it riddled with gangs? Does positive behavior pay off? Is aggression rewarded or punished?

In biological circles, it is well known that many species respond to their local ecologies in striking ways. For example,

several species of wrasse (marine fish) will change sex in response to conditions in its local environment.¹¹ *Schistocerca gregaria* will switch between a harmless, solitary grasshopper and a swarming locust depending on its population density. Humans may respond similarly, but more subtly, to cues in their environments. Recent research evoking life history theory proposes that the development of the stress response is calibrated by the environment in which a child is reared,¹² as have been endocrinologic responses such as the onset of puberty.¹³ Indeed, developmental psychologists have long documented the conditions under which a child is “at risk” for becoming aggressive¹⁴ (eg, low socioeconomic status, parental conflict, family dissolution). However, only evolutionary perspectives would consider this a case of adaptive calibration in ontogeny (the individual's development).

Aggression Is Functional

From an evolutionary perspective, the function of aggressive behavior is clear. It is well known among animal researchers, ethologists, and anthropologists, for example, that attaining status and material (food) and social (eg, mates) resources are important functions of aggression and aggressive displays, especially in contexts with resource scarcity. Social negotiation surrounding resource competition is a powerful force of natural selection in and of itself.¹⁵ Thus, whereas some perspectives see power differentials and maneuvering in childhood as a source of pathology, evolutionary theory (as an explanatory framework) outlines them as normal or natural.

This view is not to endorse the naturalistic fallacy and conclude that because aggression and power hierarchies are natural, that they are therefore good. On the contrary, our efforts could be better spent striving to improve conditions under which children are raised and ameliorating the contingencies under which

aggression is effectively operating (as discussed later). The value added of an evolutionary viewpoint is how it casts a different light on the issue of aggression perpetration and dominance striving, helps make sense of why people do what they do, and why some behaviors under some conditions are not easy to change, especially if they work.

There Is No Win in Losing

What the evolutionary perspective does not do is cast a different light on competition defeat; there is no apparent bright side to repeated loss against others. Subordination is not an adaptation per se. If anything, evolutionary thinking can emphasize the profound costs that chronic loss can bear, both in terms of one's development and later reproductive success. For example, chronic loss on a wider economic scale (ie, relative inequity in income) has a profound impact on health and well-being across the life span in domains as diverse as oral health,¹⁶ birth weight,¹⁷ hypertension and arthritis,¹⁸ and infectious disease.¹⁹ Moreover, inequity undermines trust, enhances social anxiety, and weakens the status of women.²⁰

Within even smaller social groups, power differentials and social stress have measurable effects on endocrine functioning, including hyperactivation of the glucocorticoid system (eg, cortisol and hydrocortisone) and catecholamine hormones (eg, epinephrine and norepinephrine). When activation is chronic, the immune and reproductive systems are suppressed, and healthy neurologic functioning is disrupted,¹ especially in those of low rank in stable systems. Such stress can be mitigated if the subordinate can avoid the offending, powerful other individual, but the stress responses are exacerbated if escape is not possible. How these relationships evolve, however, vary by species and "climate" of the social group such that there is great variability in who experiences

the psychosocial stress in the group, dominants or subordinates.

One can see the potential of these processes playing out in most human social groups, including children's classrooms. Not every classroom hierarchy is the same. Not every dominant leader behaves in the same way. Some dominant leaders are despotic, others benevolent, still others Machiavellian (discussed later). Each of these types can have a dramatically different effect on classroom climate.

Anthropological studies have shown that children can become ill after a significant social stressor,²¹ in part due to endocrine stress responses precipitated by the event. Testosterone may increase or decrease in male subjects depending on the outcome of competition.²² At the same time, it can be argued that, at least in elementary classrooms, the holders of the alpha position are the teachers, who have the ability to mitigate the negative effects of hierarchy with their teaching styles.²³ Nonetheless, in a single room with 20 to 30 children, avoiding the instigator of psychosocial stress may not be an option for a child who is experiencing endocrine hyperactivation.

Dominance in a Child's World: Bullying

Bullying is one unfortunately common context of dominance striving that involves direct victimization in childhood. It is carefully defined in developmental circles as repeated acts of aggression toward a victim in which there is a power differential because the victim is weaker in terms of size or social status.²⁴ Bullying is an all-too-familiar and inappropriate manifestation of power differentials among children²⁵ and adults.²⁶ This behavior is pervasive across species and cultures (extant and historical); it is in all likelihood an adaptation in and of itself.²⁷

Conventional wisdom and popular writings urge us to feel sorry for bullies

because they suffer from low self-esteem: "Bullies may feel insecure and unloved, and have little or no confidence. Often their self-esteem is very low."²⁸ This perspective is appealing because: (1) it empowers the victim (there is nothing wrong with "you"); (2) it offers us solace that aggression does not pay; and (3) it assures us that children and adolescents in the end are not motivated by power. There is an unstated assumption that bullies would not behave as they do unless there was something wrong with them.

In fact, those at the top of the bullying power hierarchies benefit from material (resource control) and social rewards.²⁹ They can make attractive dating partners³⁰; are preferred in friendships³¹; are seen as attractive, stylish, and athletic³²; and wield a good deal of power in shaping the behavior and attitudes of others.³³ Accordingly, intervention programs that have focused on social skill building or "conflict resolution" are only modestly effective.³⁴ Bullies are not always dysregulated social outcasts who find themselves in disagreements; they can be skilled power holders who win status by unilaterally wielding power over others. The status granted to them enhances their positive self-perceptions. However, the cost of this persistent pattern of aggression is sometimes borne by the bullying children themselves. In some cases, this pattern of behavior leads to violence and poor academic outcomes, such as lower school commitment and poorer academic performance.³⁵

Most of the costs to bullying, however, are borne by the victims and other children who witness the harassment but feel powerless against it.³⁶ In fact, the 3 most robust sources of stress that negatively impact health stem from power differentials: low social status, lack of friends, and stress early in life.²⁰ This scenario is exactly the plight of the bullied child. Evidence

suggests that victims report increased loneliness, emotional distress, depression, social anxiety, and poor school adjustment and performance,³⁷ as well as physical health issues.³⁸ These costs imposed on others make pervasive bullying nothing less than a public health issue.

Sources of coping are important for mitigating such social stressors and the consequent physiologic response.³⁹ Childhood victims of bullying, however, often do not seek social support after a bullying event. Only ~50% of victims report incidences to a parent or teachers,⁴⁰ and ~30% of victims do not tell anyone at all.⁴¹ This lack of support seeking is not irrational; children perceive teachers and school authorities as being ineffective at intervening on their behalf.⁴² Less than 10% of bullying on the playground attracts teacher intervention⁴³ and <20% in the classroom.⁴⁴ Moreover, children chronically bullied by others stand also to be ostracized by the group. Social ostracism is a harsh penalty bestowed on social primates. Even brief experimentally induced bouts of social exclusion elicit neuronal responses (in the anterior cingulate cortex) similar to physical pain.⁴⁵ Not surprisingly, bullying can precipitate physical ill-being,⁴⁶ and the negative effects on psychological well-being can last years after the episodes.⁴⁷

NOT ALL POWER RELATIONSHIPS ARE TOXIC: THE ROLE OF PROSOCIAL BEHAVIOR

Thus far I may have created the impression that social dominants are loathsome tyrants (eg, bullies). On the contrary, early work on hierarchies in childhood showed that social dominance is associated with indices of social competence. For example, socially dominant toddlers are attractive social partners,⁴⁸ are looked at more by peers,⁴⁹ and are models of imitation.⁵⁰ The attractiveness of aggressive social dominants was of

considerable attention of the theoretical perspective outlined earlier (ie, resource control theory).

Resource Control Theory

Resource control theory⁵¹ is essentially a developmental evolutionary theory of power in human social groups. The evolutionary aspect demands that we focus on the function of behavior; namely, what is behavior for. Thus far I have spoken about aggression in these terms; it has been naturally selected as a competitive strategy that yields reproductive benefits. What has been unsaid until now, however, is that there is another large class of behavior similarly naturally selected as a competitive strategy, but its form is different from that of aggression; namely, prosocial behavior. For example, not only do children access resources (eg, toys) by coercion, they also do so by issuing invitations, and making requests and offers. To get what they want, people form collaborative bonds (ie, it pays to be friendly to others).

In our early work, we demonstrated this principle concretely by looking at the behavior of 4- and 5-year-olds.⁵² We paired children repeatedly in what we designed to be a cooperative/competitive task. We asked the children to complete some “fun goal” (eg, catch as many fish as you can in the fishing game), but the roles required to complete this goal were unequal; that is, 1 child was to have all the fun (eg, control the fishing pole [the valued resource]), and the other was to simply support the other (eg, sit idly by holding a net). We let the children negotiate the roles and watched very carefully how they did it. A child who commanded the preferred role essentially controlled the resources and by definition was socially dominant to the other child in this controlled context.

It turns out that teacher-rated assessments of the children’s social dominance were highly correlated to who

held the primary role. As one would expect, dominance is an aspect of relationships that is highly visible to others. Moreover, the results indicated that prosocial behaviors (eg, making suggestions, demonstrating the play material, making offers) were more correlated with controlling the resource than were aggressive behaviors (eg, taking objects, insulting their partner, physical acts) and happened at a higher frequency. In fact, dominant children used prosocial means at twice the frequency of coercive tactics.

The findings of this study (and similar others), as well as the study’s theoretical framing (ie, that prosocial behavior is an effective resource control strategy), was somewhat surprising to developmental psychologists who typically think of prosocial behavior as other-serving and not self-serving. Evolutionists, in contrast, have long seen cooperative behavior as both self- and other-serving. Therein lies the strength of prosociality as an evolutionary class of behavior: You can get what you want in a social group while being nice to others. As a consequence, they will accept you, support you when you are in need, and help you achieve your goals.

Our early observational studies with young children alerted us to the fact that some dominant children were using both strategies to a high degree; they were prosocial in their approaches but readily resorted to aggressive tactics when the situation called for it. This pattern should come as no surprise. If aggression and prosocial tactics both function well to control resources, then they should co-occur in some highly effective resource controllers; that is, prosocial and coercive strategies are not opposites but are rather “two sides of the same coin.”⁵²

Types of Strategists

This 2-strategy approach implies that people tend to favor 1 strategy over

another (eg, “prosocial controllers,” “coercive controllers”), use neither strategy (“noncontrollers”), or practice both (“bistrategic controllers”). This typology is useful for our present purposes because it illuminates the variegated ways that social dominants wield their power, as well as the different outcomes associated with them.^{52–56}

Prosocial Controllers

Prosocial controllers attain their goals by building strong bonds with others; they reciprocate and cooperate. Our research has shown that they are socially skilled, have positive personalities (eg, extroverted, agreeable, conscientious), are morally mature (ie, know right from wrong, have internalized rules), are intrinsically motivated to pursue friendships, and are well liked and popular. They are, from our view, shining examples of human social competence. As such, we would not expect this group to be at health or social risk. They are not frequently on the hostile offensive, and their power, status, attractive social skills, and rich social resources would protect them from victimization from others.

Coercive Controllers

In contrast, coercive controllers are predominantly aggressive. They have negative personality traits (eg, hostility, disagreeableness, impulsivity), endorse cheating, and are extrinsically socially motivated. They repel peers in preschool and adolescence. Because they perceive that goals must be achieved by aggression, they are frequently on the hostile offensive. Moreover, they do not have the social skills and concomitant protective social resources that the prosocial controllers enjoy.

Bistrategic Controllers

The bistrategic controllers⁵³ challenge our ideas about what connotes social competence; namely, across all age groups, these individuals are the highest on resource control, and they

possess attributes associated with social skills, much like prosocial controllers (eg, they are socially perceptive, morally astute, extroverted). They are very aggressive, however, even to their friends. They claim to understand rules well, but their preschool teachers report them low on guilt and shame (important emotions for moral internalization). Consequently, they are able to manipulate others on moral dimensions (eg, they report on others cheating the system even as they themselves cheat the system and justify it). Bistrategic controllers see relationships as a means to access the material world. Moreover, they are high on both attachment avoidance and anxiety simultaneously. This curious combination means that these subjects find intimacy aversive (attachment avoidance) but find positive regard from others very important (attachment anxiety). This high level of social monitoring and political maneuvering (and concomitant social anxiety) is probably associated with a very active stress response (characteristic of some high-ranking primates).⁵⁹

Noncontrollers

The poorest off in terms of the peer hierarchy are the noncontrollers. They are nonresource directed, noncompetitive, and nonaggressive. However, their lack of self-assertion wins them few friends, and they are exactly the type of hapless children who is victimized by bullies. According to others' research, subordinate children were more depressed, had fewer quality peer relationships, and experienced lower competence in the classroom.²³ Accordingly, these children are likely at very high risk for chronic physiologic stress response and stress-related disease.

ARE HIERARCHIES AND THEIR NEGATIVE SOCIAL EFFECTS INEVITABLE?

It has long been known that members of social groups can be ordered in terms

of dominance, and that this ordering and the relationships within have implications for social functioning, well-being, and health. However, it would be wrong to conclude that what is “natural” cannot or should not be changed. Indeed, anthropologist Christopher Boehm⁵⁷ has written extensively about “leveling mechanisms” in hunter-gatherer societies which ensure that bullying despots do not arise and that “egalitarianism” is enforced; namely, the band mobilizes to put the budding dictator in his or her place before they can rise to power. Although overall there appears to be a human “preference” for hierarchical structures (as discussed earlier), this preference for hierarchy is a matter of great individual difference and, not surprisingly, is most favored by those at the top.⁵⁸

The social dynamics within human groups (eg, classrooms) can be positively influenced by those in a position of authority, such as teachers. Work on social hierarchies in kindergarten classrooms has shown, for example, that teaching strategies can mitigate the negative effects of subordination and power differentials.²³

The situation becomes more complicated, however, as children get older and their school ecology becomes more complex. However, this complexity does not mean we need to turn a blind eye. In fact, state-of-the-art bullying intervention programs explicitly focus on changing the climate of the whole school ecology. One of the biggest hurdles to effectively curtailing bullying is the perceptions, attitudes, and beliefs of teachers and administrators. If those in authority see bullying as unimportant or unproblematic, construe it (erroneously) as conflict among friends, or view it simply as a natural part of growing up that fosters maturity, they are unlikely to create an antibullying climate or one that is supportive to victims.

For this reason, one of the well-understood first steps is to alter the perceptions (Do you know bullying when you see it?), attitudes (Do you see bullying as problematic?), and beliefs (Do you believe it is your job to intervene?) of the faculty, staff, administration, and students.⁵⁹ Chillingly, one of the key factors that reinforces bullying is the presence of children who are bystanders. Do they help, jeer, idly observe, or otherwise fail to intervene? Recent research has shown the promise of empowering those of lower ranks to curtail the behavior of domineering

peers.⁶⁰ Moreover, dominant peers with prosocial skills can be expected to be strong co-conspirators in catalyzing culture change.²⁷ Stripping youth of a basic human motivation—the need for power and status—is bound to fail. It is far more effective to harness those same needs to serve the greater good.

CONCLUSIONS

We have come a long way in the last decades in understanding power differentials, social dominance, bullying,

and children's social functioning, emotional health, and physical well-being. The medical community (especially those who interface with children and their families) are in strong positions to provide up-to-date information; support and advocate for children of all positions of rank; and to educate parents to ameliorate faulty perceptions, attitudes, and beliefs. Equalizing hierarchies completely is probably unrealistic. Nevertheless, we can commit to mitigating the ill effects of those hierarchies for their most vulnerable constituents, our children.

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